

## Universal dowel CLASSICfix

- Retail packing, facilitating customized material output, ensures reduction of shrinkage and loss
- Strong rib profile for high extraction values
- Highest resistance to weather, aging, rotting and chemical influences
- Dowel neck, which is free of expansion pressure, prevents the surface from flaking, for example, plaster

### Application Area

- Universal fixing of components in solid materials

### Characteristics

- Resilient at temperatures from -40 °C to +80 °C, short term up to +160 °C. From Ø 12 mm without fins.

### Processing Information

- Suitable for wood and chipboard screws

### Technical Data

Material Polyamide (Nylon)

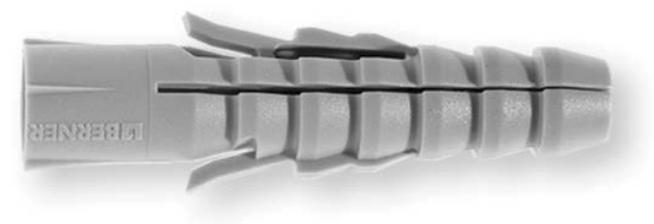
Title	Color	Dimension	For screw-Ø	Drill hole-Ø	Anchorage depth	Min. Drill hole depth	Content	PU Piece	Article No.
PLUG SIM. CLASSICFIX 4X20MM	Grey	4 x 20 mm	2.5 - 3 mm	4 mm	20 mm	30 mm	-	200	070529
Universal wall plugs CLASSICfix	Grey	5 x 25 mm	2.5 - 4 mm	5 mm	25 mm	35 mm	-	100	051888
Universal wall plugs CLASSICfix	Grey	6 x 30 mm	4 - 5 mm	6 mm	30 mm	40 mm	-	100	051896
PLUGBOX CLASSIC 6X30 [8000]	Grey	6 x 30 mm	4 - 5 mm	6 mm	30 mm	40 mm	8000 PC	1	108053
Universal wall plugs CLASSICfix	Grey	8 x 40 mm	4.5 - 6 mm	8 mm	40 mm	50 mm	-	100	051900
PLUGBOX CLASSIC 8X40 [4000]	Grey	8 x 40 mm	4.5 - 6 mm	8 mm	40 mm	50 mm	4000 PC	1	108054
Universal wall plugs CLASSICfix	Grey	10 x 50 mm	6 - 8 mm	10 mm	50 mm	60 mm	-	50	051918
PLUGBOX CLASSIC 10X50 [2000]	Grey	10 x 50 mm	6 - 8 mm	10 mm	50 mm	60 mm	2000 PC	1	108055
Universal wall plugs CLASSICfix	Grey	12 x 60 mm	8 - 10 mm	12 mm	60 mm	70 mm	-	25	051926
Universal wall plugs CLASSICfix	Grey	14 x 70 mm	10 - 12 mm	14 mm	70 mm	90 mm	-	20	051934
Universal wall plugs CLASSICfix	Grey	16 x 80 mm	12 - 14 mm	16 mm	80 mm	100 mm	-	10	157201

AGR: 05.000



## Universal plug **CLASSICfix** Standard Packaging

- Standard packaging for the professional user
- Width, elastic turnstiles for absolute rotary safety
- exact screw guiding for highest mounting security
- Strong rib profile for high extraction values
- High quality industrial nylon for maximum resistance to weather, aging, rotting and chemical influences
- Dowel neck, which is free from expansion pressure, prevents the surface such as plaster from flaking.



### Application Area

- Universal fixing of components in solid materials

### Characteristics

- Resilient at temperatures from -40 °C to +80 °C, short term up to +160 °C. From Ø 12 mm without fins.

### Processing Information

- Suitable for wood and chipboard screws

### Technical Data

Material Polyamide (Nylon)

Title	Dimension	For screw-Ø	Drill hole-Ø	Anchorage depth	Min. Drill hole depth	PU Piece	Article No.
Universal plug Standard Packaging	5 x 25 mm	2.5 - 4 mm	5 mm	25 mm	35 mm	500	141152
Universal Dowel Classicfix	6 x 30 mm	4 - 5 mm	6 mm	30 mm	40 mm	400	141153
Universal Dowel Classicfix	8 x 40 mm	4.5 - 6 mm	8 mm	40 mm	50 mm	250	141154
Universal Dowel Classicfix	10 x 50 mm	6 - 8 mm	10 mm	50 mm	60 mm	150	141155
Universal Dowel Classicfix	12 x 60 mm	8 - 10 mm	12 mm	60 mm	70 mm	75	141156
Universal Dowel Classicfix	14 x 70 mm	10 - 12 mm	14 mm	70 mm	90 mm	50	141157
Universal plug Standard Packaging	16 x 80 mm	12 - 14 mm	16 mm	80 mm	100 mm	30	141158

AGR: 05.000

## Universal plug **BXfix** with collar

- The formed rim prevents the dowel from slipping deeper into the drilled hole
- 4-way expansion for ideal grip in solid and perforated building materials
- The newly developed fin-profile ensures a good connection between the screw, plug and anchoring base for high loads
- In-curved edge prevents slipping deeper into the drilled hole
- No damaging of tiles or plaster due to spread-free neck of the plug
- High resistance to weathering, aging, rotting and chemical influence

### Application Area

- Fixing of e.g. electric installations, lamps, light-weight hanging cupboards, letter boxes, mopboards, sanitary installations, hand-rails, motion sensors in solid and perforated building materials

### Characteristics

- Universal anchor made of high quality nylon

### Processing Information

- Suitable for wood and chipboard screws
- The required screw length is given by the plug length + the thickness of the fixture and the screw diameter
- Drill only in a rotary motion (hammer switched off) in perforated and hollow bricks and aerated concrete

### Technical Data

Material Polyamide (Nylon)

Title	Dimension	For screw-Ø	Drill hole-Ø	Anchorage depth	Min. Drill hole depth	PU Piece	Article No.
Universal dowel BXfix with collar	5 x 25 mm	3 - 4 mm	5 mm	25 mm	35 mm	100/500	048009
Universal dowel BXfix with collar	6 x 30 mm	4 - 5 mm	6 mm	30 mm	40 mm	100/500	048008
Universal dowel BXfix with collar	8 x 40 mm	4.5 - 6 mm	8 mm	40 mm	50 mm	100/200	048007
Universal dowel BXfix with collar	10 x 50 mm	6 - 8 mm	10 mm	50 mm	70 mm	100	048006
Universal dowel BXfix with collar	12 x 60 mm	8 - 10 mm	12 mm	60 mm	80 mm	50	055196
Universal dowel BXfix with collar	14 x 70 mm	10 - 12 mm	14 mm	70 mm	90 mm	30	055197

AGR: 05.004



Lightweight wall holders



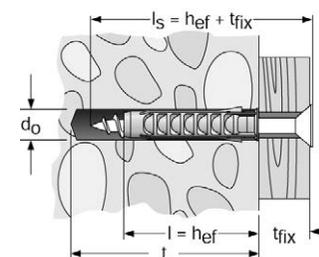
Sanitary articles



Curtain rails & windows



Motion sensors



INTERNAL/Approved (2019-03-22 20:39:10)

## Universal plug **BXfix** without collar (long style)

- Ideally suitable for larger anchoring depth in hollow bricks and perforated bricks as well as for bridging of plaster
- 4-way expansion for ideal grip in solid and perforated building materials
- The newly developed fin-profile ensures a good connection between the screw, plug and anchoring base for high loads
- No damaging of tiles or plaster due to spread-free neck of the plug
- High resistance to weathering, aging, rotting and chemical influence

### Application Area

- Fixing of e.g. electric installations, lamps, light-weight hanging cupboards, letter boxes, mopboards, sanitary installations, hand-rails, motion sensors in perforated building materials

### Characteristics

- Universal plug made of durable nylon

### Processing Information

- Suitable for wood and chipboard screws
- The required screw length is given by the plug length + the thickness of the fixture and the screw diameter
- Drill only in a rotary motion (hammer switched off) in perforated and hollow bricks and aerated concrete

### Technical Data

Material Polyamide (Nylon)

Title	Dimension	For screw-Ø	Drill hole-Ø	Anchorage depth	Min. Drill hole depth	PU Piece	Article No.
Universal plug BXfix without collar	6 x 50 mm	4 - 5 mm	6 mm	50 mm	60 mm	200	113271
Universal plug BXfix without collar	8 x 65 mm	5 - 6 mm	8 mm	65 mm	75 mm	100	113272
Universal plug BXfix without collar	10 x 80 mm	6 - 8 mm	10 mm	80 mm	95 mm	50	113273

AGR: 05.004



Coatracks



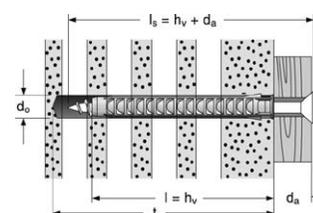
Curtain rails & windows

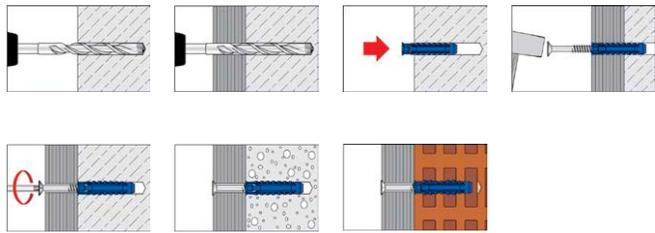


Sanitary articles

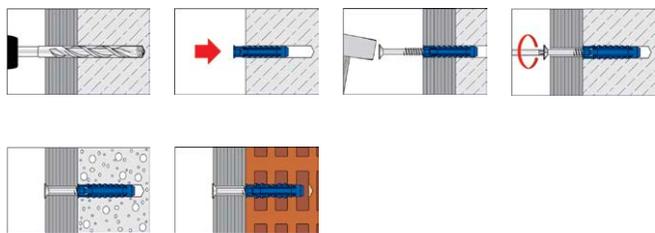


Signs





## Installation instruction for push through installation



## Universal dowel **UNIVERSALfix** without collar

- Small packages reduce waste and loss due to the optimised, need-oriented material supply
- Dowel is completely sunk into the underground
- Conical head shape allows easy insertion into the borehole
- Rotational blocks on the plug neck and body prevent from turning in the hole
- 3-divided spreading zone allows easy knotting in hollow and board materials and a good grouting in solid materials

### Application Area

- Universal mounting of light components in solid, hollow and board materials

### Characteristics

- Selling unit consists of 10 small packages

### Processing Information

- Dowel diameter = Drilling diameter
- Drill hollow and lightweight materials without impact effect
- Drill plasterboards only with metal drills

### Hints

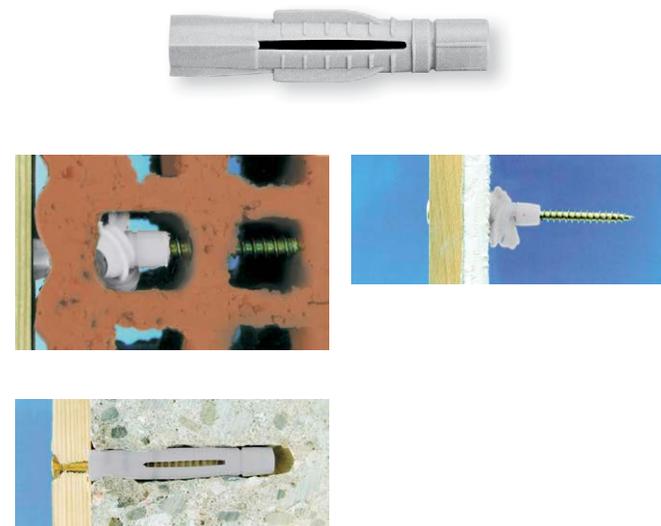
- Deliverable in models with and without collar

### Technical Data

Material Polyethylene (PE)

Title	Dimension	For screw-Ø	Drill hole-Ø	Anchorage depth	Min. Drill hole depth	PU Piece	Article No.
Universal dowels UNIVERSALfix without collar	5 x 30 mm	3 - 4 mm	5 mm	30 mm	40 mm	100	175553
Universal dowels UNIVERSALfix without collar	6 x 37 mm	4 - 5 mm	6 mm	37 mm	50 mm	100	175554
Universal dowels UNIVERSALfix without collar	8 x 50 mm	5 - 6 mm	8 mm	50 mm	60 mm	100	175555
Universal dowels UNIVERSALfix without collar	10 x 60 mm	7 - 8 mm	10 mm	60 mm	70 mm	50	001695
Universal dowels UNIVERSALfix without collar	12 x 70 mm	8 - 10 mm	12 mm	70 mm	80 mm	25	001697
PLUG UNIVERSALFIX 14X75 WO.C.	14 x 75 mm	10 - 12 mm	14 mm	70 mm	80 mm	20	156331

AGR: 05.002



## UNIVERSALfix without collar

- Appropriate packaging for professional users
- Conical head shape allows easy insertion into the borehole
- Rotational blocks on the plug neck and body prevent from turning in the hole
- 3-divided spreading zone allows easy knotting in hollow and board materials and a good grouting in solid materials

### Application Area

- Universal mounting of light components in solid, hollow and board materials

### Characteristics

- Good functional properties in conjunction with hanger bolts

### Processing Information

- Dowel diameter = Drilling diameter
- Drill hollow and lightweight materials without impact effect
- Drill plasterboards only with metal drills

### Hints

- Deliverable in models with and without collar

### Technical Data

Material Polyethylene (PE)

Title	Dimension	For screw-Ø	Drill hole-Ø	Anchorage depth	Min. Drill hole depth	PU Piece	Article No.
UNIVERSALfix universal dowel without collar	6 x 37 mm	4 - 5 mm	6 mm	37 mm	50 mm	400	135190
UNIVERSALfix universal dowel without collar	8 x 50 mm	5 - 6 mm	8 mm	50 mm	60 mm	250	135192
UNIVERSALfix universal dowel without collar	10 x 60 mm	7 - 8 mm	10 mm	60 mm	70 mm	125	135193
UNIVERSALfix universal dowel without collar	12 x 70 mm	8 - 10 mm	12 mm	70 mm	80 mm	50	135195

AGR: 05.002

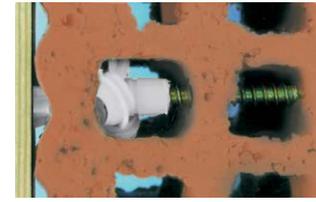
## Universal wall plugs with collar UNIVERSALfix

- Small packages provide for reduction of shrinkage and loss due to



## Standard fixing

- optimized, demand-oriented material issue
- Stable collar prevents from slipping into the hole, especially at board materials
- Conical head shape allows easy insertion into the borehole
- Rotational blocks on the plug neck and body prevent from turning in the hole
- 3-divided spreading zone allows easy knotting in hollow and board materials and a good grouting in solid materials



### Application Area

- Universal mounting of light components in solid, hollow and board materials

### Characteristics

- Sale unit consists of 10 small packs

### Processing Information

- Dowel diameter = Drilling diameter
- Drill hollow and lightweight materials without impact effect
- Drill plasterboards only with metal drills

### Hints

- Deliverable in models with and without collar

### Technical Data

Material Polyethylene (PE)

Title	Dimension	For screw-Ø	Drill hole-Ø	Anchorage depth	Min. Drill hole depth	PU Piece	Article No.
PLUG UNIVERSALFIX 5X31 W.C.	5 x 31 mm	3 - 4 mm	5 mm	30 mm	40 mm	100	175556
Universal dowel Universalfix with collar	6 x 38 mm	4 - 5 mm	6 mm	37 mm	50 mm	100	175557
Universal dowel Universalfix with collar	8 x 51 mm	5 - 6 mm	8 mm	50 mm	60 mm	100	175558
Universal dowel Universalfix with collar	10 x 61 mm	7 - 8 mm	10 mm	60 mm	70 mm	50	001696
Universal dowel Universalfix with collar	12 x 71 mm	8 - 10 mm	12 mm	70 mm	80 mm	25	001698
PLUG UNIVERSALFIX 14X76 W.C.	14 x 76 mm	10 - 12 mm	14 mm	70 mm	80 mm	20	156330

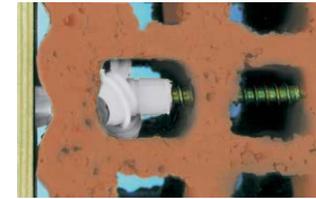
AGR: 05.002

### UNIVERSALfix with collar

- Appropriate packaging craft for professional users



- Stable collar prevents from slipping into the hole, especially at board materials
- Conical head shape allows easy insertion into the borehole
- Rotational blocks on the plug neck and body prevent from turning in the hole
- 3-divided spreading zone allows easy knotting in hollow and board materials and a good grouting in solid materials



## Application Area

- Universal mounting of light components in solid, hollow and board materials

## Characteristics

- Good functional properties in conjunction with hanger bolts

## Processing Information

- Dowel diameter = Drilling diameter
- Drill hollow and lightweight materials without impact effect
- Drill plasterboards only with metal drills

## Hints

- Deliverable in models with and without collar

## Technical Data

Material Polyethylene (PE)

Title	Dimension	For screw-Ø	Drill hole-Ø	Anchorage depth	Min. Drill hole depth	PU Piece	Article No.
UNIVERSALfix universal dowel with collar	6 x 38 mm	4 - 5 mm	6 mm	37 mm	50 mm	400	135182
UNIVERSALfix universal dowel with collar	8 x 51 mm	5 - 6 mm	8 mm	50 mm	60 mm	250	135184
UNIVERSALfix universal dowel with collar	10 x 61 mm	7 - 8 mm	10 mm	60 mm	70 mm	125	135185
UNIVERSALfix universal dowel with collar	12 x 71 mm	8 - 10 mm	12 mm	70 mm	80 mm	50	135187

AGR: 05.002

## Universal dowels **EXPERTfix** without collar – small packs

- Dowel is completely sunk in the underground
- “4-split spreading zone adapts to any building material and allows universal use
- The unique cross and rectangular inner profile offers maximum installation safety at a wide diameter range of wood and chipboard screws
- The long spreading zone enables an early bracing/knotting and, therefore, a secure grip even in thinner plate materials
- High quality industrial nylon ensures a permanent protection of the assembly
- Small packages reduce waste and loss through optimized, need-oriented material supply

### Application Area

- Universal mounting of light components, such as mirrors, shelves, cable ducts, skirting boards in almost all undergrounds.

### Characteristics

- Selling unit consists of 10 small packages
- Execution SL = extra long version

### Processing Information

- Drill hollow and lightweight materials without striking head
- Dowel diameter = Drilling diameter

### Hints

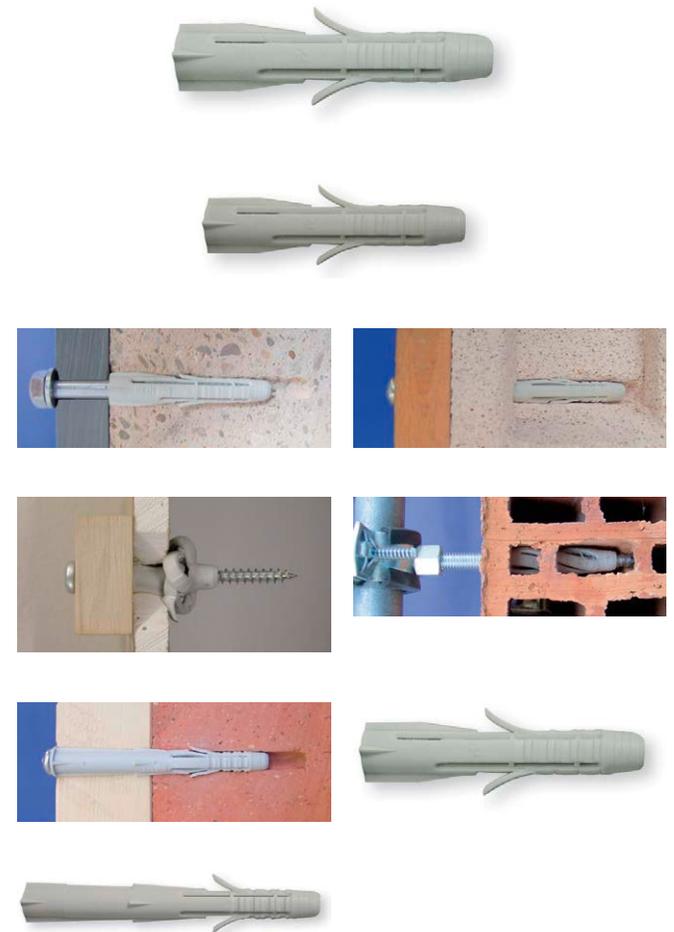
- Deliverable in models with and without collar Ø 6 mm and Ø 8 mm with extra long shaft for frame installation

### Technical Data

Material Polyamide (Nylon)

Title	Dimension	For screw-Ø	Drill hole-Ø	Anchorage depth	Min. Drill hole depth	PU Piece	Article No.
EXPERTfix universal dowels without collar	6 x 35 mm	3 - 5 mm	6 mm	35 mm	45 mm	100	014619
EXPERTfix universal dowels without collar	8 x 50 mm	4 - 6 mm	8 mm	50 mm	60 mm	100	014625
EXPERTfix universal dowels without collar	10 x 60 mm	6 - 8 mm	10 mm	60 mm	70 mm	50	014627

AGR: 05.003



## Universal dowels **EXPERTfix** with collar – small packs

- Sturdy collar prevents the plug from slipping into the drilled hole, particularly when fixing into hollow building materials
- "4-split spreading zone adapts to any building material and allows universal use
- The unique cross and rectangular inner profile offers maximum installation safety at a wide diameter range of wood and chipboard screws
- The long spreading zone enables an early bracing/knotting and, therefore, a secure grip even in thinner plate materials
- High quality industrial nylon ensures a permanent protection of the assembly

### Application Area

- Universal mounting of light components, such as mirrors, shelves, cable ducts, skirting boards in almost all undergrounds.

### Characteristics

- Selling unit consists of 10 small packages
- Execution SL = extra long version

### Processing Information

- Drill hollow and lightweight materials without striking head
- Dowel diameter = Drilling diameter

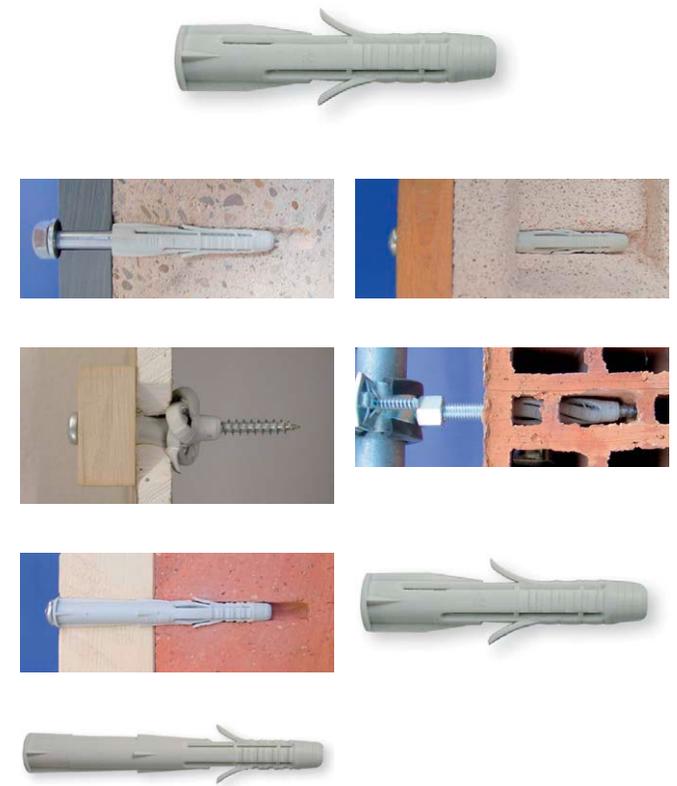
### Hints

- Deliverable in models with and without collar Ø 6 mm and Ø 8 mm with extra long shaft for frame installation

### Technical Data

Material		Polyamide (Nylon)						
Title	Dimension	Max. usable length	For screw-Ø	Drill hole-Ø	Anchorage depth	Min. Drill hole depth	PU Piece	Article No.
EXPERTfix universal dowels with collar	6 x 35 mm	-	3 - 5 mm	6 mm	35 mm	45 mm	100	014611
EXPERTfix universal dowels with collar	6 x 65 mm	30 mm	3 - 4.5 mm	6 mm	35 mm	45 mm	100	014612
EXPERTfix universal dowels with collar	8 x 50 mm	-	4 - 6 mm	8 mm	50 mm	60 mm	100	014614
EXPERTfix universal dowels with collar	10 x 60 mm	-	6 - 8 mm	10 mm	60 mm	70 mm	50	014616

AGR: 05.003



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## Universal dowels **EXPERTfix** with collar – small packs

- Stable collar prevents from slipping into the hole, especially at board materials
- Appropriate packaging craft for professional users
- 4-split spreading zone adapts to any building material and allows universal use
- The unique cross and rectangular inner profile offers maximum installation safety at a wide diameter range of wood and chipboard screws
- The long spreading zone enables an early bracing/knotting and, therefore, a secure grip even in thinner plate materials
- High quality industrial nylon ensures a permanent protection of the assembly
- Small packages reduce waste and loss through optimized, need-oriented material supply

### Application Area

- Universal mounting of light components, such as mirrors, shelves, cable ducts, skirting boards in almost all undergrounds.

### Characteristics

- Resilient at temperatures between -40 °C and +80 °C, short term up to +160 °C.

### Processing Information

- Drill hollow and lightweight materials without striking head
- Dowel diameter = Drilling diameter

### Hints

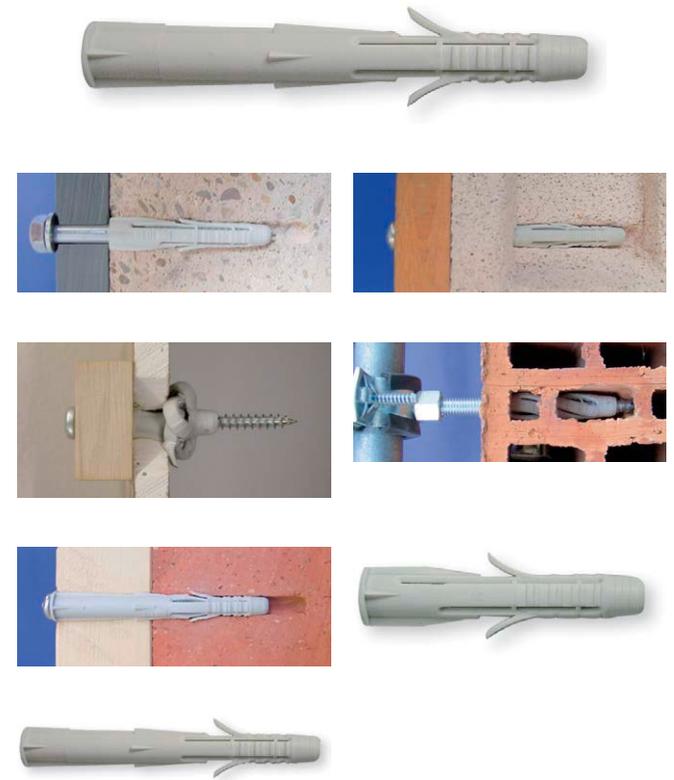
- Deliverable in models with and without collar Ø 6 mm and Ø 8 mm with extra long shaft for frame installation

### Technical Data

Material Polyamide (Nylon)

Title	Dimension	Max. usable length	For screw-Ø	Drill hole-Ø	Anchorage depth	Min. Drill hole depth	PU Piece	Article No.
EXPERTfix universal dowels with collar	8 x 80 mm	30 mm	4 - 6 mm	8 mm	50 mm	60 mm	125	014634

AGR: 05.003



## Brass dowel **BRASSfix**

- Due to conic dowel course, the dowel spreads easily and safely by screwing in the screw
- Specially knurled outer surface increases the withstand values
- Brass with special surface finish enables very high corrosion resistance

### Application Area

- Quick assembly in solid bricks, such as concrete, natural stone and hard masonry, in conjunction with metric screws or threaded rods

### Characteristics

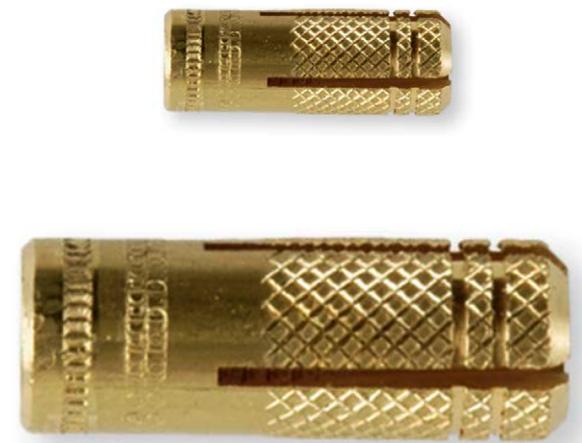
- Metric inner thread is conical and spreads when screwing in the screw

### Processing Information

- There is no additional setting tool required
- Screw-in depth must be respected

### Technical Data

Material Brass



Title	Drive	Dimension	Drill hole-Ø	Anchorage depth	Min. Drill hole depth	PU Piece	Article No.
PLUG BRASSFIX M 4	M 4	5 x 16 mm	5 mm	16 mm	16 mm	100	042676
PLUG BRASSFIX M 5	M 5	6 x 20 mm	6 mm	20 mm	20 mm	100	042684
BRASSfix brass dowel	M 6	8 x 23 mm	8 mm	23 mm	23 mm	100	042692
BRASSfix brass dowel	M 8	10 x 30 mm	10 mm	30 mm	30 mm	100	042706
BRASSfix brass dowel	M 10	12 x 34 mm	12 mm	34 mm	34 mm	100	042714
BRASSfix brass dowel	M 12	15 x 40 mm	15 mm	40 mm	40 mm	50	042722
PLUG BRASSFIX M 16	M 16	20 x 44 mm	20 mm	44 mm	44 mm	25	042749

AGR: 05.011

## Express Nail **TURBOfix**

- High quality, re-stressing spring steel ensures a secure grip by automatic wall contact pressure
- Galvanizing and yellow passivation for high corrosion resistance
- Automatic wall contact pressure due to spring steel allows easy installation just by hammering
- Insensitive to temperature due to metallic version
- Small held collar allows easy countersinking in wood

### Application Area

- Quick installation of bar substructures or sheet metal profiles in concrete, pumice, natural stone, solid masonry or lightweight materials

### Processing Information

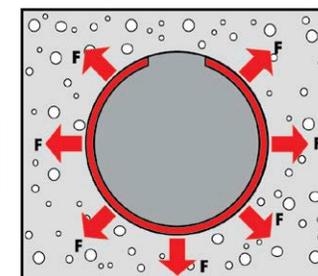
- The recommended drill hole diameters have to be observed

### Technical Data

Material	Spring steel
Surface protection	zinc plated

Title	Dimension	Max. usable length	Drill hole-Ø	Anchorage depth	Min. drill hole depth	PU Piece	Article No.
TURBOfix express nail	6 x 30 mm	3 mm	6 mm	27 mm	40 mm	100	544779
TURBOfix express nail	6 x 60 mm	30 mm	6 mm	30 mm	70 mm	100	127922
TURBOfix express nail	6 x 80 mm	50 mm	6 mm	30 mm	90 mm	100	101630
TURBOfix express nail	8 x 70 mm	30 mm	8 mm	40 mm	80 mm	100	046531
TURBOfix express nail	8 x 90 mm	50 mm	8 mm	40 mm	100 mm	100	047619
TURBOfix express nail	8 x 110 mm	70 mm	8 mm	40 mm	120 mm	100	093599
TURBOfix express nail	8 x 130 mm	90 mm	8 mm	40 mm	140 mm	100	159328
TURBOfix express nail	8 x 150 mm	110 mm	8 mm	40 mm	160 mm	100	203610
TURBOfix express nail	8 x 180 mm	140 mm	8 mm	40 mm	190 mm	100	203742

AGR: 05.012



## Hammer rivet **RIVETfix**

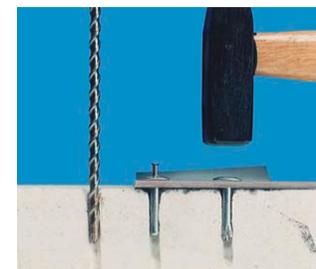
- Pre-stucked stainless steel mandrel allows easy installation by hammering
- Triple spreading ensures a secure grip in concrete and pressure-resistant solid bricks
- Stainless steel mandrel with aluminum sleeve for maximum corrosion resistance
- Flat and broad dowel head allows firm contact pressure of components, also of soft materials

### Application Area

- Mounting of sheet metal profiles of all kinds, especially in the roof area, at fireplace sealings and wall ending profiles, flange mountings, strips, insulation and floor paneling

### Technical Data

Material Aluminium



Title	Dimension	Max. usable length	Drill hole-Ø	Anchorage depth	Min. drill hole depth	PU Piece	Article No.
RIVETfix hammer rivet	4.8 x 20 mm	5 mm	5 mm	15 mm	25 mm	200	364185
RIVETfix hammer rivet	4.8 x 26 mm	11 mm	5 mm	15 mm	30 mm	200	364177
RIVETfix hammer rivet	4.8 x 30 mm	15 mm	5 mm	15 mm	35 mm	200	364169
RIVETfix hammer rivet	4.8 x 35 mm	20 mm	5 mm	15 mm	40 mm	200	844454

AGR: 05.013

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## Noise insulation plugs

- Avoidance of sound bridges
- Integrated structure-borne noise insulation, no separate elements for acoustic insulation necessary
- Very good screw guidance ensures a safe fixation

### Application Area

- Noise insulated fixation in solid material
- Installation of pipe- and cableclamps
- Fixation of substructures
- Kitchen installation
- Sanitary installation

### Characteristics

- Materials: Nylon (inner plug), rubber

### Processing Information

- Suitable with wood- and chipboardscrews
- To avoid noise bridges, the screw shall not penetrate the plug

### Hints

- The performance data are determined with the biggest screw diameter



### Technical Data

Material	Polyamide (Nylon) Rubber				
<b>Performance Data Noise Insulation Plug</b>					
<b>Plug Diameter</b>	<b>10mm</b>	<b>12mm</b>	<b>14mm</b>	<b>16mm</b>	<b>18mm</b>
Recommended usage loads in kN					
Concrete C20/25	0,15	0,3	0,5	0,8	1,2
Solid Brick (KS12, MZ12)	0,15	0,3	0,5	0,8	1,2
Perforated sand lime bricks (KLS 12)	0,15	0,2	0,3	0,6	0,8
Vertically perforated bricks (HLZ 12)	0,1	0,12	0,2	0,25	0,35

Title	Dimension	For screw-Ø	Drill hole-Ø	Anchorage depth	Min. Drill hole depth	Ø collar	Height collar	PU Piece	Article No.
Noise insulation plug	10 x 30 mm	3.5 - 5.0 mm	10 mm	30 mm	40 mm	-	-	100	219004
Noise insulation plug	10 x 34 mm	3.5 - 5.0 mm	10 mm	30 mm	40 mm	22 mm	4 mm	100	218830
Noise insulation plug	12 x 40 mm	4.5 - 6.0 mm	12 mm	40 mm	50 mm	-	-	100	218832
Noise insulation plug	12 x 44 mm	4.5 - 6.0 mm	12 mm	40 mm	50 mm	30 mm	4 mm	100	218829
Noise insulation plug	14 x 50 mm	6.0 - 8.0 mm	14 mm	50 mm	60 mm	-	-	50	218831
Noise insulation plug	14 x 56 mm	6.0 - 8.0 mm	14 mm	50 mm	60 mm	34 mm	5 mm	50	218828
Noise insulation plug	16 x 60 mm	8.0 - 10.0 mm	16 mm	60 mm	75 mm	-	-	50	243744
Noise insulation plug	16 x 66 mm	8.0 - 10.0 mm	16 mm	60 mm	75 mm	42 mm	6 mm	50	243742

AGR: 05.009

## Aircrete plug PBfix

- German approval (DIBt) for  $\varnothing$  10mm guarantees the safety of applications.
- Easy and efficient installation of the anchor without special tools.
- The external spiral fins ensures uniform distribution of pressure in the basematerial and achieve good grip in cellular concrete.
- High load capacity in combination with Berner safety screws

### Application Area

- • To secure health, electrical, small appliances furniture, fittings, cable...

### Processing Information

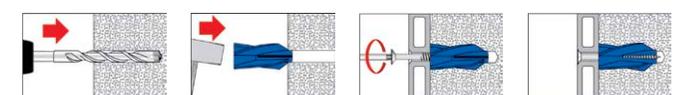
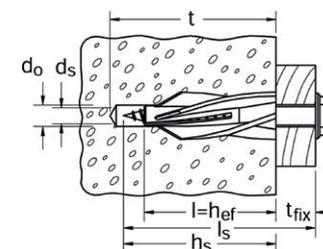
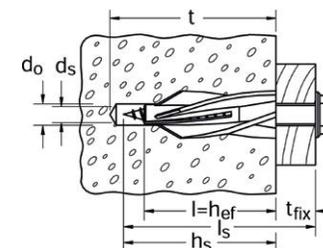
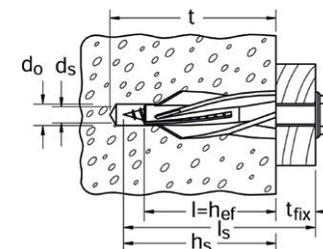
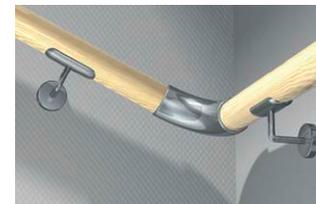
- Drill only rotating (without percussion)
- The required screw length is given by: the length of the anchor + to set thickness + 1 x screw diameter. (see table)

### Hints

- Anchor  $\varnothing$  10mm is part of the German approval

### Technical Data

Material	Polyamide (Nylon)
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Title	Dimension	Drill hole-Ø	For screw-Ø	Effect. anchor depth	Min. Drill hole depth	PU Piece	Article No.
Aircrete plug PBfix	8 x 50 mm	8 mm	5 mm	50 mm	60 mm	25	113778
Aircrete plug PBfix	10 x 55 mm	10 mm	7 mm	55 mm	65 mm	20	113799
Aircrete plug PBfix	14 x 75 mm	14 mm	10 mm	75 mm	90 mm	10	113800

AGR: 05.101

## Safety Screw PBfix

### Application Area

- Approval compliant mounting in conjunction with the cellular concrete dowels Pbfix



Thread	5	7	10
Drive	PZ 2	TX 40	TX 40

Safety Screw PBfix		
Dimensions	PU Piece	Article No.
5 x 85 mm	200	130468
7 x 105 mm	100	088334

Safety Screw PBfix		
Dimensions	PU Piece	Article No.
10 x 105 mm	50	088350

AGR: 00.691

## Plasterboard plug EXPRESSdrill

- Milling cutting thread enables easy screwing in harder materials without pre-drilling
- Special debris bags absorb the debris and avoid a jamming during screwing
- Pre-drilling dowel tip for precise locating without tearing at the plate
- Combi holding allows the setting of the dowel and the subsequent screwing with combi-bit
- High dowel thread ensures high withstand values

### Application Area

- Simple and quick fixing of light building materials to plaster board plates

### Characteristics

- High corrosion resistance due to zinc die cast version

### Processing Information

- Suitable for chipboard screws, wood and machine screws Ø 3.9 to 4.5 mm
- If overlong bolts are used, the tip claps away to the side
- Cross slot drive PH 2

### Technical Data

Material Zinc die casting

Recommended loads in kN	
<b>Plug size</b>	<b>14x39</b>
<b>Screw-Ø in mm</b>	3,9 - 4,5
<b>Gypsum plasterboards 12,5mm</b>	0,1 kN
<b>Gypsum plasterboards 2 x 12,5mm</b>	0,14 kN
<b>Gypsum fiberboard</b>	0,15 kN
<b>Gypsum (pre-drilling Ø 6mm)</b>	0,22 kN

Title	Dimension	For screw-Ø	Drive	PU Piece	Article No.
EXPRESSdrill drywall anchors	14 x 39 mm	3.9 - 4.5 mm	PH 2	100	101625

AGR: 05.213

Accessories Available	PU Piece	Article No.
Bit for EXPRESSdrill	1	101646



## Drywall anchors **SPEEDdrill**

- Fine thread tip allows easy locating without tearing
- Thin collar enables a flush fit without swelling of the plasterboard plate
- Pozidrive PZD 2 allows installation of dowels and screws without changing tools
- For use with chipboard screws

### Application Area

- Fixing of light building materials on plaster board plates such as lamps, bars

### Characteristics

- High-quality industrial nylon with glass fibre addition ensures a high installation security and resilience during screwing

### Processing Information

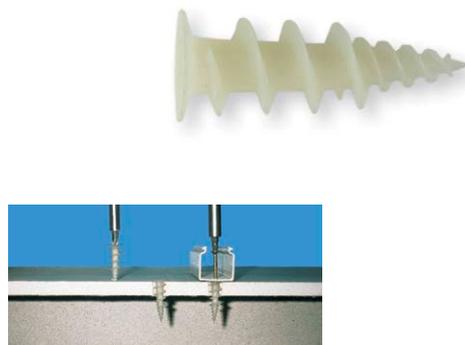
- Use Pozidriv or Philips-bit size 2
- If overlong screws are used, the plug tip will break off
- Screw-in depth in dowel 20 mm, minimum cavity behind the plate 25 mm

### Technical Data

Material Polyamide (Nylon)

#### Recommended loads in kN

Plug type	SPEEDdrill 14x35
Chipboard screw Ø	4,0mm
Gypsum plasterboard 9,5mm	0,05 kN
Gypsum plasterboard 12,5mm	0,09 kN
Gypsum plasterboard 25mm	0,13 kN



8

Title	Dimension	For screw-Ø	Drive	PU Piece	Article No.
SPEEDdrill drywall anchors	14 x 35 mm	3.9 - 4.5 mm	PZ 2	100	113556

AGR: 05.201

## Cavity dowel **HOLLOWWALLfix**

- Secure opening in single or double-skinned plasterboards/panel materials due to integrated predetermined bending points
- Broad unfolding provides broad, stable support surface and thus good load distribution on the underground
- Longitudinal locking edges provide excellent rotational security
- Permanent assembly safety due to rot-resistant polyamide (industrial nylon)

### Application Area

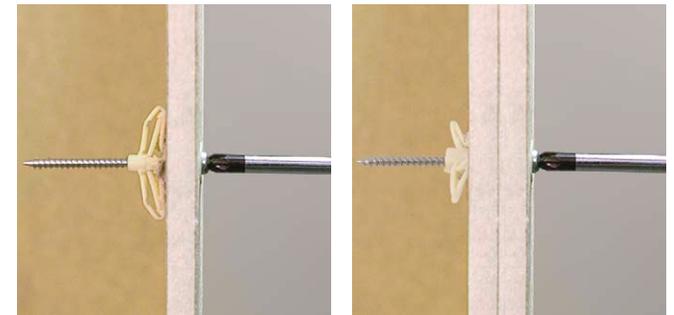
- For mounting of components in the interior construction such as lamps, curtain rails, bars, shelves, etc. to thin plates.

### Characteristics

- Temperature resistant from -40°C to +80°C

### Processing Information

- Can be processed with wood and chipboard screws



### Technical Data

Material	Polyamide (Nylon)
Recommended load in kN	
Plug size HOLLOWWALLfix	<b>10x50mm</b>
Screw-Ø in mm	4,0mm
Gypsum plasterboard 12,5mm	0,15 kN
Gypsum plasterboard 2 x 12,5mm	0,35 kN

Title	Dimension	Drill hole-Ø	Plate thickness	For screw-Ø	PU Piece	Article No.
Hollowwallfix 10x50	10 x 50 mm	10 mm	10 - 26 mm	3.5 - 4 mm	100	840815

AGR: 05.200

## Cavity anchor **CAVITYfix**

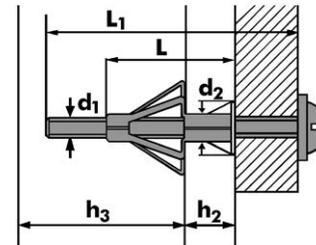
- 4 (M 4) and 5 support elements with a large contact radius ensure a wide distribution of the tensile forces and thus high load values
- Strong claws on the dowel head provide rotational security
- Pre-assembled screw allows easy installation with the Berner assembly pliers
- No loss of the grip of the dowel when loosening the screw

### Application Area

- Fixing radiators, furniture, electrical equipment, plumbing necklaces ...

### Processing Information

- Mode of installation: after drilling the specified diameter of the support, insert the dowel flush with the hole Position the clamp CAVITYfix ankle between the flange and the head of the ankle and expand until a sufficient strength..  
 Lock mode: Tensile performed with the clamp causes expansion of the plug, the "arm" so obtained provide a large contact area and high tear resistance.  
 Media materials: drywall, bricks, hollow blocks.



### Hints

- Clamp standard hollow dowels.

### Technical Data

Material Steel zinc plated

Title	Dimension	Drill hole-Ø	Plate thickness	Cavity depth	Size of screw	PU Piece	Article No.
CAVITYfix cavity anchor	M 4 x 32 mm	8 mm	3 - 10 mm	39 mm	M 4 x 41 mm	100	159428
CAVITYfix cavity anchor	M 4 x 38 mm	8 mm	11 - 15 mm	40 mm	M 4 x 47 mm	100	159427
CAVITYfix cavity anchor	M 4 x 46 mm	8 mm	16 - 24 mm	43 mm	M 4 x 54 mm	100	159426
CAVITYfix cavity anchor	M 5 x 52 mm	11 mm	3 - 16 mm	62 mm	M 5 x 60 mm	100	159424
CAVITYfix cavity anchor	M 5 x 65 mm	11 mm	14 - 32 mm	65 mm	M 5 x 74 mm	100	159423
CAVITYfix cavity anchor	M 5 x 80 mm	11 mm	28 - 45 mm	66 mm	M 5 x 89 mm	100	159422
CAVITYfix cavity anchor	M 6 x 52 mm	13 mm	11 - 16 mm	62 mm	M 6 x 60 mm	100	159421
CAVITYfix cavity anchor	M 6 x 65 mm	13 mm	14 - 32 mm	65 mm	M 6 x 74 mm	100	159420
CAVITYfix cavity anchor	M 6 x 80 mm	13 mm	28 - 45 mm	65 mm	M 6 x 88 mm	100	159419

Title	Dimension	Drill hole-Ø	Plate thickness	Cavity depth	Size of screw	PU Piece	Article No.
CAVITYfix cavity anchor	M 8 x 52 mm	13 mm	3 - 16 mm	67 mm	M 8 x 65 mm	50	159418
CAVITYfix cavity anchor	M 8 x 65 mm	13 mm	14 - 32 mm	66 mm	M 8 x 75 mm	50	159416

AGR: 05.211

## Mounting Pliers for Hollow Space Anchors

**CAVITYfix**

Title	PU Piece	Article No.
Hollow Space Anchor Pliers offset	1	290459
Hollow Space Anchor Pliers straight	1	902705

AGR: 05.212



## Cavity toggle fixing **FLIPfix**

- Simple tilting mechanism with different leg lengths, which tilts due to gravity and gets securely anchored
- Folding or tilting mechanism ensures easy and safe installation.
- Long threaded rods allow the bridging of greater wall thicknesses

### Application Area

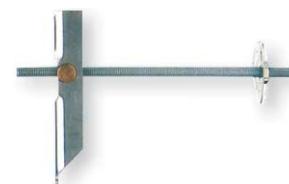
- Mounting of light components to board construction materials such as wall and ceiling with inaccessible backside, e.g for the hanging of hanging baskets, lamps, rails on ceiling cavities

### Processing Information

- To ensure the proper function, attention must be paid to adequate hole sizes and cavity depth.

### Hints

- Concerning the toggle bolt, the entire length of dowel is always indicated



### Technical Data

Material Steel zinc plated

Title	Dimension	Type, Folding Pegs	Drill hole-Ø	Cavity depth	PU Piece	Article No.
Toggle plug FLIPfix w. hook	M 5 x 100 mm	Hook Washer Nut	15 mm	70 mm	25	184128
Toggle plug FLIPfix w. washer/nut	M 5 x 100 mm	2 washers 2 nuts	15 mm	70 mm	25	184136
Toggle plug FLIPfix w. hook	M 6 x 130 mm	Hook Washer Nut	16 mm	70 mm	25	820741
Toggle plug FLIPfix w. washer/nut	M 6 x 150 mm	2 washers 2 nuts	16 mm	70 mm	25	820695
Toggle plug FLIPfix w. washer/nut	M 8 x 100 mm	Special sealing washer Nut	22 mm	70 mm	25	106816
Toggle plug FLIPfix w. washer/nut	M 10 x 100 mm	Special sealing washer Nut	25 mm	70 mm	25	106815

AGR: 05.215

## Spring toggle fixings and cavity toggle fixings

- The spring toggle mechanism ensures that the fixing automatically folds out in any position
- Low minimum cavity depth requirements make this fixing suitable for a wide range of applications
- Wide wings provide a large contact area and hence good load distribution

### Application Area

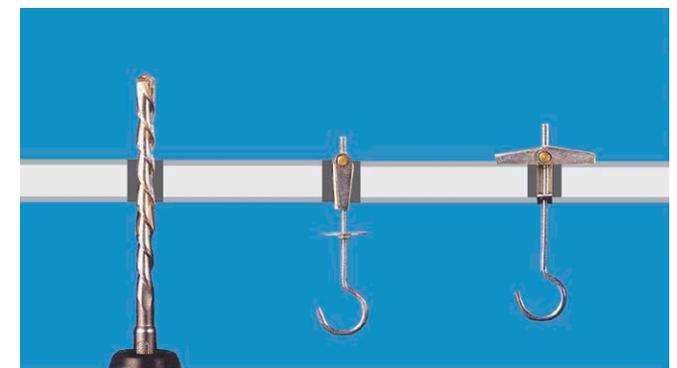
- Mounting of light components to board construction materials such as wall and ceiling with inaccessible backside, e.g for the hanging of hanging baskets, lamps, rails on ceiling cavities

### Processing Information

- To ensure the proper function, attention must be paid to adequate hole sizes and cavity depth.

### Hints

- Concerning the toggle bolt, the entire length of dowel is always indicated



### Technical Data

Material Steel zinc plated

Title	Dimension	Type, Folding Pegs	Drill hole-Ø	Cavity depth	PU Piece	Article No.
Spring toggle fixing KLAPfix	M 3 x 85 mm	Hook Washer Nut	10 mm	30 mm	100	042811
Spring toggle fixing KLAPfix	M 3 x 85 mm	Knurled nut	10 mm	30 mm	100	042781
Spring toggle fixing KLAPfix	M 4 x 95 mm	Hook Washer Nut	14 mm	35 mm	50	042820
Spring toggle fixing KLAPfix	M 4 x 95 mm	Knurled nut	14 mm	35 mm	50	042773
Spring toggle fixing KLAPfix	M 4 x 95 mm	Washer Nut	14 mm	35 mm	50	042803

AGR: 05.214

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## Hollow construction fixing

### Toggle plug **B-STfix**

- Universally usable for board thickness of 10 to 90mm
- Click function of the putting latches makes a fast and variable assembly possible
- The broad metal plug provides high loads
- High assembly safety because no loss of the loads when releasing the screw
- Easy handling because here is no special setting tool needed

#### Application Area

- Fixing on board materials like plasterboards or chipboards in ceiling and wall areas e.g. lights, rails, shelves, angles, electric switches, cable channels
- Also suitable in hollow bricks with big chambers and hollow-ceiling slabs

#### Processing Information

- Suitable for screws with a metric screw thread
- To ensure the function a sufficient cavity depth has to be assured

#### Technical Data

Material

Steel zinc plated



*Curtain rails*



*Lights*



*Sanitary articles*



*Cable conduits*



*Lightweight wall holders*



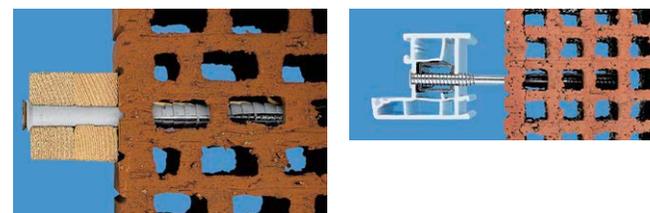
*Coatracks*

Title	For screw-Ø	Drill hole-Ø	Plate thickness	PU Piece	Article No.
Cavity plug B-STfix	M 4	13 mm	10 - 70 mm	25	175081
Cavity plug B-STfix	M 5	13 mm	10 - 70 mm	25	010031
Cavity plug B-STfix	M 6	13 mm	10 - 70 mm	25	010034
Cavity plug B-STfix	M 8	19 mm	10 - 70 mm	20	010036

AGR: 05.215

## Hollow brick dowel **HOLLOWFRAMEfix**

- Extra long 3-divided stay part ensures reliable grip by bracing in a plurality of chambers
- Exact screw leading ensures an optimum bracing
- Impact protection enables push-through installation by inserting the dowel via a screw
- Sturdy dowel neck avoids a bending of the dowel when driving in
- Turnstiles, which follow one after another, ensure a high installation safety



### Application Area

- Fixing of substructures in perforated bricks
- Installation of window and door frames in hollow building materials.
- Can be used in many perforated bricks such as vertically perforated bricks, lightweight perforated bricks, sand-lime bricks

### Characteristics

- Version with sleeve and countersunk collar
- High-quality industrial nylon ensures a high degree of resistance against weather, aging, rotting, chemical influences

### Technical Data

Material Polyamide (Nylon)

Title	Dimension	Drill hole-Ø	Thickness of fixture 1	Setting depth 1	For screw-Ø	PU Piece	Article No.
HOLLOWFRAMEfix hollow brick dowel	8 x 100 mm	8 mm	20 mm	80 mm	5.5 mm	80	480531
PLUG HOLLOWFRAMEFIX 8X120	8 x 120 mm	8 mm	40 mm	80 mm	5.5 mm	80	480532
HOLLOWFRAMEfix hollow brick dowel	10 x 120 mm	10 mm	30 mm	90 mm	7 mm	50	165425
HOLLOWFRAMEfix hollow brick dowel	10 x 135 mm	10 mm	45 mm	90 mm	7 mm	50	165328
HOLLOWFRAMEfix hollow brick dowel	10 x 160 mm	10 mm	70 mm	90 mm	7 mm	50	165336
HOLLOWFRAMEfix hollow brick dowel	14 x 135 mm	14 mm	35 mm	100 mm	10 mm	25	320439
HOLLOWFRAMEfix hollow brick dowel	14 x 160 mm	14 mm	60 mm	100 mm	10 mm	25	320420

AGR: 05.302

## Frame plug HOLLOWFRAMEfix with screw

- Extra long 3-divided stay part ensures reliable grip by bracing in a plurality of chambers
- Exact screw leading ensures an optimum bracing
- Impact protection enables push-through installation by inserting the dowel via a screw
- Sturdy dowel neck avoids a bending of the dowel when driving in
- Turnstiles, which follow one after another, ensure a high installation safety



### Application Area

- Fixing of substructures in perforated bricks
- Installation of window and door frames in hollow building materials.
- Can be used in many perforated bricks such as vertically perforated bricks, lightweight perforated bricks, sand-lime bricks

### Characteristics

- Design with sleeve and countersunk collar
- With TX countersunk wood screw DIN 7997, galvanized and yellow passivated

### Technical Data

Material	Polyamide (Nylon)
Material, Screw	Steel electrogalvanized [1]

Title	Dimension	Drill hole-Ø	Thickness of fixture 1	Setting depth 1	Screw-Ø x length	Drive	PU Piece	Article No.
Frame plug HOLLOWFRAMEfix screw	8 x 100 mm	8 mm	20 mm	80 mm	5.5 x 105 mm	TX 30	100	809349
Frame plug HOLLOWFRAMEfix with screw	8 x 120 mm	8 mm	40 mm	80 mm	5.5 x 125 mm	TX 30	100	809357
Frame plug HOLLOWFRAMEfix screw	10 x 120 mm	10 mm	30 mm	90 mm	7 x 125 mm	TX 40	50	169536
Frame plug HOLLOWFRAMEfix w. screw	10 x 135 mm	10 mm	45 mm	90 mm	7 x 140 mm	TX 40	50	169544
Frame plug HOLLOWFRAMEfix screw	10 x 160 mm	10 mm	70 mm	90 mm	7 x 165 mm	TX 40	50	169552

AGR: 05.302

## Hollow brick dowel HOLLOWFRAMEfix

- Extra long 3-divided stay part ensures reliable grip by bracing in a plurality of chambers



## Frame fixing

- Exact screw leading ensures an optimum bracing
- Impact protection enables push-through installation by inserting the dowel via a screw
- Sturdy dowel neck avoids a bending of the dowel when driving in
- Turnstiles, which follow one after another, ensure a high installation safety

### Application Area

- Fixing of substructures in perforated bricks
- Installation of window and door frames in hollow building materials.
- Can be used in many perforated bricks such as vertically perforated bricks, lightweight perforated bricks, sand-lime bricks

### Characteristics

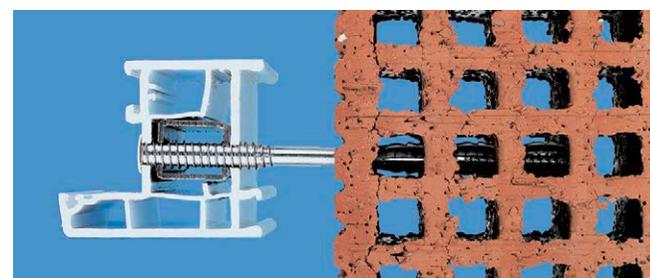
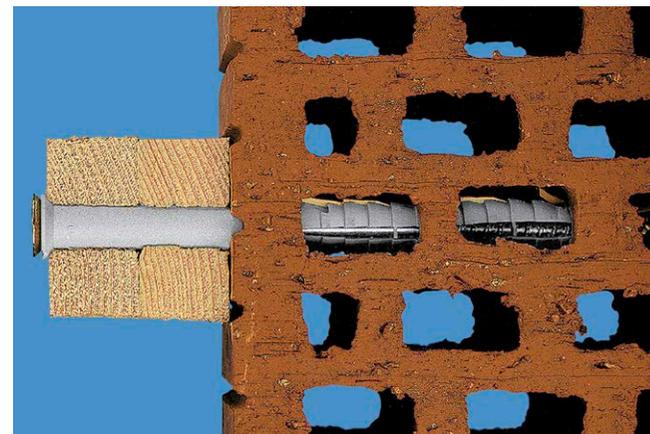
- Version without collar, Ø 6 and 14 with 2 stay parts
- High-quality industrial nylon ensures a high degree of resistance against weather, aging, rotting, chemical influences

### Technical Data

Material Polyamide (Nylon)

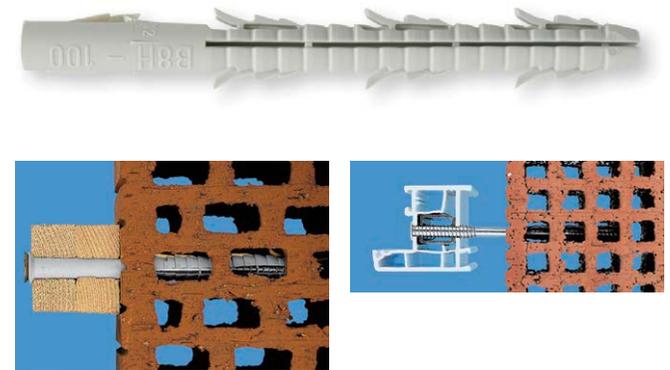
Title	Dimension	Drill hole-Ø	Setting depth 1	For screw-Ø	PU Piece	Article No.
HOLLOWFRAMEfix hollow brick dowel	6 x 60 mm	6 mm	60 mm	3.5 - 4.5 mm	200	400882
HOLLOWFRAMEfix hollow brick dowel	8 x 80 mm	8 mm	80 mm	5.5 - 6 mm	100	286443
HOLLOWFRAMEfix hollow brick dowel	10 x 90 mm	10 mm	90 mm	7 - 8 mm	100	051799
HOLLOWFRAMEfix hollow brick dowel	14 x 100 mm	14 mm	100 mm	10 mm	25	320455

AGR: 05.302



## Hollow brick dowel **HOLLOWFRAMEfix**

- Extra long 3-divided stay part ensures reliable grip by bracing in a plurality of chambers
- Exact screw leading ensures an optimum bracing
- Impact protection enables push-through installation by inserting the dowel via a screw
- Sturdy dowel neck avoids a bending of the dowel when driving in
- Turnstiles, which follow one after another, ensure a high installation safety



### Application Area

- Fixing of substructures in perforated bricks
- Installation of window and door frames in hollow building materials.
- Can be used in many perforated bricks such as vertically perforated bricks, lightweight perforated bricks, sand-lime bricks

### Characteristics

- Version with sleeve, without collar

### Technical Data

Material: Polyamide (Nylon)

Title	Dimension	Drill hole-Ø	Thickness of fixture 1	Setting depth 1	For screw-Ø	PU Piece	Article No.
HOLLOWFRAMEfix hollow brick plugs	8 x 100 mm	8 mm	20 mm	80 mm	5.5 - 6 mm	100	286451
HOLLOWFRAMEfix hollow brick plugs	8 x 120 mm	8 mm	40 mm	80 mm	5.5 - 6 mm	100	286460

AGR: 05.302

## TX countersunk wood screw DIN 7997

- Stump wood screw thread prevents cutting of the anchor

### Application Area

- Specially designed for wood dowel screw

### Characteristics

- Zinc plated and yellow passivated



<b>Thread</b>	<b>5.5</b>	<b>7</b>
Drive	TX 30	TX 40

TX countersunk wood screw DIN 7997		
Dimensions	PU Piece	Article No.
5.5 x 105 mm	100	748439
5.5 x 125 mm	100	748447

TX countersunk wood screw DIN 7997		
Dimensions	PU Piece	Article No.
7 x 125 mm	100	748480
7 x 140 mm	100	748498

TX countersunk wood screw DIN 7997		
Dimensions	PU Piece	Article No.
7 x 165 mm	100	748501

AGR: 00.590

## Universal frame dowel BXRfix countersunk head ZI

- ETA-Assessment of plastic plugs (ETAG 020) for multiple fixing of non-structural building component structure in concrete ( $\geq$  C12/15) and a high number of masonry materials
- Universal usage in a wide range of base materials avoids double storage and reduces storage costs
- Anchorage depth of only 50mm reduces the drilling time for a cost-saving installation
- Hammer-in-stop and low tightening torque in relation to a high overtorque enables an easy and secure installation

### Application Area

- For flush sinking of wooden subconstructions, window and door frames

### Characteristics

- Version with countersunk collar and zinc plated safety Countersunk (ZI)
- Screw drive 8mm TX 30, 10mm TX 40

### Hints

- Drill in perforated and hollow bricks in a rotary motion
- For fixing of wooden constructions, we recommend dowels with countersunk screws, for metal structures dowels with a flat edge and hexagon screws
- Diameter 10 mm has fire resistance R90 in concrete at the attachment of facade systems
- For further technical data please request authorization

### Technical Data

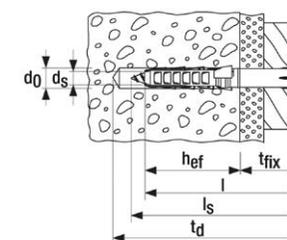
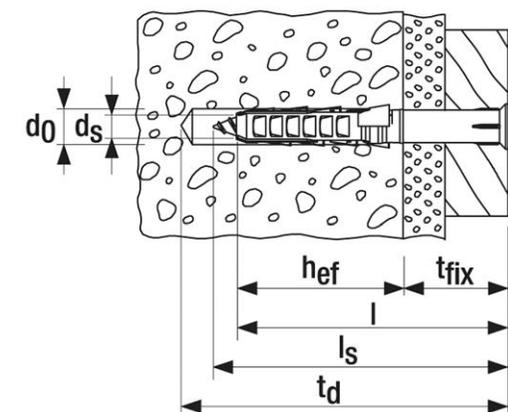
Material	Polyamide (Nylon)
Material, Screw	Steel zinc plated



Facade substructures



Substructures made of wood



Title	Dimension	Drill hole-Ø	Thickness of fixture 1	Setting depth 1	Screw-Ø x length	Drive	PU Piece	Article No.
Universal frame dowel BXRfix ZP	10 x 80 mm	10 mm	30 mm	50 mm	7 x 87 mm	TX 40	50	113828
Universal frame dowel BXRfix ZP	10 x 100 mm	10 mm	50 mm	50 mm	7 x 107 mm	TX 40	50	113830
Universal frame dowel BXRfix ZP	10 x 120 mm	10 mm	70 mm	50 mm	7 x 127 mm	TX 40	50	113832
Universal frame dowel BXRfix ZP	10 x 140 mm	10 mm	90 mm	50 mm	7 x 147 mm	TX 40	50	113833
Universal frame dowel BXRfix ZP	10 x 160 mm	10 mm	110 mm	50 mm	7 x 167 mm	TX 40	50	113834
Universal frame dowel BXRfix ZP	10 x 180 mm	10 mm	130 mm	50 mm	7 x 187 mm	TX 40	50	367570
Universal frame dowel BXRfix ZP	10 x 200 mm	10 mm	150 mm	50 mm	7 x 207 mm	TX 40	50	113838
Universal frame dowel BXRfix ZP	10 x 230 mm	10 mm	180 mm	50 mm	7 x 237 mm	TX 40	50	113839

AGR: 05.303

## Universal frame plug BXRfix 6KT ZI

- ETA-Assessment of plastic plugs (ETAG 020) for multiple fixing of non-structural building component structure in concrete ( $\geq$  C12/15) and a high number of masonry materials
- Universal usage in a wide range of base materials avoids double storage and reduces storage costs
- Anchorage depth of only 50mm reduces the drilling time for a cost-saving installation
- Hammer-in-stop and low tightening torque in relation to a high overtorque enables an easy and secure installation

### Application Area

- Security screw with hexagonal head and integrally formed glass saves a grommet and prevents contact corrosion. This is ideal for mounting of metal constructions

### Characteristics

- Version with flat collar and safety-hexagonal screw as well as integrally formed washer
- Actuator screws SW 13/TX40

### Hints

- Drill in perforated and hollow bricks in a rotary motion
- For fixing of wooden constructions, we recommend dowels with countersunk screws, for metal structures dowels with a flat edge and hexagon screws



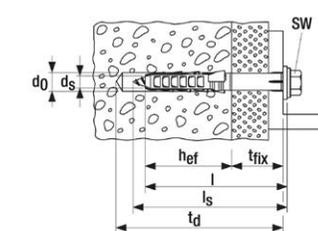
Facade substructures



Suspended ceilings



Wall holders



INTERNAL/Approved (2019-03-22 20:43:49)

- Diameter 10 mm has fire resistance R90 in concrete at the attachment of facade systems
- For further technical data please request authorization



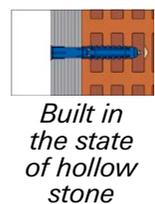
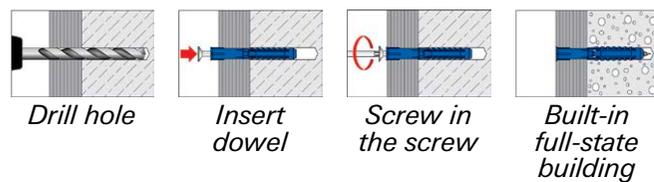
## Technical Data

Material: Polyamide (Nylon)  
 Material, Screw: Steel zinc plated

Title	Dimension	Drill hole-Ø	Thickness of fixture 1	Setting depth 1	Screw-Ø x length	Drive	PU Piece	Article No.
Universal frame dowel BXRfix ZP	10 x 60 mm	10 mm	10 mm	50 mm	7 x 69 mm	6KT 13	50	113841
Universal frame dowel BXRfix ZP	10 x 80 mm	10 mm	30 mm	50 mm	7 x 89 mm	6KT 13	50	113842
Universal frame dowel BXRfix ZP	10 x 100 mm	10 mm	50 mm	50 mm	7 x 109 mm	6KT 13	50	113848
Universal frame plug BXRfix ZP	10 x 120 mm	10 mm	70 mm	50 mm	7 x 129 mm	6KT 13	50	113851
Universal frame plug BXRfix ZP	10 x 140 mm	10 mm	90 mm	50 mm	7 x 149 mm	6KT 13	50	113875
Universal frame plug BXRfix ZP	10 x 160 mm	10 mm	110 mm	50 mm	7 x 169 mm	6KT 13	50	113883
Universal frame plug BXRfix ZP	10 x 180 mm	10 mm	130 mm	50 mm	7 x 189 mm	6KT 13	50	367572
Universal frame plug BXRfix ZP	10 x 200 mm	10 mm	150 mm	50 mm	7 x 209 mm	6KT 13	50	113892
Universal frame plug BXRfix ZP	10 x 230 mm	10 mm	180 mm	50 mm	7 x 239 mm	6KT 13	50	113893

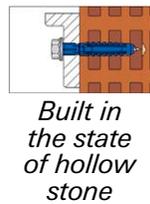
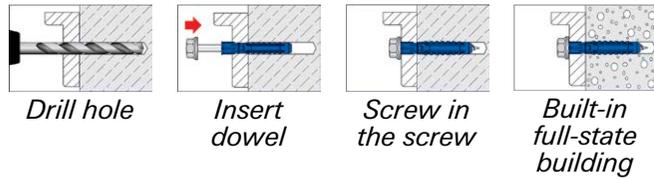
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## Instructions for wood constructions



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## Instructions for metal constructions



## Universal frame plug BXRLfix countersunk head zp

- The long expansion part ensures highest load capacity in perforated bricks and aerated concrete
- Approved for a wide range of solid and perforated bricks, including modern highly insulated bricks e.g. Poroton S10®
- and aerated concrete
- ETA assessment as plastic anchor for multiple use in concrete and masonry for non-structural application, including fire resistance class R90 in concrete
- In perforated bricks with 2-part expansion zone, without crushing the block fillets and using them to transmit the force.
- In solid basematerial the expansion zone combine to one long expansion element with uniform and flat distribution of the force into the substrate
- 2 anchoring depth for high load level in aerated concrete
- Long ribs on the anchor sleeve avoids rotation in the borehole

### Application Area

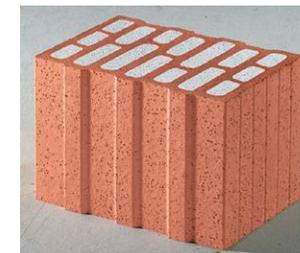
- For approved fixation e.g. facade substrate in perforated bricks and aerated concrete
- Version with countersunk head for flush sinking of wooden sub-structures, window and door frames

### Characteristics

- Version with countersunk collar and countersunk screw

### Hints

- For more technical data please request approval



Approved for modern, highly insulated bricks like Poroton® S10



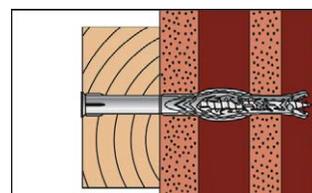
Facade substructures



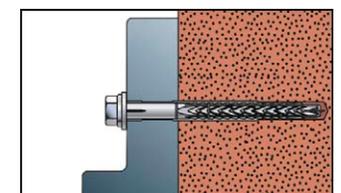
Substructures made of wood



Windows and doors



2-parted expansion zone in perforated bricks



In solid material 1 long expansion element



## Technical Data

Material Polyamide 6  
 Material, Screw Steel zinc plated

Title	Dimension	Drill hole-Ø	Thickness of fixture 1	Thickness of fixture 2	Setting depth 1	Setting depth 2	Screw-Ø x length	Drive	PU Piece	Article No.
Frameplug BXRLfix	10 x 80 mm	10 mm	10 mm	-	70 mm	-	7 x 87 mm	TX 40	50	251316
Frameplug BXRLfix	10 x 100 mm	10 mm	30 mm	10 mm	70 mm	90 mm	7 x 107 mm	TX 40	50	251327
Frameplug BXRLfix	10 x 120 mm	10 mm	50 mm	30 mm	70 mm	90 mm	7 x 127 mm	TX 40	50	251325
Frameplug BXRLfix	10 x 140 mm	10 mm	70 mm	50 mm	70 mm	90 mm	7 x 147 mm	TX 40	50	251324
Frameplug BXRLfix	10 x 160 mm	10 mm	90 mm	70 mm	70 mm	90 mm	7 x 167 mm	TX 40	50	251323
Frameplug BXRLfix	10 x 200 mm	10 mm	130 mm	110 mm	70 mm	90 mm	7 x 207 mm	TX 40	50	251322
Frameplug BXRLfix	10 x 230 mm	10 mm	160 mm	140 mm	70 mm	90 mm	7 x 237 mm	TX 40	50	251320
Frameplug BXRLfix	10 x 260 mm	10 mm	190 mm	170 mm	70 mm	90 mm	7 x 267 mm	TX 40	50	251319
Frameplug BXRLfix	10 x 290 mm	10 mm	220 mm	200 mm	70 mm	90 mm	7 x 297 mm	TX 40	50	251318

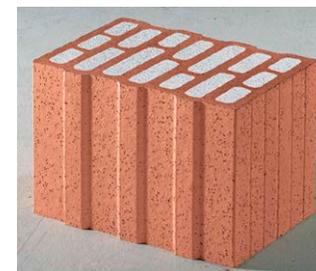
AGR: 05.303

## Universal frame plug BXRLfix hexagon head zp

- The long expansion part ensures highest load capacity in perforated bricks and aerated concrete
- Approved for a wide range of solid and perforated bricks, including modern highly insulated bricks e.g. Poroton® S10 and aerated concrete
- ETA assessment as plastic anchor for multiple use in concrete and masonry for non-structural application, including fire resistance class R90 in concrete
- In perforated bricks with 2-part expansion zone, without crushing the block fillets and using them to transmit the force.
- In solid basematerial the expansion zone combine to one long expansion element with uniform and flat distribution of the force into the substrate
- 2 anchoring depth for high load level in aerated concrete
- Long ribs on the anchor sleeve avoids rotation in the borehole

### Application Area

- For approved fixation, e.g. facade substrate and wall brackets in perforated bricks and aerated concrete
- With hexagon head with integrated washer, ideal for mounting of metal constructions



Approved for modern, highly insulated bricks like Poroton® S10



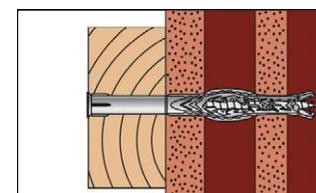
Wall holders



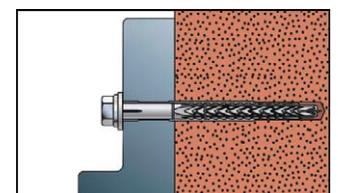
Facade substrutures



Wall brackets



2-parted expansion zone in perforated bricks



In solid material 1 long expansion element

## Characteristics

- Version with flat collar and zinc plated hexagon screw with integrated washer  
Screw drive hexagon 13mm with additional TX40



## Hints

- For more technical data please request approval

## Technical Data

Material Polyamide 6  
Material, Screw Steel zinc plated

Title	Dimension	Drill hole-Ø	Thickness of fixture 1	Thickness of fixture 2	Setting depth 1	Setting depth 2	Screw-Ø x length	Drive	PU Piece	Article No.
Frameplug BXRLfix Hex ZP	10 x 80 mm	10 mm	10 mm	-	70 mm	-	7 x 87 mm	6KT 13	50	251317
Frameplug BXRLfix Hex ZP	10 x 100 mm	10 mm	30 mm	10 mm	70 mm	90 mm	7 x 107 mm	6KT 13	50	251326
Frameplug BXRLfix Hex ZP	10 x 120 mm	10 mm	50 mm	30 mm	70 mm	90 mm	7 x 127 mm	6KT 13	50	251328

AGR: 05.303

## Nail plug FLASHfix II countersink collar with zinc plated screw nail

- Pre-engineered system, consisting of dowels and screw nail, enables a quick serial assembly
- Impact protection ensures maximum installation safety and prevents from pre-spreading when driving in
- Flush fit of the screw nail due to optimum coordination between nail and dowel
- Special rib profile ensures high extraction values
- Cross slot holding and nail screw thread allow an unscrewing of the screw and a subsequent disassembly
- High quality industrial nylon guarantees high buckling resistance and resistance to weather, aging, rotting and chemical influences

### Application Area

- Rapid, easy and economic fixation of wooden slats, boards, panelings, etc. in concrete and full brick materials

### Characteristics

- Flush installation in mounting parts due to countersink collar

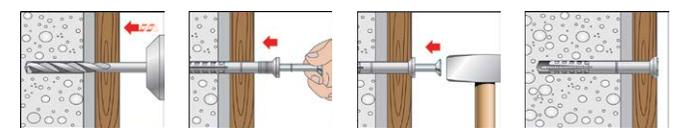
### Scope Of Delivery

- Supplied fully assembled to length 120mm

### Technical Data

Material	Polyamide (Nylon)
Material, Nail	Steel zinc plated

Title	Dimension	Max. usable length	Drill hole-Ø	Anchorage depth	Drive	PU Piece	Article No.
Nail plug FLASHfix II countersink collar	5 x 30 mm	5 mm	5 mm	25 mm	PZ 2	200	215665
Nail plug FLASHfix II countersink collar	5 x 40 mm	15 mm	5 mm	25 mm	PZ 2	200	215666
Nail plug FLASHfix II countersink collar	5 x 50 mm	25 mm	5 mm	25 mm	PZ 2	200	215667
Nail plug FLASHfix II countersink collar	6 x 40 mm	10 mm	6 mm	30 mm	PZ 2	200	215668
Nail plug FLASHfix II countersink collar	6 x 60 mm	30 mm	6 mm	30 mm	PZ 2	200	215669
Nail plug FLASHfix II countersink collar	6 x 80 mm	50 mm	6 mm	30 mm	PZ 2	200	215670
Nail plug FLASHfix II countersink collar	8 x 60 mm	20 mm	8 mm	40 mm	PZ 3	100	215671
Nail plug FLASHfix II countersink collar	8 x 80 mm	40 mm	8 mm	40 mm	PZ 3	100	215672
Nail plug FLASHfix II countersink collar	8 x 100 mm	60 mm	8 mm	40 mm	PZ 3	100	215673



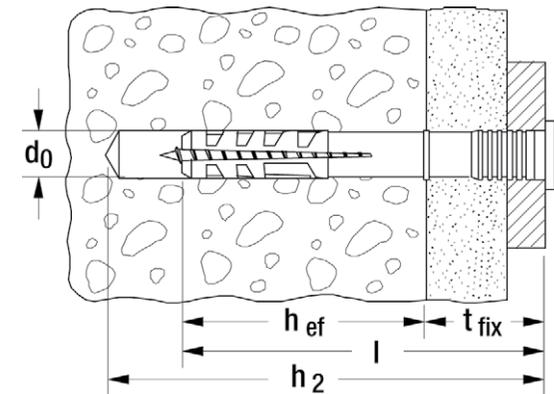
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Title	Dimension	Max. usable length	Drill hole-Ø	Anchorage depth	Drive	PU Piece	Article No.
Nail plug FLASHfix II countersink collar	8 x 120 mm	80 mm	8 mm	40 mm	PZ 3	100	215674

AGR: 05.304

## Nail plug FLASHfix II flat collar with zinc plated screwnail

- Pre-engineered system, consisting of dowels and screw nail, enables a quick serial assembly
- Impact protection ensures maximum installation safety and prevents from pre-spreading when driving in
- Flush fit of the screw nail due to optimum coordination between nail and dowel
- Special rib profile ensures high extraction values
- Cross slot holding and nail screw thread allow an unscrewing of the screw and a subsequent disassembly
- High quality industrial nylon guarantees high buckling resistance and resistance to weather, aging, rotting and chemical influences



### Application Area

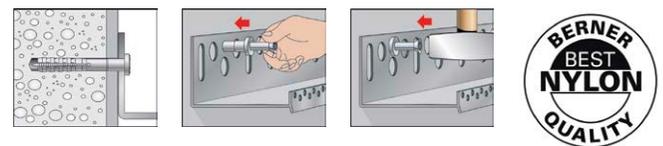
- Rapid, easy and economic fixation of metal profiles, punch tapes, foils, lightweight angle connectos etc. in concrete and full brick materials

### Characteristics

- Covered installation of mounting parts due to flat collar

### Scope Of Delivery

- Delivered fully assembled



### Technical Data

Material	Polyamide (Nylon)
Material, Nail	Steel zinc plated

Title	Dimension	Max. usable length	Drill hole-Ø	Anchorage depth	Drive	PU Piece	Article No.
Nail plug FLASHfix II flat collar	5 x 25 mm	1 mm	5 mm	25 mm	PZ 2	200	215677
Nail plug FLASHfix II flat collar	5 x 30 mm	5 mm	5 mm	25 mm	PZ 2	200	215679
Nail plug FLASHfix II flat collar	5 x 40 mm	15 mm	5 mm	25 mm	PZ 2	200	215680
Nail plug FLASHfix II flat collar	5 x 50 mm	25 mm	5 mm	25 mm	PZ 2	200	215681
Nail plug FLASHfix II flat collar	6 x 35 mm	5 mm	6 mm	30 mm	PZ 2	200	215682

Title	Dimension	Max. usable length	Drill hole-Ø	Anchorage depth	Drive	PU Piece	Article No.
Nail plug FLASHfix II flat collar	6 x 40 mm	10 mm	6 mm	30 mm	PZ 2	200	215683
Nail plug FLASHfix II flat collar	6 x 60 mm	30 mm	6 mm	30 mm	PZ 2	200	215684
Nail plug FLASHfix II flat collar	6 x 80 mm	50 mm	6 mm	30 mm	PZ 2	200	215685
Nail plug FLASHfix II flat collar	8 x 60 mm	20 mm	8 mm	40 mm	PZ 3	100	215687
Nail plug FLASHfix II flat collar	8 x 80 mm	40 mm	8 mm	40 mm	PZ 3	100	215688
Nail plug FLASHfix II flat collar	8 x 100 mm	60 mm	8 mm	40 mm	PZ 3	100	215689
Nail plug FLASHfix II flat collar	8 x 120 mm	80 mm	8 mm	40 mm	PZ 3	100	215690

AGR: 05.305

## Nail plug FLASHfix II zinc plated screwnail and connection thread

- Pre-engineered system, consisting of dowels and screw nail, enables a quick serial assembly
- Impact protection ensures maximum installation safety and prevents from pre-spreading when driving in
- Flush fit of the screw nail due to optimum coordination between nail and dowel
- Special rib profile ensures high extraction values
- Cross slot holding and nail screw thread allow an unscrewing of the screw and a subsequent disassembly
- Fast, easy and economical fixing of lightweight components in solid materials



### Application Area

- Direct fixation of mounting parts with metric thread socket connection e.g. pipe clips, clamps, holders, etc. in concrete and full brick materials

### Characteristics

- 6x40 mm with countersink collar
- 8x40 mm with mushroom collar

### Scope Of Delivery

- Delivered fully assembled

### Technical Data

Material	Polyamide (Nylon)
Material, Nail	Steel zinc plated

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Title	Dimension	Thread	Max. usable length	Drill hole-Ø	Anchorage depth	PU Piece	Article No.
Nail plug FLASHfix II connection thread	6 x 40 mm	M 6	10 mm	6 mm	30 mm	200	215695
Nail plug FLASHfix II connection thread	8 x 40 mm	M 8	1 mm	8 mm	40 mm	100	215697

AGR: 05.306

## Nail plug FLASHfix II mushroom collar with zinc plated screwnail

- Pre-engineered system, consisting of dowels and screw nail, enables a quick serial assembly
- Impact protection ensures maximum installation safety and prevents from pre-spreading when driving in
- Flush fit of the screw nail due to optimum coordination between nail and dowel
- Special rib profile ensures high extraction values
- Cross slot holding and nail screw thread allow an unscrewing of the screw and a subsequent disassembly
- High quality industrial nylon guarantees high buckling resistance and resistance to weather, aging, rotting and chemical influences

### Application Area

- Rapid, easy and economic fixation of thin mounting parts e.g. cable conduit, boards, palstic/metal profiles, punched tapes, foils, etc. in concrete and full brick materials

### Characteristics

- Wide collar version is ideal for fixation of thin mounting parts

### Hints

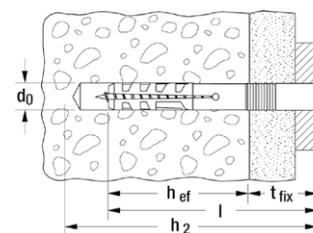
- Bigger edge - support surface at the upper end of the dowel = mushroom collar

### Scope Of Delivery

- Delivered fully assembled

### Technical Data

Material	Polyamide (Nylon)
Material, Nail	Steel zinc plated



Title	Dimension	Max. usable length	Drill hole-Ø	Anchorage depth	Drive	PU Piece	Article No.
Nail plug FLASHfix II mushroom collar	5 x 30 mm	5 mm	5 mm	25 mm	PZ 2	200	215698
Nail plug FLASHfix II mushroom collar	6 x 30 mm	1 mm	6 mm	30 mm	PZ 2	200	215699
Nail plug FLASHfix II mushroom collar	6 x 40 mm	7 mm	6 mm	30 mm	PZ 2	200	215700
Nail plug FLASHfix II mushroom collar	8 x 40 mm	1 mm	8 mm	40 mm	PZ 3	100	215701

AGR: 05.307

## Impact dowel **FLASHfix** flat collar - Quadro Pack

- Practical craftsmen bulk container
- Impact protection ensures maximum installation safety and prevent pre-spreading when driving in
- Special rib profile ensures high extraction values
- Flush fit of the screw nail due to optimal adjustment of nail and dowels.
- High quality industrial nylon ensures high buckling resistance and resistance against weather, aging, rotting and chemical influences
- Barrier ribs on the dowel neck provide an optimal fit in the component



### Characteristics

- Formed tip enables simple insertion into the hole and gently piercing of foils

### Scope Of Delivery

- Delivered fully assembled

### Technical Data

Material	Polyamide (Nylon)
Material, Nail	Steel electrogalvanized [1]

Title	Dimension	Max. usable length	Drill hole-Ø	Anchorage depth	Drive	Content	PU Piece	Article No.
PLUG FLASHFIX 5X35 FC 3000 PCS	5 x 30 mm	5 mm	5 mm	25 mm	PZ 2	3000 PC	1	137109
PLUG FLASHFIX 6X40 FC 1600 PCS	6 x 40 mm	8 mm	6 mm	30 mm	PZ 2	1600 PC	1	137110

AGR: 05.305

INTERNAL/Approved (2019-03-22 20:45:00)

## Iso plug **ISOdrill** TOP

- Direct screwing into the insulation. Therefore a complex distance assembly is not necessary
- Sharp top of the plug also drills reliably into hard ETICS-plaster. Pre-drilling is not necessary any more, which minimizes the assembly efforts
- The spiral thread cuts itself into the insulation in an interlocking way and ensures high withstand values
- Both dowels with collar for visually pleasant fixing

### Application Area

- Fixing of light building products such as signs, mailboxes, movement sensors, cables, lights, bell systems, downpipes in insulation boards

### Characteristics

- Good resistance against weather, ageing, rotting and chemical influences

### Processing Information

- To prevent water from penetrating into the insulation, the dowel collar should be sealed with silicone

### Scope Of Delivery

- ISOdrill TOP 95: 1x screw M8x30 mm as setting tool

### Technical Data

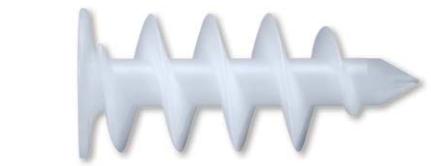
Material Polyamide (Nylon)

Title	Dimension	For screw-Ø	Drive	Internal Hole Depth	PU Piece	Article No.
Iso plug ISOdrill TOP	25 x 60 mm	4.5 - 5 mm	TX 40	30 mm	50	174830
Iso plug ISOdrill TOP	32 x 95 mm	8 - 10 mm	I6KT 13	40 mm	25	174832

AGR: 05.400

### Related Products

	PU Amount	Article No.
BACSD-1 18V Cordless Screw Driver 18V 5,0 Ah Li-Ion	1	241989



ISOdrill TOP 60



ISOdrill TOP 95



Lights



Motion sensors



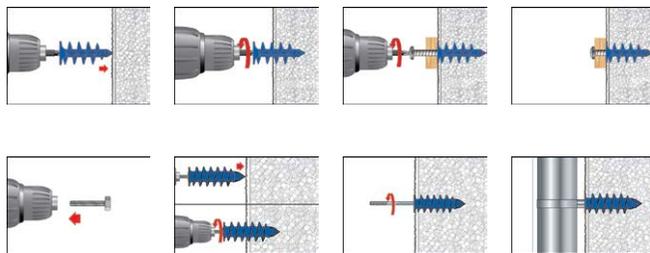
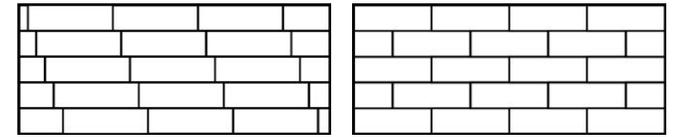
Signs



Downpipes



## Performance data ISOdrill TOP



Plug type	ISOdrill TOP 95
Wood screws-Ø in mm	8,0
Thread depth of the screw in mm	40 - 80
Polystyrene PS 15, PS 20	0,10

## Insulation plug ISOdrill with thread rod

- Pre-assembled special setscrew, optionally with Dacromet coating (ISOdrill 95D) or stainless steel A2 (ISOdrill 95A2) for quick installation

### Application Area

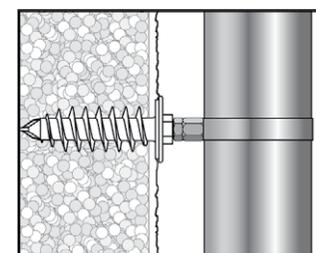
- Mounting in thermal insulation systems
- Ideal for the fixing of rainwater pipe clamps

### Characteristics

- Recommended working load polystyrene EPS: 0.10 KN
- Recommended working load polystyrene XPS: 0.20 KN
- Safety factor  $\mu = 7$

### Processing Information

- See installation instructions



## Insulation and scaffolding fixing

- When adjusting the setscrew, hold the dowel with SW 17 in order to avoid an unscrewing of the dowel

### Hints

- Suitable for thermal insulation systems (EIFS), polystyrene plates, wood fiber insulation boards (pre-drilling: 13 mm), rigid foam sheets, polystyrene sheets, Heraklith plates



### Scope Of Delivery

- Dowel
- Setscrew
- Installation instruction

### Technical Data

Material Stainless Steel A2

Title	Dimension	Drive	Thread	Internal Hole Depth	PU Piece	Article No.
Insulation plus ISOdrill 95 A2	32 x 95 mm	6KT 17	M 10	50 mm	20	243745
Insulation plug ISOdrill 95 Dacro	32 x 95 mm	6KT 17	M 10	50 mm	20	243746

AGR: 05.400

## Insulation fastener **ISOdrill**

- Direct screwing of the anchor into rigid foam panels makes costly substructures for bridging the insulation unnecessary
- Vapor barriers retain their function, as the insulation material is not completely penetrated
- Due to material displacement, the foam is compressed. Therefore, high withstand values are achieved

### Application Area

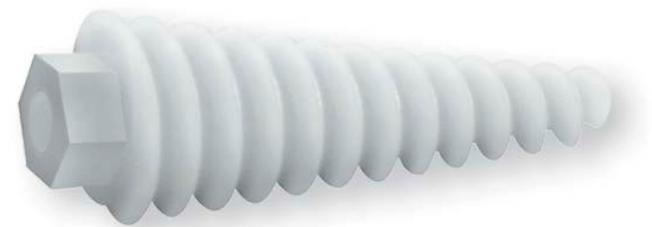
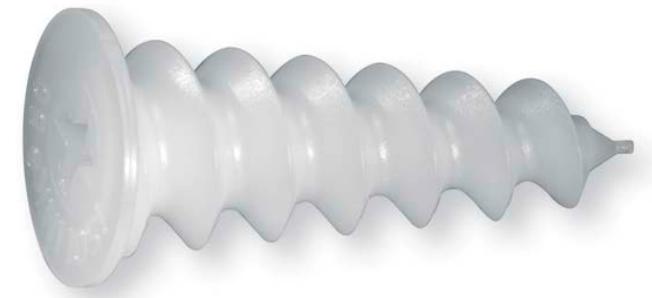
- Fixing of light building products such as signs, mailboxes, movement sensors, cables, lights, bell systems, downpipes in insulation boards

### Processing Information

- ISOdrill-anchor must not be shortened!
- ISOdrill 50: combination drive with Phillips or slotted screwdriver
- When setting plastered in rigid foam boards or sandwich plates, the surface drill (max. Outer diameter of the dowel)
- To avoid that water will get in the insulation, the plug collar should be sealed with silicone

### Technical Data

Material Polyethylene (PE)



Lights



Motion sensors



Signs



Downpipes

Title	Dimension	For screw-Ø	Drive	Internal Hole Depth	PU Piece	Article No.
Iso plug ISOdrill	20 x 50 mm	4 - 4.5 mm	PH 3	40 mm	10/150	197289

AGR: 05.400

INTERNAL/Approved (2019-03-22 20:45:48)

## Insulation plug **ISOdrill** direct

- Effective and timesaving installation by direct fastening through the profile
- No pre-drilling of the plaster ( $\leq 7\text{mm}$ ) due to sharp drilling tip
- Glassfibre reinforced Polyamide for highest resistance against aging, atmospheric influences and UV exposure
- Including EPDM sealing avoids penetration of water
- Nice view by flat head in 7 different colors
- Also usable for lightweight fixings in combination with screw  $\varnothing 3,5\text{mm}$

### Application Area

- Direct fixing of wall connecting profiles on ETICS without thermal bridges
- Fixing of light components like signs, motion detectors or lamps on ETICS

### Processing Information

- Clearance hole in the fixture:  $\geq \varnothing 8$

### Hints

- \*Load value in plastered boards may differ depending on the type and thickness of the plaster

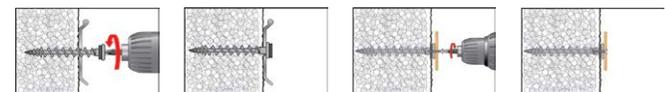
### Technical Data

Material: Fibre-reinforced and reinforced plastics

Recommended loads for a single anchor	Polystyrene EPS (PS15, PS20), unplastered	Polystyrene EPS (PS15, PS20), plastered
<b>ISOdrill direct</b>	0,04 kN	0,06 kN*

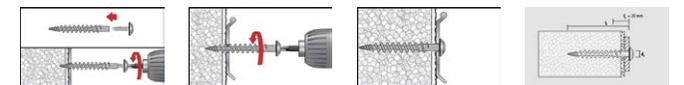
Title	Color	Dimension	For screw- $\varnothing$	Drive	Internal Hole Depth	PU Piece	Article No.
ISOdrill direct	RAL 8017, Chocolate brown	9.5 x 80 mm	3.5 mm	TX 25	10 mm	50	344186
ISOdrill direct	RAL 8014, Sephia brown	9.5 x 80 mm	3.5 mm	TX 25	10 mm	50	344187
ISOdrill direct	RAL 8004, Copper brown	9.5 x 80 mm	3.5 mm	TX 25	10 mm	50	344188
ISOdrill direct	RAL 9017, Traffic black	9.5 x 80 mm	3.5 mm	TX 25	10 mm	50	344189
ISOdrill direct	RAL 7016, Anthracite / grey	9.5 x 80 mm	3.5 mm	TX 25	10 mm	50	344190
ISOdrill direct	RAL 7045, Tele grey 1	9.5 x 80 mm	3.5 mm	TX 25	10 mm	50	344191
ISOdrill direct	RAL 9003, Signal white	9.5 x 80 mm	3.5 mm	TX 25	10 mm	50	344192

AGR: 05.400



## Insulation plug **ISOdrill** direct PS

- Direct fastening as push-through installation with plumber screw 4,5x25mm
- No pre-drilling of the plaster necessary ( $\leq 7\text{mm}$ ) due to sharp drilling tip
- Glassfibre reinforced Polyamide for highest resistance against aging, atmospheric influences and UV exposure
- Also usable as pre-positioned installation for lightweight fixings with screw  $\varnothing 4,0\text{mm}$
- Easy pre-positioned installation and disassembly by integrated TX 25 drive



### Application Area

- Direct fastening of wall connecting profiles in ETICS in combination with plumber screw 4,5x25mm

### Processing Information

- Clearance hole in fixture to be attached in case of push-through installation:  $\geq 8\text{mm}$
- Push-through installation in combination with plumber screw 4,5x25mm: screw in the screw in the plug by hand, then fix the anchor with screwdriver in the base material. While setting the screw drives in the plug.

### Hints

- \*Load value may differ in plastered boards, depending on type and thickness of the plaster

### Technical Data

Material	Fibre-reinforced and reinforced plastics					
<b>Recommended load of a single anchor</b>	<b>Polystyrene EPS (PS15, PS20) unplastered</b>		<b>Polystyrene EPS (PS15, PS20), plastered</b>			
ISOdrill direct PS	0,04 kN		0,06 kN*			
Title	Dimension	For screw- $\varnothing$	Drive	Internal Hole Depth	PU Piece	Article No.
ISOdrill direct PS	10 x 80 mm	4.0 - 4.5 mm	TX 25	20 mm	50	367957

AGR: 05.400

## Insulating board holders **ISOLATEfix 40**

- Impact resistant plastic allows quick and easy installation and prevents the dowel from bending
- Special blade profile in the long anchor part guarantees high withstand values
- Plastic version for the avoiding of cold bridges
- Tapered tip for easy insertion into the borehole

### Application Area

- Fixing of hard, self-supporting insulating boards, such as polyurethane, hard foam or polystyrene

### Processing Information

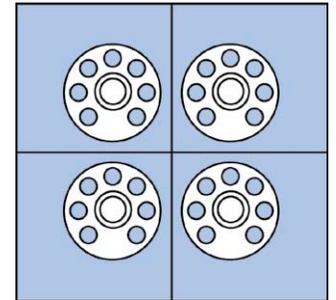
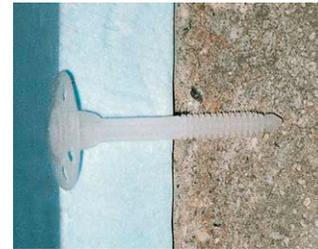
- Choose the insulating panel holder according to the length of insulation panel. Pre-drill the borehole with Berner hammer drill SDS Super-Speed Ø 8 mm. Stuck the insulation panel holder into the pre-drilled hole and drive in with a hammer. Insulation plate has to finish with the insulation panel in a flush way. In order to achieve higher withstand values, insulation plates are used in conjunction with knock-in anchor FLASHfix or sleeve dowel FRAMEfix Ø 8 mm.
- At rigid foam boards we recommend about 8 pieces of ISOLATEfix 40 per m<sup>2</sup>

### Technical Data

Material Polypropylene (PP)

Title	Dimension	Max. usable length	Disc-Ø	Anchorage depth	Drill hole-Ø	PU Piece	Article No.
ISOLATEfix insulating board holder	8 x 80 mm	20 - 45 mm	40 mm	35 mm	8 mm	500	229148
ISOLATEfix insulating board holder	8 x 100 mm	45 - 65 mm	40 mm	35 mm	8 mm	500	229156
ISOLATEfix insulating board holder	8 x 120 mm	65 - 85 mm	40 mm	35 mm	8 mm	500	229164
ISOLATEfix insulating board holder	8 x 135 mm	85 - 100 mm	40 mm	35 mm	8 mm	500	229172
ISOLATEfix insulating board holder	8 x 160 mm	100 - 125 mm	40 mm	35 mm	8 mm	250	229180

AGR: 05.401



## Insulating board disks **ISOLATEfix**

### Application Area

- Fixing of insulating boards in conjunction with nail or sleeve dowels (Ø 8 mm)

### Processing Information

- Insulation plates can also be used in conjunction with knock-in anchor FLASHfix or sleeve dowel FRAMEfix Ø 8 mm

### Technical Data

Material		Polypropylene (PP)		
Title	Plate-Ø	PU Piece	Article No.	
ISOLATEfix insulating board disks	40 mm	500	229130	
CUP F.INSULAT.PAN. ISOL-FIX 60	60 mm	250	051850	

AGR: 05.401



## Insulation fastener **SUPERISOLATE<sup>fix</sup>**

- Pre-mounted knock-in anchor with metal pin and fixed cap allows quick and easy installation
- Extra long plastic cap to reduce heat loss
- Impact protection ensures high installation safety and prevents from a premature spreading of the dowel
- Long spreading part ensures a secure grip in virtually all building materials

### Application Area

- For secure attachment of rigid foam boards in Panels on concrete and masonry  
ETA for fixing of external Thermal insulation composite systems in concrete and masonry

### Characteristics

- European Technical Approval as multiple fixing for the anchorage of bonded thermal insulation composite systems with concrete, sand-lime brick, bricks, sand-lime brick, perforated brick, light-weight concrete solid bricks and hollow blocks made of lightweight concrete

### Processing Information

- When using soft, mineral-based insulation material, also use an insulating material washer.
- The mentioned placement depth refers to the bearing brickwork. Any remaining plaster layer in the case of old building renovation is not included as a bearing brickwork and must be taken into account in terms of the clamping force when choosing a dowel.

### Hints

- The embedment depth of the insulating plug must always be at least 30 mm in raw bricks or concrete floor.  
Please also refer to the notes in the ETA

### Technical Data

Material	Polyethylene (PE)
Material, Nail	Steel zinc plated



## Insulation and scaffolding fixing

Title	Dimension	Max. usable length	Disc-Ø	Anchorage depth	Drill hole-Ø	PU Piece	Article No.
SUPERISOLATEfix	8 x 110 mm	80 mm	60 mm	30 mm	8 mm	250	040371
SUPERISOLATEfix	8 x 130 mm	100 mm	60 mm	30 mm	8 mm	200	040372
SUPERISOLATEfix	8 x 150 mm	120 mm	60 mm	30 mm	8 mm	150	040373
SUPERISOLATEfix	8 x 170 mm	140 mm	60 mm	30 mm	8 mm	150	040374
SUPERISOLATEfix	8 x 190 mm	160 mm	60 mm	30 mm	8 mm	100	040375
SUPERISOLATEfix	8 x 210 mm	180 mm	60 mm	30 mm	8 mm	100	040376
SUPERISOLATEfix	8 x 240 mm	210 mm	60 mm	30 mm	8 mm	100	040377

AGR: 05.401

### Accessories Available

	PU Amount	Article No.
Washer Ø 90 mm for Insulating plug SUPERISOLATEfix	250	040378

## Insulation support metal IDM

### Technical Data

Material: Steel with Aluminium - zinc coating



Title	Dimension	Max. usable length	Disc-Ø	Anchorage depth	Drill hole-Ø	PU Piece	Article No.
Insulation support metal IDM	8 x 110 mm	30 - 60 mm	35 mm	50 mm	8 mm	250	103237
Insulation support metal IDM	8 x 140 mm	60 - 90 mm	35 mm	50 mm	8 mm	250	103239
Insulation support metal IDM	8 x 170 mm	90 - 120 mm	35 mm	50 mm	8 mm	250	104640
Insulation support metal IDM	8 x 200 mm	120 - 150 mm	35 mm	50 mm	8 mm	250	104641

AGR: 05.402

## Insulation support washer metal IDM

### Technical Data

Material: Steel with Aluminium - zinc coating



Title	Plate-Ø	PU Piece	Article No.
INSULATING BRUSH CUP ALU/ZP 80	80 mm	250	104642

AGR: 05.402

## Scaffolding screws with wood screw thread

- Version galvanized for high corrosion protection
- Matched system for safe screw guidance and high assembly reliability
- Frame screws in galvanized version for high corrosion protection
- Can be used in many different subsoils

### Application Area

- Anchoring of state frameworks in concrete, natural stone, hollow blocks, perforated bricks, sand lime bricks with nylon Scaffolding-plug Ø 14 mm
- Dowel lots scaffold anchors directly into wood substrates

### Characteristics

- Double welded ring terminal, installation depth marker

### Processing Information

- Installation depth of the concrete: 75 mm



Title	Threaded version, nominal Ø	Length total (mm)	Useable Length	Eyelets	PU Piece	Article No.
RACK SCREW GS 10.0X120 ZP	10 mm	120 mm	65 mm	23 mm	25	863061
Scaffolding screw with wood screw thread	12 mm	160 mm	85 mm	23 mm	25	104685
Scaffolding screw with wood screw thread	12 mm	190 mm	115 mm	23 mm	25	104688
Scaffolding screw with wood screw thread	12 mm	230 mm	155 mm	23 mm	10	104687
RACK SCREW GS 12.0X300 ZP	12 mm	300 mm	235 mm	25 mm	10	039538
RACK SCREW GS 12.0X350 ZP	12 mm	350 mm	285 mm	25 mm	10	039539

AGR: 00.542

## Scaffolding screw dowel **GERÜSTfix**

- Coordinated system for secure screw leading and high installation safety
- Scaffold screws in a zinc-coated version for corrosion protection
- Can be used in many different undergrounds

### Application Area

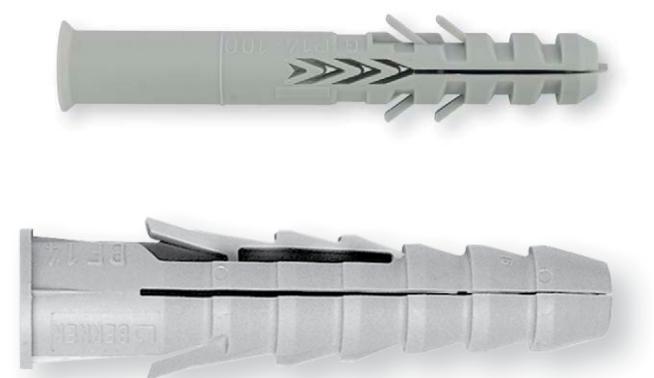
- Scaffold anchoring in different building materials

### Characteristics

- Version with collar

### Technical Data

Material Polyamide (Nylon)



Title	Dimension	Max. usable length	Drill hole-Ø	Anchorage depth	Min. Drill hole depth	PU Piece	Article No.
GERÜSTfix scaffolding screw dowel	14 x 70 mm	0 mm	14 mm	70 mm	80 mm	50	100969
GERÜSTfix scaffolding screw dowel	14 x 100 mm	30 mm	14 mm	70 mm	80 mm	50	100970
GERÜSTfix scaffolding screw dowel	14 x 135 mm	65 mm	14 mm	70 mm	80 mm	50	100971

AGR: 05.410

## Construction Ratchet 19/22 Special

- Special forged steel
- Very stable version
- 31 toothy ratchet with 19 mm and 22 mm
- Especially with forged hammer and folding Pry Bars
- The hammer can easily and quickly screws or loose connections are tapped
- The iron nail is used to pull out nails and for small crowbar work
- The tip can be used to drill holes align accurately



Title	Wrench size	PU Piece	Article No.
Construction Ratchet Special	19 x 22	1	216314

AGR: 03.007

INTERNAL/Approved (2019-03-22 20:47:01)

## SCREWanchor MMS with hexagonal head and washer

- European Technical Approval (ETA) in non-cracked and cracked concrete and approved fire resistance F120
- Quick and easy installation due to unique driving mechanism, which allows low anchoring depths, small bore diameters and machine processing, therefore, an assembly time reduction of up to 50 %
- Small edge and center distances due to expansion free assembly
- Broad application range because of various head shapes
- Rapid and complete disassembly is possible by simply unscrewing the anchor

### Application Area

- Mounting of medium loads such as rails, brackets, machines, stairs, gates, metal structures, facades, wooden structures in concrete  $\geq$  C 12/15 and natural stone with solid structure in dry interiors

### Characteristics

- Washer according to DIN 440

### Hints

- Anchor with European approval in non-cracked and cracked concrete (pressure and tensile zone) at a concrete strength of at least C20/25 and C 50/60 at the most in accordance to EN 206. For further technical data, please request approval..



### Technical Data

Material Steel zinc plated

Title	Dimension	Drill hole-Ø	Setting depth 1	Usable Length	Min. Drill hole depth	Drive	PU Piece	Article No.
SCREWanchor MMS with hexagonal head	12 x 280 mm	10 mm	75 mm	205 mm	85 mm	6KT 18	25	155690

AGR: 05.513

## Performance Data SCREWanchor MMS Ø 5 – Ø 7,5 mm

### Hints

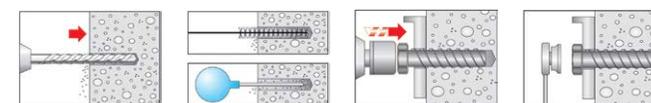


INTERNAL/Approved (2019-03-22 20:47:10)

## Heavy duty fixing

- Maximum permissible loads of an anchor in normal concrete C20/25. The whole approval statement Z-21.1-1503 (Ø 6 – Ø 7,5 zinc plated; ZI) resp. Z-21.1-1697 (Ø 7,5 A4) as well as the test report 3815/0592 for fire resistance duration is to be observed when measuring dimensions.

The values for limesand full stones, clinker and full brick are recommended usage loads. They are not a part of the approval. Values brackets ( ) apply to the anchoring of light ceiling furnishings and sub-ceilings according to DIN 18168.



Anchor Size		MMS 5 ZI	MMS 6 ZI	MMS 7.5 ZI	MMS 7.5 ZI	MMS 7.5 A4
<b>Permissible Values</b>						
Press Zone (non-cracked concrete B25 or C20/25) Allowed Load Pull-, Cross-, Inclined Pull under any angle	F appr. [kN]	0.3	F rec. 1.5	2.0	3.0	2.0
Anchoring of light ceiling furnishing and sub-ceilings according to DIN 18168	F appr. [kN]	-	0.3	0.5	0.8	0.5
Limesand Full Stone	F rec. [kN]	0.5	1.1	1.4	1.4	1.4
Clinker	F rec. [kN]	0.5	1.1	1.4	1.4	1.4
Full Brick	F rec. [kN]	0.3	0.5	0.8	0.8	0.8
<b>Fire Resistance Duration</b>						
	F30 [kN]	0.50	0.90	1.50	1.50	1.50
	F60 [kN]	0.30	0.60	1.10	1.10	1.10
	F90 [kN]	0.25	0.40	0.80	0.80	0.80
	F120 [kN]	0.10	0.30	0.50	0.50	0.50
<b>Constr. Piece Dimensions and Mounting Data</b>						
Permissible Bending Torque	M appr. [Nm]	-	5.1	10.0	10.0	5.4
Effective Anchoring Depth	h <sub>ef</sub> [mm]	30	40	40	50	40
Placement Depth	h <sub>nom</sub> [mm]	45	45	45	55	55
Distance to Edge	C [mm]	120	160 (200)	160 (200)	200 (200)	160 (200)
Distance to Axle	S [mm]	60	80 (100)	80 (100)	80 (100)	80 (100)
Minimum Construction Piece Thickness	h <sub>min</sub> [mm]	90	105	105	115	115
Core Diameter	d <sub>k</sub> [mm]	3.5	4.5	5.7	5.7	5.7
Outer Diameter	d <sub>s</sub> [mm]	5.0	6.4	7.5	7.5	7.5
Nominal Drill Diameter	d <sub>0</sub> [mm]	4.0	5.0	6.0	6.0	6.0
Passage Hole in the Constr. Piece to be Connected	d <sub>f</sub> [mm]	5.5	6.5	8.5	8.5	8.0
Torque at Anchoring	T <sub>inst</sub> [Nm]	12	12	20	20	20

## Performance Data **SCREW***anchor* MMS Ø 10 – 16 mm

### Hints

- Maximum permissible loads of an anchor in normal concrete C20/25. The whole approval statement ETA-05/0010 (zinc plated, ZI) resp. ETA-05/0011 (A4) as well as the test report 3815/0592 for fire resistance duration is to be observed when measuring dimensions.
- \* = Ø 16 not part of the approval. Data is recommended values.

Anchor Size				MMS 10 ZI	MMS 10A4	MMS 12 ZI	MMS 12 A4	MMS 16 ZI*
<b>ZI* Permissible Values of a Single Dowel</b>								
Permissible Pulling Load	Pull Zone (cracked concrete C20/25)	N zul	[kN]	3.6	3.6	4.8	4.8	
	Press Zone (non-cracked concrete C20/25)	N zul	[kN]	4.8	4.8	6.3	6.3	7.3
Cross Load	Pull Zone (cracked concrete C20/25)	V zul	[kN]	7.6	9.5	12.4	13.8	
	Press Zone (non-cracked concrete C20/25)	V zul	[kN]	7.6	9.5	12.4	15.7	24.2
Fire Resistance Duration	F30	[kN]		2.7	2.7	4.4	4.4	
	F60	[kN]		2.0	2.0	3.2	3.2	
	F90	[kN]		1.5	1.5	2.4	2.4	
	F120	[kN]		1.0	1.0	1.5	1.5	
Constr. Piece Dimensions and Mounting Data								
Allowed Bending Torque		M zul	[Nm]	18.7	22.2	40.4	45.9	
Effective Anchoring Depth		h ef	[mm]	47.5	47.5	54.5	54.5	70
Placement Depth		h nom	[mm]	65	75	75	90	70
Characteristic Distance to Edge		C cr, sp	[mm]	71.3	71.3	81.2	81.2	
Minimum Distance to Edge		C min	[mm]	50	50	60	60	100
Characteristic Distance to Axle		S cr, sp	[mm]	142.5	142.5	163.5	163.5	
Minimum Distance to Axle		S min	[mm]	50	50	60	60	100
Min. Constr. Piece Thickness		h min	[mm]	115	130	125	140	180
Core Diameter		d k	[mm]	7.6	7.6	9.7	9.6	13.3
Outer Diameter		d s	[mm]	10.1	10.1	12	12.4	16.7
Nominal Drill Diameter		d 0	[mm]	8	8	10	10	14
Passage Hole in the Constr. Piece to be Connected		d f	[mm]	12	12	14	14	18
Torque at Anchoring		T inst	[Nm]	40	40	55	55	110

### **SCREW***anchor* MMS with hexagon head

- European Technical Approval (ETA) in non-cracked and cracked concrete and approved fire resistance F120
- Quick and easy installation due to unique driving mechanism, which allows low anchoring depths, small bore diameters and machine processing, therefore, an assembly time reduction of up to 50 %
- Small edge and center distances due to expansion free assembly
- Broad application range because of various head shapes



INTERNAL/Approved (2019-03-22 20:47:38)

## Heavy duty fixing

- Rapid and complete disassembly is possible by simply unscrewing the anchor

### Application Area

- Mounting of medium loads such as rails, brackets, machines, stairs, gates, metal structures, facades, wooden structures in concrete  $\geq$  C 12/15 and natural stone with solid structure in dry interiors

### Characteristics

- Zinc-plated galvanized steel (ZP)

### Hints

- HMS = special size not covered by the general technical approval

### Technical Data

Material Steel zinc plated

Title	Dimension	Drill hole-Ø	Setting depth 1	Usable Length	Min. Drill hole depth	Drive	PU Piece	Article No.
SCREWanchor MMS-S	7.5 x 140 mm	6 mm	45 mm	95 mm	55 mm	6KT 13	50	119988
SCREWanchor MMS-S	10 x 80 mm	8 mm	65 mm	15 mm	75 mm	6KT 16	40	119993
SCREWanchor HMS-S	12 x 60 mm	10 mm	50 mm	10 mm	60 mm	6KT 18	25	119999
SCREWanchor MMS-S	12 x 160 mm	10 mm	75 mm	85 mm	85 mm	6KT 18	25	120296
SCREWanchor HMS-S	16 x 80 mm	14 mm	70 mm	10 mm	80 mm	6KT 24	25	056989

AGR: 05.513

### SCREWanchor MMS-plus SS hexagon head

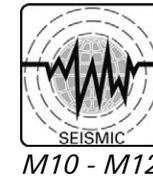
- New hexagon head with combined washer and standard spanner sizes for safe fixation and nice view
- Optimized thread design for higher approved loads
- Full thread design ensures high load capacity in case of combined tension-/shear loads
- Additional reduced setting depth for higher flexibility and reduced drilling effort
- Optimized tip and improved tothing for lower torque and reduced abrasion
- ETA assessment Option 1, including fire resistance F120 and seismic performance level C1 (Ø10-12mm)
- With special German approval for reusability for temporarily fixings in fresh concrete



INTERNAL/Approved (2019-03-22 20:47:58)

## Application Area

- For approved anchoring in cracked and non-cracked concrete C20/25 to C50/60 in indoor areas
- Also suitable for concrete C12/15 and natural stone with dense structure without approval
- Reusable for anchoring for temporarily fixings, like construction site safety equipment and shuttering props in fresh concrete



## Hints

- When measuring, please follow the complete ETA 15/0784 precisely and use Berner Calculation Software
- When using in accordance to German approval Z-21.8-2061 for fixing of temporarily anchoring in fresh concrete, please use test gauges to check reusability

## Technical Data

Material Steel zinc plated

Title	Dimension	Drill hole-Ø	Usable length red. set. depth	Setting depth 1	Usable Length	Setting depth 2	Drive	PU Piece	Article No.
Screwanchor MMS-plus SS	6 x 40 mm	5 mm	5 mm	35 mm	-	-	6KT 8	100	341187
Screwanchor MMS-plus SS	6 x 50 mm	5 mm	15 mm	35 mm	5 mm	45 mm	6KT 8	100	341188
Screwanchor MMS-plus SS	6 x 60 mm	5 mm	25 mm	35 mm	15 mm	45 mm	6KT 8	100	341189
Screwanchor MMS-plus SS	6 x 70 mm	5 mm	35 mm	35 mm	25 mm	45 mm	6KT 8	100	341190
Screwanchor MMS-plus SS	7.5 x 35 mm	6 mm	1 mm	35 mm	-	-	6KT 10	100	341191
Screwanchor MMS-plus SS	7.5 x 40 mm	6 mm	5 mm	35 mm	-	-	6KT 10	100	341192
Screwanchor MMS-plus SS	7.5 x 50 mm	6 mm	15 mm	35 mm	-	-	6KT 10	50	341194
Screwanchor MMS-plus SS	7.5 x 60 mm	6 mm	25 mm	35 mm	5 mm	55 mm	6KT 10	50	341195
Screwanchor MMS-plus SS	7.5 x 70 mm	6 mm	35 mm	35 mm	15 mm	55 mm	6KT 10	50	341196
Screwanchor MMS-plus SS	7.5 x 80 mm	6 mm	45 mm	35 mm	25 mm	55 mm	6KT 10	50	341197
Screwanchor MMS-plus SS	7.5 x 100 mm	6 mm	65 mm	35 mm	45 mm	55 mm	6KT 10	50	341198
Screwanchor MMS-plus SS	7.5 x 120 mm	6 mm	85 mm	35 mm	65 mm	55 mm	6KT 10	50	341199
Screwanchor MMS-plus SS	7.5 x 140 mm	6 mm	105 mm	35 mm	85 mm	55 mm	6KT 10	50	341200
Screwanchor MMS-plus SS	10 x 60 mm	8 mm	10 mm	50 mm	-	-	6KT 13	25	341201
Screwanchor MMS-plus SS	10 x 70 mm	8 mm	20 mm	50 mm	5 mm	65 mm	6KT 13	25	341202
Screwanchor MMS-plus SS	10 x 80 mm	8 mm	30 mm	50 mm	15 mm	65 mm	6KT 13	25	341203
Screwanchor MMS-plus SS	10 x 90 mm	8 mm	40 mm	50 mm	25 mm	65 mm	6KT 13	25	341204
Screwanchor MMS-plus SS	10 x 100 mm	8 mm	50 mm	50 mm	35 mm	65 mm	6KT 13	25	341205

INTERNAL/Approved (2019-03-22 20:48:19)

## Heavy duty fixing

Title	Dimension	Drill hole-Ø	Usable length red. set. depth	Setting depth 1	Usable Length	Setting depth 2	Drive	PU Piece	Article No.
Screwanchor MMS-plus SS	10 x 120 mm	8 mm	70 mm	50 mm	55 mm	65 mm	6KT 13	25	341206
Screwanchor MMS-plus SS	10 x 140 mm	8 mm	90 mm	50 mm	75 mm	65 mm	6KT 13	25	341208
Screwanchor MMS-plus SS	10 x 160 mm	8 mm	110 mm	50 mm	95 mm	65 mm	6KT 13	25	341209
Screwanchor HMS-plus SS	12 x 60 mm	10 mm	5 mm	55 mm	-	-	6KT 15	25	369062
Screwanchor MMS-plus SS	12 x 80 mm	10 mm	5 mm	75 mm	-	-	6KT 15	25	341210
Screwanchor MMS-plus SS	12 x 90 mm	10 mm	15 mm	75 mm	1 mm	90 mm	6KT 15	25	341211
Screwanchor MMS-plus SS	12 x 100 mm	10 mm	25 mm	75 mm	10 mm	90 mm	6KT 15	25	341212
Screwanchor MMS-plus SS	12 x 120 mm	10 mm	45 mm	75 mm	30 mm	90 mm	6KT 15	25	341213
Screwanchor MMS-plus SS	12 x 140 mm	10 mm	65 mm	75 mm	50 mm	90 mm	6KT 15	25	341214
Screwanchor MMS-plus SS	12 x 160 mm	10 mm	85 mm	75 mm	70 mm	90 mm	6KT 15	25	341215

AGR: 05.513

### SCREWanchor MMS-plus S hex with washer

- New hexagon head with standard spanner size 19mm and additional washer DIN 440 for safe wood fixing
- Optimized thread design for higher approved loads
- Optimized tip and improved tooting for lower torque and reduced abrasion
- Additional reduced setting depth for higher flexibility and reduced drilling effort
- ETA Assessment Option 1, including fire resistance F120 and seismic performance level C1
- Special German approval for reusability for temporarily fixings in fresh concrete

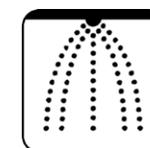
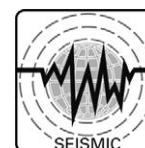


#### Application Area

- Approved anchoring of wooden beams in cracked and non-cracked concrete C20/25 to C50/60 in indoor areas
- Also suitable for concrete C12/15 and natural stone with dense structure without approval

#### Hints

- When measuring, please follow the complete ETA 15/0784 precisely and use Berner Calculation Software
- When using in accordance to German approval Z-21.8-2061 for fixing of temporarily anchoring in fresh concrete, please use test gauges to check the reusability



## Technical Data

Material Steel zinc plated

Title	Dimension	Drill hole-Ø	Usable length red. set. depth	Setting depth 1	Usable Length	Setting depth 2	Drive	PU Piece	Article No.
Screwanchor MMS-plus S	12 x 180 mm	10 mm	105 mm	75 mm	90 mm	90 mm	6KT 19	25	341216
Screwanchor MMS-plus S	12 x 200 mm	10 mm	125 mm	75 mm	110 mm	90 mm	6KT 19	25	341217
Screwanchor MMS-plus S	12 x 240 mm	10 mm	165 mm	75 mm	150 mm	90 mm	6KT 19	25	341218
Screwanchor MMS-plus S	12 x 280 mm	10 mm	205 mm	75 mm	190 mm	90 mm	6KT 19	25	341219
Screwanchor MMS-plus S	12 x 320 mm	10 mm	245 mm	75 mm	230 mm	90 mm	6KT 19	25	341220

AGR: 05.513

## SCREWanchor MMS with hexagonal head stainless steel

- European Technical Approval (ETA) in non-cracked and cracked concrete and approved fire resistance F120
- Quick and easy installation due to unique driving mechanism, which allows low anchoring depths, small bore diameters and machine processing, therefore, an assembly time reduction of up to 50 %
- Small edge and center distances due to expansion free assembly
- Broad application range because of various head shapes
- Rapid and complete disassembly is possible by simply unscrewing the anchor

### Application Area

- For installations in outside areas or in damp rooms, e.g. for the installation of railings/balustrades in outside areas
- Ø 7.5 mm approved for installations in non-cracked concrete and for light ceiling panelling
- Ø 10 mm and 12 mm approved for installations in cracked and non-cracked concrete

### Hints

- For further technical data, please request approval

## Technical Data

Material Stainless Steel A4



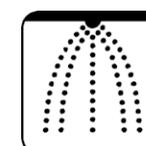
## Heavy duty fixing

Title	Dimension	Drill hole-Ø	Setting depth 1	Usable Length	Min. Drill hole depth	Drive	PU Piece	Article No.
SCREWanchor MMS-S A4	7.5 x 65 mm	6 mm	55 mm	10 mm	65 mm	6KT 13	50	163155
SCREWanchor MMS-S A4	7.5 x 75 mm	6 mm	55 mm	10 mm	75 mm	6KT 13	50	163156
SCREWanchor MMS-S A4	10 x 85 mm	8 mm	75 mm	10 mm	90 mm	6KT 16	25	163157
SCREWanchor MMS-S A4	10 x 95 mm	8 mm	75 mm	20 mm	90 mm	6KT 16	25	163158
SCREWanchor MMS-S A4	12 x 100 mm	10 mm	90 mm	10 mm	100 mm	6KT 18	25	163159
SCREWanchor MMS-S A4	12 x 120 mm	10 mm	90 mm	30 mm	100 mm	6KT 18	25	163160

AGR: 05.513

### SCREWanchor MMS-plus F

- Optimized thread design with reduced core diameter and higher outer diameter for high approved loads
- Optimized tip and improved tooting for lower torque and reduced abrasion
- Full thread design ensures high load capacity in case of combined loads tension-/shear loads
- ETA Assessment Option 1, including fire resistance F120 and seismic performance Level C1 (Ø 10, standard setting depth)
- Additional reduced setting depth for higher flexibility and reduced drilling effort
- Ø 10 with special German approval for reusability for temporarily fixings in fresh concrete



#### Application Area

- For approved anchoring in cracked and non-cracked concrete C20/25 to C50/60 in indoor areas
- Also suitable for concrete C12/15 and natural stone with dense structure without approval

#### Hints

- When measuring, please follow the complete ETA 15/0784 precisely and use Berner Calculation Software
- When using in accordance to German approval Z-21.8-2061 for fixing of temporarily anchoring in fresh concrete please use test gauges to check the reusability

#### Technical Data

Material Steel zinc plated

Title	Dimension	Drill hole-Ø	Usable length red. set. depth	Setting depth 1	Usable Length	Setting depth 2	Drive	PU Piece	Article No.
Screwanchor MMS-plus F	6 x 40 mm	5 mm	5 mm	35 mm	-	-	TX 30	100	341221
Screwanchor MMS-plus F	6 x 50 mm	5 mm	15 mm	35 mm	5 mm	45 mm	TX 30	100	341222
Screwanchor MMS-plus F	6 x 60 mm	5 mm	25 mm	35 mm	15 mm	45 mm	TX 30	100	341223
Screwanchor MMS-plus F	6 x 70 mm	5 mm	35 mm	35 mm	25 mm	45 mm	TX 30	100	341224
Screwanchor MMS-plus F	6 x 80 mm	5 mm	45 mm	35 mm	35 mm	45 mm	TX 30	50	341225
Screwanchor MMS-plus F	6 x 100 mm	5 mm	65 mm	35 mm	55 mm	45 mm	TX 30	50	341226
Screwanchor MMS-plus F	7.5 x 50 mm	6 mm	15 mm	35 mm	-	-	TX 40	100	341228
Screwanchor MMS-plus F	7.5 x 60 mm	6 mm	25 mm	35 mm	5 mm	55 mm	TX 40	50	341229
Screwanchor MMS-plus F	7.5 x 70 mm	6 mm	35 mm	35 mm	15 mm	55 mm	TX 40	50	341230
Screwanchor MMS-plus F	7.5 x 80 mm	6 mm	45 mm	35 mm	25 mm	55 mm	TX 40	50	341231
Screwanchor MMS-plus F	7.5 x 100 mm	6 mm	65 mm	35 mm	45 mm	55 mm	TX 40	50	341232
Screwanchor MMS-plus F	7.5 x 120 mm	6 mm	85 mm	35 mm	65 mm	55 mm	TX 40	50	341233
Screwanchor MMS-plus F	7.5 x 140 mm	6 mm	105 mm	35 mm	85 mm	55 mm	TX 40	50	341234
Screwanchor MMS-plus F	7.5 x 160 mm	6 mm	125 mm	35 mm	105 mm	55 mm	TX 40	50	341235
Screwanchor MMS-plus F	10 x 60 mm	8 mm	10 mm	50 mm	-	-	TX 45	25	341236
Screwanchor MMS-plus F	10 x 80 mm	8 mm	30 mm	50 mm	15 mm	65 mm	TX 45	25	341237

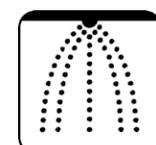
AGR: 05.514

## SCREWanchor MMS-plus P pan head

- Optimized thread design with reduced core diameter and higher outer diameter for high approved loads
- Optimized tip and improved tothing for lower torque and reduced abrasion
- Full thread design ensures high load capacity in case of combined tension-/shear loads
- Additional reduced setting depth for higher flexibility and reduced drilling effort
- ETA Assessment Option 1, including fire resistance F120

### Application Area

- For approved anchoring in cracked and non-cracked concrete C20/25 to C50/60
- Also suitable for concrete C12/15 and natural stone with dense structure without approval



## Heavy duty fixing

### Hints

- Version HMS+ not part of the ETA assessment
- When measuring, please follow the complete ETA 15/0784 precisely and use Berner Calculation Software

### Technical Data

Material Steel zinc plated

Title	Dimension	Drill hole-Ø	Usable length red. set. depth	Setting depth 1	Usable Length	Setting depth 2	Drive	PU Piece	Article No.
Screwanchor HMS-plus P	5 x 30 mm	4 mm	1 mm	30 mm	-	-	TX 20	200	341238
Screwanchor HMS-plus P	5 x 50 mm	4 mm	15 mm	30 mm	-	-	TX 20	200	341239
Screwanchor HMS-plus P	6 x 30 mm	5 mm	1 mm	30 mm	-	-	TX 30	200	341240
Screwanchor MMS-plus P	6 x 35 mm	5 mm	1 mm	35 mm	-	-	TX 30	100	341241
Screwanchor MMS-plus P	6 x 50 mm	5 mm	15 mm	35 mm	5 mm	45 mm	TX 30	100	341242
Screwanchor MMS-plus P	7.5 x 35 mm	6 mm	1 mm	35 mm	-	-	TX 30	100	341244
Screwanchor MMS-plus P	7.5 x 40 mm	6 mm	5 mm	35 mm	-	-	TX 30	100	341245
Screwanchor MMS-plus P	7.5 x 50 mm	6 mm	15 mm	35 mm	-	-	TX 30	100	341246

AGR: 05.515

## SCREWanchor MMS-plus MS flange head

- Optimized thread design with reduced core diameter and higher outer diameter for high approved loads
- Reduced setting depth for very efficient installation by reduced drilling effort and reduced risk of rebar hits
- ETA Assessment Option 1, including fire resistance F120

### Application Area

- Approved anchoring of installation rails in cracked and non-cracked concrete C20/25 to C50/60

### Hints

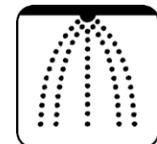
- When measuring, please follow the complete ETA 15/0784 precisely and use Berner Calculation Software

### Technical Data

Material Steel zinc plated

Title	Dimension	Drill hole-Ø	Usable length red. set. depth	Setting depth 1	Drive	PU Piece	Article No.
Screwanchor MMS-plus MS	7.5 x 40 mm	6 mm	5 mm	35 mm	TX 30	100	341248
Screwanchor MMS-plus MS	7.5 x 45 mm	6 mm	10 mm	35 mm	TX 30	100	341249

AGR: 05.515



## SCREWanchor MMS-plus ST metric stud

- Optimized thread design ensures higher approved loads
- Additional reduced setting depth for higher flexibility and reduced drilling effort
- ETA option 1, including fire resistance F120

### Application Area

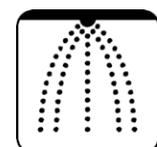
- For approved anchoring of pipe clamps or other parts with internal thread in cracked or non-cracked concrete C20/25 to C50/60
- Also suitable for concrete C12/15 and natural stone with dense structure without approval

### Hints

- When measuring, please follow the complete ETA 15/0784 precisely and use Berner Calculation software

### Technical Data

Material Steel zinc plated



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Title	Dimension	Drill hole-Ø	Usable length red. set. depth	Setting depth 1	Usable Length	Setting depth 2	Drive	Thread	PU Piece	Article No.
Screwanchor MMS-plus ST	6 x 55 mm	5 mm	20 mm	35 mm	-	-	6KT 10	M 6	100	341250
Screwanchor MMS-plus ST	7.5 x 60 mm	6 mm	25 mm	35 mm	-	-	6KT 10	M 8	50	341251
Screwanchor MMS-plus ST	7.5 x 70 mm	6 mm	35 mm	35 mm	15 mm	55 mm	6KT 10	M 8	50	341252
Screwanchor MMS-plus ST	7.5 x 80 mm	6 mm	45 mm	35 mm	25 mm	55 mm	6KT 10	M 8	50	341253
Screwanchor MMS-plus ST	10 x 75 mm	8 mm	25 mm	50 mm	10 mm	65 mm	6KT 13	M 10	25	341254

AGR: 05.517

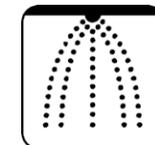
## SCREWanchor MMS-plus I ZP

- Optimized thread design with reduced core diameter and higher outer diameter for high approved loads
- Additional reduced setting depth for higher flexibility and reduced drilling effort
- Full thread design ensures high load capacity in case of combined loads tension-/shear loads
- Optimized tip and improved tooting for lower torque and reduced abrasion
- ETA Assessment Option 1, including fire resistance F120



### Application Area

- For approved anchoring of threaded rods and fixations with outer thread in cracked and non-cracked concrete C20/25 to C50/60 in indoor areas
- Also suitable for concrete C12/15 and natural stone with dense structure without approval



### Hints

- When measuring, please follow the complete ETA 15/0784 precisely and use Berner Calculation Software
- Combined internal thread M8/M10

### Technical Data

Material Steel zinc plated

Title	Dimension	Drill hole-Ø	Usable length red. set. depth	Setting depth 1	Usable Length	Setting depth 2	Drive	PU Piece	Article No.
Screwanchor MMS-plus I	7.5 x 40 mm	6 mm	5 mm	35 mm	-	-	6KT 13	40	341255
Screwanchor MMS-plus I	7.5 x 60 mm	6 mm	25 mm	35 mm	5 mm	55 mm	6KT 13	40	341256

AGR: 05.517

## Test gauge for Screwanchor

- Easy and quick test of screwanchors after every use, if they are usable again for temporary fastenings
- Safe fixing, even in fresh concrete, when the concrete has not achieved his nominal compressive strength

### Application Area

- Checking the reusability of Screwanchor MMS+ according to German approval Z-21.8-2061 for temporary fixings in fresh concrete
- Necessary when screwanchors are used as temporary fixations in fresh concrete, e.g. for fixing of shuttering props and safety equipment on construction site

### Processing Information

- Push anchor in the gauge. If anchor doesn't fit through the gauge, Anchor is usable again.
- If anchor fits through the gauge, reuse of the anchor is not possible

### Hints

- Documented with German approval Z-21.8-2061 for Version MMS+ and MMS Ø10 - 16
- Minimum compressive strength of the concrete: 10 N/mm<sup>2</sup>

### Technical Data

Material Stainless Steel A2

Title	Ø	For drill hole-Ø	Length	PU Piece	Article No.
Test gauge Screwanchor MMS+	10 mm	8 mm	24 mm	1	341257
Test gauge Screwanchor MMS+	12 mm	10 mm	32 mm	1	341259
Test gauge Screwanchor MMS+	16 mm	14 mm	36 mm	1	341260

AGR: 05.591



## SCREWanchor MMS-plus SSK hexagon head

- Approved for temporary fixings of construction site equipment in young concrete with a competitive strength of at least  $f_{c, cube} \geq 10 \text{ N/mm}^2$
- Special head design with cone under the washer: clearance hole  $\varnothing$  17 - 23mm in the bracings can be covered
- Reusability is permitted when using the MMS-plus testing gauge
- Spanner size 24mm similar with most fixings in formwork accessories - no change of setting tools necessary
- Safe and efficient installation by impact driver possible because no defined installation torque is required

### Application Area

- Special screwanchor for fastening of temporary fixings like shuttering props or guardrails in young concrete

### Technical Data

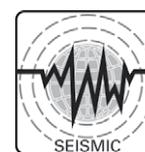
Material Steel zinc plated

Title	Dimension	Drill hole- $\varnothing$	Usable length red. set. depth	Setting depth 1	Usable Length	Setting depth 2	Drive	PU Piece	Article No.
Screwanchor MMS-plus SSK	16 x 130 mm	14 mm	30 mm	100 mm	15 mm	115 mm	6KT 24	10	369063

AGR: 05.513

### Accessories Available

	PU Amount	Article No.
Test gauge for Screwanchor MMS+ 16	1	341260



## Simplex anchor BAZ

- European Technical Assessment Option 1 in cracked and uncracked concrete C20/25 to C50/60 as well as fire protection tested R120. ETA additionally includes the assessment for use for seismic requirements (C1 + C2).
- Additional, reduced anchoring depth for sizes M 8 - M16 allows for maximum flexibility and efficiency during assembly with simultaneous high performance levels
- Reduced anchoring depth reduces the effort required for drilling, minimizes the risk of reinforcement impacts and increases the variability during use.
- Hollow drills as additional drilling method reduces installation time and dust emission.
- High thread lengths allow the use with different clamping strengths and the use for distance mounting.
- The anchor geometry allows high load bearing capacities with simultaneously small axial and edge distances. This increases the safety with a total of fewer mounting points and therefore lower costs
- Can be used in extremely thin concrete slabs from 80 mm thickness
- Simple and time-saving setting procedure with a few hammer strikes and a small tightening path for applying the torque - ideal for serial, through and overhead mounting

### Application Area

- For use in dry indoor areas  
For the permitted anchoring of e.g. Railings, steel structures, ladders, staircases, gates, brackets, cable racks, facades, wooden structures in concrete.  
Also suitable for concrete C12 / 15 and natural stone with dense structure

### Processing Information

- For mounting wood construction we advise to fix an additional washer DIN 1052 between timber structure and washer

### Hints

- Anchor-Ø = Drill-Ø



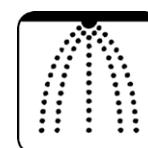
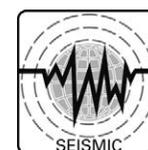
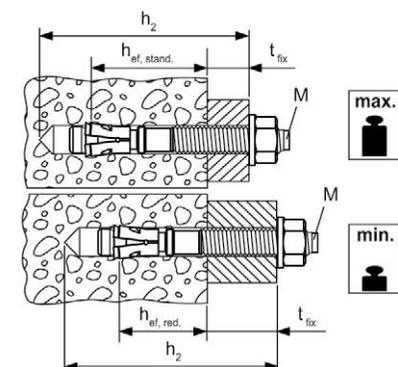
Staircase railing



Cable trays



Steel constructions



## Heavy duty fixing

- Anchorage with European Assessment in uncracked and cracked concrete with a concrete strength class of at least C20 / 25 and at most C50 / 60 according to EN 206
- For more technical data request approval and use Berner Calculation Software.
- Suitable for fastening extinguishing systems to concrete ceilings acc. the requirements of the Verband der Schadenversicherer eV (VdS)
- Approved as of size M10 for the anchoring of sprinkler systems and raw suspensions according to the Factory Mutual Insurance Company (FM)

### Technical Data

Material			Steel zinc plated						
Title	Dimension	Drill hole-Ø	Max. usable length	Usable length red. set. depth	Embedm. depth	Red. set. depth	Thread length	PU Piece	Article No.
Simplex anchor BAZ ZP	8 x 75 mm	8 mm	10 mm	20 mm	45 mm	35 mm	38 mm	50	080583
Simplex anchor BAZ ZP	8 x 95 mm	8 mm	30 mm	40 mm	45 mm	35 mm	58 mm	50	080585
Simplex anchor BAZ ZP	8 x 115 mm	8 mm	50 mm	60 mm	45 mm	35 mm	78 mm	50	080587
Simplex anchor BAZ ZP	10 x 95 mm	10 mm	10 mm	30 mm	60 mm	40 mm	53 mm	50	080589
Simplex anchor BAZ ZP	10 x 105 mm	10 mm	20 mm	40 mm	60 mm	40 mm	63 mm	25	080590
Simplex anchor BAZ ZP	10 x 115 mm	10 mm	30 mm	50 mm	60 mm	40 mm	73 mm	25	080592
Simplex anchor BAZ ZP	10 x 135 mm	10 mm	50 mm	70 mm	60 mm	40 mm	93 mm	20	080594
Simplex anchor BAZ ZP	10 x 165 mm	10 mm	80 mm	100 mm	60 mm	40 mm	123 mm	20	080597
Simplex anchor BAZ ZP	10 x 185 mm	10 mm	100 mm	120 mm	60 mm	40 mm	143 mm	20	114103
Simplex anchor BAZ ZP	12 x 110 mm	12 mm	10 mm	30 mm	70 mm	50 mm	61 mm	20	080601
Simplex anchor BAZ ZP	12 x 120 mm	12 mm	20 mm	40 mm	70 mm	50 mm	71 mm	20	080605
Simplex anchor BAZ ZP	12 x 130 mm	12 mm	30 mm	50 mm	70 mm	50 mm	81 mm	20	080607
Simplex anchor BAZ ZP	12 x 150 mm	12 mm	50 mm	70 mm	70 mm	50 mm	101 mm	20	080611
Simplex anchor BAZ ZP	12 x 180 mm	12 mm	80 mm	100 mm	70 mm	50 mm	131 mm	20	080613
Simplex anchor BAZ ZP	12 x 200 mm	12 mm	100 mm	120 mm	70 mm	50 mm	151 mm	20	113252
Simplex anchor BAZ ZP	12 x 260 mm	12 mm	160 mm	180 mm	70 mm	50 mm	186 mm	10	113255
Simplex anchor BAZ ZP	16 x 148 mm	16 mm	25 mm	45 mm	85 mm	65 mm	47 mm	10	080614
Simplex anchor BAZ ZP	16 x 173 mm	16 mm	50 mm	70 mm	85 mm	65 mm	109 mm	10	080615
Simplex anchor BAZ ZP	16 x 223 mm	16 mm	100 mm	120 mm	85 mm	65 mm	159 mm	10	114116
Simplex anchor BAZ ZP	20 x 172 mm	20 mm	30 mm	-	100 mm	-	55 mm	4	114117

Title	Dimension	Drill hole-Ø	Max. usable length	Usable length red. set. depth	Embedm. depth	Red. set. depth	Thread length	PU Piece	Article No.
Simplex anchor BAZ ZP	20 x 202 mm	20 mm	60 mm	-	100 mm	-	85 mm	4	114127
Simplex anchor BAZ ZP	20 x 302 mm	20 mm	160 mm	-	100 mm	-	100 mm	4	114150

AGR: 05.511

## Simplex anchor BAZ A4

- ETA Option 1 in cracked and non-cracked concrete as well as fire resistance class R120. Includes the assessment for use in earthquake zones (Seismic C1+C2)
- Additional reduced setting depth in sizes M 8 - M 16 ensures a highest efficiency in installation on a high load performance level
- Reduced setting depth reduces drilling time and the risk of rebar hits and enlarges the variability of use
- Higher thread length ensures higher clamping sizes and even stand-off installation
- Applicable in extremely thin component parts from 80mm
- Quick and uncomplicated installation without special tools - ideal for serial, push-through and overhead installation

### Application Area

- Approved anchoring in cracked or non-cracked concrete C20/25 to C50/C60 in indoor and outdoor areas, including in industrial atmosphere and at seaside, if no particular aggressive conditions exists
- Also suitable for concrete C12/15 and natural stone with dense structure without approval

### Processing Information

- For mounting wood construction we advise to fix an additional washer DIN 1052 between timber structure and washer

### Hints

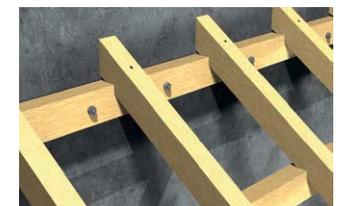
- Anchor-Ø = Drill-Ø
- For more technical data request approval and use Berner Calculation Software.

### Technical Data

Material Stainless Steel A4



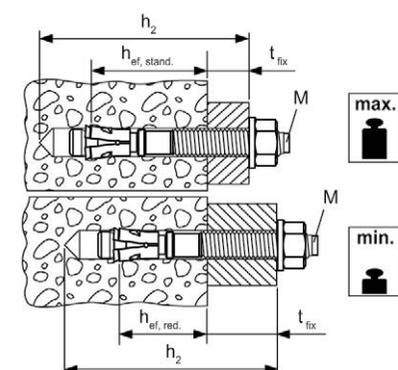
Balcony railing



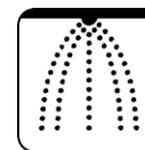
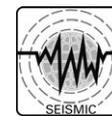
Wood constructions



Metal constructions



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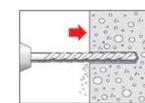
Title	Dimension	Drill hole-Ø	Max. usable length	Usable length red. set. depth	Embedm. depth	Red. set. depth	Thread length	PU Piece	Article No.
Simplex anchor BAZ A4	8 x 75 mm	8 mm	10 mm	20 mm	45 mm	35 mm	38 mm	50	080480
Simplex anchor BAZ A4	8 x 95 mm	8 mm	30 mm	40 mm	45 mm	35 mm	58 mm	50	080481
Simplex anchor BAZ A4	8 x 115 mm	8 mm	50 mm	60 mm	45 mm	35 mm	78 mm	50	080482
Simplex anchor BAZ A4	10 x 95 mm	10 mm	10 mm	30 mm	60 mm	40 mm	53 mm	50	080483
Simplex anchor BAZ A4	10 x 105 mm	10 mm	20 mm	40 mm	60 mm	40 mm	63 mm	50	080484
Simplex anchor BAZ A4	10 x 115 mm	10 mm	30 mm	50 mm	60 mm	40 mm	73 mm	50	080485
Simplex anchor BAZ A4	10 x 135 mm	10 mm	50 mm	70 mm	60 mm	40 mm	93 mm	20	080572
Simplex anchor BAZ A4	12 x 110 mm	12 mm	10 mm	30 mm	70 mm	50 mm	61 mm	20	080574
Simplex anchor BAZ A4	12 x 120 mm	12 mm	20 mm	40 mm	70 mm	50 mm	71 mm	20	080575
Simplex anchor BAZ A4	12 x 130 mm	12 mm	30 mm	50 mm	70 mm	50 mm	81 mm	20	080576
Simplex anchor BAZ A4	12 x 160 mm	12 mm	60 mm	80 mm	70 mm	50 mm	111 mm	20	114065
Simplex anchor BAZ A4	16 x 148 mm	16 mm	25 mm	45 mm	85 mm	65 mm	84 mm	20	080579
Simplex anchor BAZ A4	16 x 173 mm	16 mm	50 mm	70 mm	85 mm	65 mm	109 mm	20	081298

AGR: 05.512

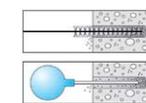
## Installation instruction

### Processing Information

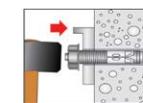
- Before driving in, the hexagon nut should be brought into the optimal installation position (the bolt projects by 2 to 3 mm)



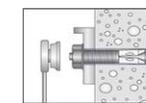
Drill the hole



Clean the hole



Place the anchor in the hole and hammer in



Mount the fixture and apply torque

## Performance data Simplex anchor BAZ (zinc-plated steel / stainless steel A4)

### Hints

- Maximum loads of an anchor in standard concrete C20/25<sup>1</sup>. When measuring, follow the approval ETA 10/0457 as well as the test



- report of fire resistance, precisely
- The partial safety factors for resistance and the partial safety factor for load with  $\gamma F = 1,4$  are considered
- <sup>1)</sup> The concrete is considered to be normally reinforced or non-reinforced. For higher concrete strength classes an increase in performance of up to 55% is possible
- <sup>2)</sup> Bracket data are valid for non-cracked concrete

Anchor size				M 8	M 10	M 12	M 16	M 20
<b>Approved value of a single anchor (ZP+A4)</b>								
<b>Red. / standard anchorage depth</b>		h red / h ef		- / 45	40 / 60	50 / 70	65 / 85	100
<b>Approved tensile load</b>	C20/25 <sup>1</sup> in cracked concrete	pp. N	[kN]	2,4	4,3 / 4,3	6,1 / 7,6	9,0 / 13,4	17,1
	C20/25 <sup>1</sup> in non-cracked concrete	pp. N	[kN]	4,3	6,1 / 7,6	8,5 / 11,9	12,6 / 18,8	24,0
<b>Approved shear load</b>	C20/25 <sup>1</sup> in cracked and non-cracked concrete	pp. V	[kN]	6,9	8,7 / 11,4	13,9 / 16,9	20,7 / 31,4	40,0
<b>Approved bending moment</b>		app. M	[Nm]	14,9	22,9 / 29,7	50,9 / 52,6	97,7 / 133,1	278,2
<b>Fixture measurements</b>								
<b>Characteristic axial spacing</b>		s cr, N	[mm]	140	120 / 180	150 / 210	195 / 260	300
<b>Characteristic edge distance</b>		c cr, N	[mm]	70	60 / 90	75 / 105	98 / 130	150
<b>Structural component thickness (&gt;=2 h ef)</b>		h min, 1	[mm]	100	80 / 120	100 / 140	140 / 170	200
<b>Minimum axial spacing</b>		s min	[mm]	35 (40) <sup>2</sup>	40 / 40	50 / 50	65 / 65	95
		for c >=	[mm]	50	90 (100) <sup>2</sup> / 55 (60) <sup>2</sup>	110 / 70	130 / 95	140 (180) <sup>2</sup>
<b>Minimum edge distance</b>		c min	[mm]	40	45 / 45	55 / 55	65 / 65	85 (95) <sup>2</sup>
		for s >=	[mm]	70 (100) <sup>2</sup>	180 / 80	110 / 110	250 / 150	190
<b>Reduced structural component thickness (&lt;2 h ef)</b>		h min, 2	[mm]	80	- / 100	- / 120	- / 140	160
<b>Minimum axial spacing</b>		s min	[mm]	35	- / 40	- / 50	- / 80	125
		for c >=	[mm]	70	- / 100	- / 90	- / 130	220
<b>Minimum edge distance</b>		c min	[mm]	40	- / 60	- / 60	- / 65	125
		for s >=	[mm]	100	- / 90	- / 120	- / 180	230
<b>Seismic performance category</b>				C1	C1 / C2	C1 / C2	C1 / C2	C1 / C2
<b>Installation parameters</b>								
<b>Nominal drill diameter</b>		d 0	[mm]	8	10	12	16	20
<b>Clearance-hole in fixture to be attached</b>		d f <=	[mm]	9	12	14	18	22
<b>Drill hole depth</b>		h 1	[mm]	55	55 / 75	70 / 90	90 / 110	125
<b>Installation torque</b>		T inst	[Nm]	20	45	60	110	200

## Simplex anchor BA

- ETA Option 7 for non-cracked concrete C20/25 to C50/60 as well as Fire resistance class F120
- Flexible adaption to the application due to two anchoring depths
- Reduced anchorage depth reduces drill time. This saves time and reduces reinforcement hits during drilling
- The long thread allows stand-off installations and variable usable lengths
- The geometry of the anchor enables a high load level and at the same time small axial spacing and edge distances
- Easy installation with only a few hammer blows
- Embossed head for subsequent control of the installation
- The drive-in pin protects the thread from damage and avoids costly rework

### Application Area

- Approved for anchoring in non-cracked concrete C20/25 to C50/60 in indoor areas
- Also suitable for concrete C12/15 and natural stone with dense structure

### Processing Information

- For mounting wood construction we advise to fix an additional washer DIN 1052 between timber structure and washer

### Hints

- Anchor-Ø = Drill-Ø
- For more technical data please request approval and use Berner Calculation Software.

### Technical Data

Material Steel zinc plated

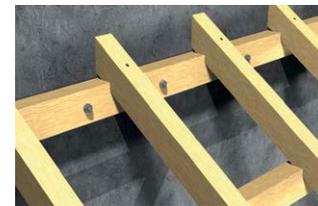
Title	Dimension	Drill hole-Ø	Max. usable length	Usable length red. set. depth	Embedm. depth	Red. set. depth	Thread length	PU Piece	Article No.
Simplex anchor BA ZP	6 x 50 mm	6 mm	5 mm	-	30 mm	-	12 mm	100	114162
Simplex anchor BA ZP	6 x 55 mm	6 mm	10 mm	-	30 mm	-	17 mm	100	114164
Simplex anchor BA ZP	6 x 75 mm	6 mm	30 mm	-	30 mm	-	35 mm	100	114168
Simplex anchor BA ZP	8 x 56 mm	8 mm	-	5 mm	-	30 mm	24 mm	50	114170
Simplex anchor BA ZP	8 x 66 mm	8 mm	5 mm	15 mm	40 mm	30 mm	34 mm	50	114172



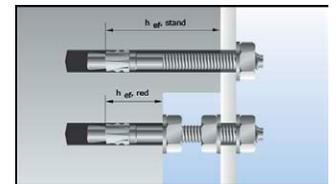
Staircase railings



Machines



Wooden constructions



Standard/reduced setting depth



Title	Dimension	Drill hole-Ø	Max. usable length	Usable length red. set. depth	Embedm. depth	Red. set. depth	Thread length	PU Piece	Article No.
Simplex anchor BA ZP	8 x 71 mm	8 mm	10 mm	20 mm	40 mm	30 mm	39 mm	50	114173
Simplex anchor BA ZP	8 x 81 mm	8 mm	20 mm	30 mm	40 mm	30 mm	49 mm	50	114177
Simplex anchor BA ZP	8 x 91 mm	8 mm	30 mm	40 mm	40 mm	30 mm	59 mm	50	114179
Simplex anchor BA ZP	8 x 111 mm	8 mm	50 mm	60 mm	40 mm	30 mm	79 mm	50	114181
Simplex anchor BA ZP	8 x 131 mm	8 mm	70 mm	80 mm	40 mm	30 mm	99 mm	20	114182
Simplex anchor BA ZP	8 x 161 mm	8 mm	100 mm	110 mm	40 mm	30 mm	129 mm	20	114189
Simplex anchor BA ZP	10 x 71 mm	10 mm	5 mm	5 mm	50 mm	40 mm	31 mm	50	114200
Simplex anchor BA ZP	10 x 86 mm	10 mm	10 mm	20 mm	50 mm	40 mm	46 mm	50	114214
Simplex anchor BA ZP	10 x 96 mm	10 mm	20 mm	30 mm	50 mm	40 mm	56 mm	50	114215
Simplex anchor BA ZP	10 x 126 mm	10 mm	50 mm	60 mm	50 mm	40 mm	86 mm	20	114226
Simplex anchor BA ZP	10 x 146 mm	10 mm	70 mm	80 mm	50 mm	40 mm	106 mm	20	114243
Simplex anchor BA ZP	10 x 176 mm	10 mm	100 mm	110 mm	50 mm	40 mm	136 mm	20	114246
Simplex anchor BA ZP	10 x 216 mm	10 mm	140 mm	150 mm	50 mm	40 mm	176 mm	20	114248
Simplex anchor BA ZP	10 x 236 mm	10 mm	160 mm	170 mm	50 mm	40 mm	196 mm	20	114249
Simplex anchor BA ZP	12 x 86 mm	12 mm	5 mm	5 mm	65 mm	50 mm	39 mm	20	114250
Simplex anchor BA ZP	12 x 106 mm	12 mm	10 mm	25 mm	65 mm	50 mm	59 mm	20	114252
Simplex anchor BA ZP	12 x 116 mm	12 mm	20 mm	35 mm	65 mm	50 mm	69 mm	20	114253
Simplex anchor BA ZP	12 x 146 mm	12 mm	50 mm	65 mm	65 mm	50 mm	99 mm	20	114254
Simplex anchor BA ZP	12 x 176 mm	12 mm	80 mm	95 mm	65 mm	50 mm	129 mm	20	114255
Simplex anchor BA ZP	12 x 196 mm	12 mm	100 mm	115 mm	65 mm	50 mm	149 mm	20	114256
Simplex anchor BA ZP	12 x 216 mm	12 mm	120 mm	135 mm	65 mm	50 mm	169 mm	20	114257
Simplex anchor BA ZP	12 x 236 mm	12 mm	140 mm	155 mm	65 mm	50 mm	189 mm	20	114258
Simplex anchor BA ZP	12 x 256 mm	12 mm	160 mm	175 mm	65 mm	50 mm	189 mm	20	114261
Simplex anchor BA ZP	16 x 120 mm	16 mm	15 mm	15 mm	80 mm	65 mm	64 mm	10	114286
Simplex anchor BA ZP	16 x 145 mm	16 mm	25 mm	40 mm	80 mm	65 mm	89 mm	10	114308
Simplex anchor BA ZP	16 x 170 mm	16 mm	50 mm	65 mm	80 mm	65 mm	114 mm	10	114316
Simplex anchor BA ZP	16 x 200 mm	16 mm	80 mm	95 mm	80 mm	65 mm	144 mm	10	114323
Simplex anchor BA ZP	16 x 220 mm	16 mm	100 mm	115 mm	80 mm	65 mm	164 mm	10	114332
Simplex anchor BA ZP	16 x 260 mm	16 mm	140 mm	155 mm	80 mm	65 mm	184 mm	10	114340
Simplex anchor BA ZP	16 x 280 mm	16 mm	160 mm	175 mm	80 mm	65 mm	184 mm	10	114359
Simplex anchor BA ZP	16 x 320 mm	16 mm	200 mm	215 mm	80 mm	65 mm	100 mm	10	114360

AGR: 05.501

INTERNAL/Approved (2019-03-22 20:51:53)

## Simplex anchor BA-U

- ETA Option 7 for non-cracked concrete C20/25 to C50/60 as well as fire resistance class F120
- Flexible adaption to the application due to two anchoring depths
- Reduced anchorage depth reduces drill time. This saves time and reduces reinforcement hits during drilling
- The long thread allows stand-off installations and variable usable lengths
- The geometry of the anchor enables a high load level and at the same time small axial spacing and edge distances
- With large washer especially for fixing of wood constructions to increase the pull-through capacity of the wood
- Embossed head for subsequent control of the installation
- The drive-in pin protects the thread from damage and avoids costly rework

### Application Area

- Anchoring of wooden constructions in non-cracked concrete C20/25 to C50/60 in indoor areas
- Also suitable for concrete C12/15 and natural stone with dense structure

### Characteristics

- Version with large washer DIN 440
- Washer-Ø of M 12 = 44 mm
- Washer-Ø of M 16 = 56 mm

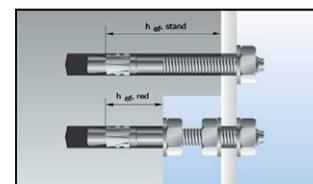
### Hints

- Anchor-Ø = Drill-Ø
- For more technical data please request approval and use Berner Calculation Software

### Technical Data

Material

Steel zinc plated



Standard/reduced setting depth



Title	Dimension	Drill hole-Ø	Max. usable length	Usable length red. set. depth	Embedm. depth	Red. set. depth	Thread length	PU Piece	Article No.
Simplex anchor BA ZP	12 x 196 mm	12 mm	100 mm	115 mm	65 mm	50 mm	149 mm	20	114262
Simplex anchor BA ZP	12 x 216 mm	12 mm	120 mm	135 mm	65 mm	50 mm	169 mm	20	114263
Simplex anchor BA ZP	12 x 256 mm	12 mm	160 mm	175 mm	65 mm	50 mm	189 mm	10	114264
Simplex anchor BA ZP	12 x 276 mm	12 mm	180 mm	195 mm	65 mm	50 mm	189 mm	10	114265
Simplex anchor BA ZP	12 x 296 mm	12 mm	200 mm	215 mm	65 mm	50 mm	189 mm	10	114266
Simplex anchor BA ZP	12 x 346 mm	12 mm	250 mm	265 mm	65 mm	50 mm	100 mm	10	114278
Simplex anchor BA ZP	16 x 260 mm	16 mm	140 mm	155 mm	80 mm	65 mm	184 mm	10	114362
Simplex anchor BA ZP	16 x 280 mm	16 mm	160 mm	175 mm	80 mm	65 mm	184 mm	10	114366
Simplex anchor BA ZP	16 x 320 mm	16 mm	200 mm	215 mm	80 mm	65 mm	100 mm	10	114367

AGR: 05.501

## High performance anchor BHA - Type B

- ETA Option 1 for cracked and non-cracked concrete C20/25 to C50/60 as well as fire resistance class F120 and seismic performance category C1/C2 (BHA 12 - BHA 24)
- The geometry of the anchor enables very high tensile and shear loads
- Easy installation with only very few, slight hammer blows
- Hollow drills as additional drilling method reduces installation time and dust emission
- The black plastic ring provides highest performance and takes a torque slippage. Any turning of the anchor is prevented
- Anchor can be flush removed with the surface

### Application Area

- Approved for anchoring of machines, steel constructions, consoles, cable trays, ladders, stairways, gates in cracked and non-cracked concrete C20/25 to C50/60
- Also suitable for concrete C12/15 and natural stone with dense structure

### Characteristics

- Type B = Thread bolt + nut

### Hints

- For more technical data please request approval and use Berner Calculation Software
- Installation type: Push-through installation

### Technical Data

Material Steel zinc plated

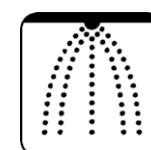
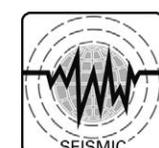
Title	Dimension	Thread	Max. usable length	Drill hole-Ø	Effect. anchor depth	Min. Drill hole depth	PU Piece	Article No.
High performance anchor BHA ZP	12 x 90 mm	M 8	10 mm	12 mm	60 mm	90 mm	50	114693*
High performance anchor BHA ZP	12 x 105 mm	M 8	25 mm	12 mm	60 mm	105 mm	50	114707*
High performance anchor BHA ZP	15 x 110 mm	M 10	10 mm	15 mm	70 mm	100 mm	25	114715*
High performance anchor BHA ZP	15 x 125 mm	M 10	25 mm	15 mm	70 mm	115 mm	25	114723*
High performance anchor BHA ZP	15 x 150 mm	M 10	50 mm	15 mm	70 mm	140 mm	25	114731*
High performance anchor BHA ZP	15 x 200 mm	M 10	100 mm	15 mm	70 mm	190 mm	20	114740*
High performance anchor BHA ZP	18 x 135 mm	M 12	25 mm	18 mm	80 mm	130 mm	20	114758*



Machines



Metal brackets



INTERNAL/Approved (2019-03-22 20:52:25)

Title	Dimension	Thread	Max. usable length	Drill hole-Ø	Effect. anchor depth	Min. Drill hole depth	PU Piece	Article No.
High performance anchor BHA ZP	18 x 160 mm	M 12	50 mm	18 mm	80 mm	155 mm	20	114765*

\* = The delivery time is 35 days

AGR: 05.510

## High performance anchor BHA - Type S

- ETA Option 1 for cracked and non-cracked concrete C20/25 to C50/60 as well as fire resistance class F120 and seismic performance category C1/C2 (BHA 12 - BHA 24)
- Hexagonal head for applications with impressive design, because there no overlapping thread after installation
- The geometry of the anchor enables very high tensile and shear loads
- Easy installation with only very few, slight hammer blows
- Hollow drills as additional drilling method reduces installation time and dust emission
- The black plastic ring provides highest performance and takes a torque slippage. Any turning of the anchor is prevented
- Anchor can be flush removed with the surface

### Application Area

- Approved for anchoring of machines, steel constructions, consoles, cable trays, ladders, stairways, gates in cracked and non-cracked concrete C20/25 to C50/60
- Also suitable for concrete C12/15 and natural stone with dense structure

### Characteristics

- Type S = Hexagonal screw

### Hints

- For more technical data please request approval and use Berner Calculation Software
- Installation type: Push-through installation

### Technical Data

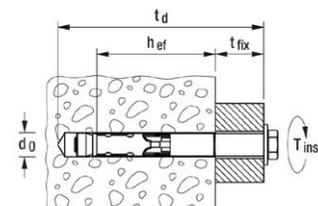
Material Steel zinc plated

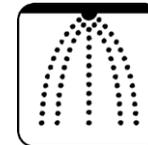
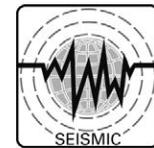


Staircase railings



Heavy duty rackets





Title	Dimension	Thread	Max. usable length	Drill hole-Ø	Effect. anchor depth	Min. Drill hole depth	PU Piece	Article No.
High performance anchor BHA ZP	12 x 90 mm	M 8	10 mm	12 mm	60 mm	90 mm	50	080467
High performance anchor BHA ZP	12 x 105 mm	M 8	25 mm	12 mm	60 mm	105 mm	50	080468
High performance anchor BHA ZP	12 x 130 mm	M 8	50 mm	12 mm	60 mm	130 mm	25	115142
High performance anchor BHA ZP	15 x 106 mm	M 10	10 mm	15 mm	70 mm	100 mm	25	080469
High performance anchor BHA ZP	15 x 121 mm	M 10	25 mm	15 mm	70 mm	115 mm	25	080470
High performance anchor BHA ZP	15 x 146 mm	M 10	50 mm	15 mm	70 mm	140 mm	25	114669
High performance anchor BHA ZP	18 x 118 mm	M 12	10 mm	18 mm	80 mm	115 mm	20	080471
High performance anchor BHA ZP	18 x 132 mm	M 12	25 mm	18 mm	80 mm	130 mm	20	080472
High performance anchor BHA ZP	18 x 157 mm	M 12	50 mm	18 mm	80 mm	155 mm	20	114677

AGR: 05.510

## Performance data - High performance anchor BHA

### Hints

- Maximum loads of an anchor in standard concrete C20/25<sup>1</sup>. When measuring, follow the approval ETA 10/0473 as well as the test report of fire resistance, precisely
- °) The partial safety factors for resistance and the partial safety factor for load with  $\gamma F = 1,4$  are considered. For the combination of tension and shear loads, influence of edge distance and anchor groups, please consider the design method A (ETAG annex C)
- <sup>1</sup>) The concrete is considered to be normally reinforced or non-reinforced. For higher concrete strength classes an increase in performance of up to 55 % is possible
- <sup>2</sup>) Values in brackets are valid for version BHA Type S and counter-sink screw version BHA Type SK
- <sup>3</sup>) Values in brackets are valid for non-cracked concrete



## Heavy duty fixing

- \*) Values in brackets are valid only for the thread bolt version BHA  
Type B

Anchor size			10/M6	12/M8	15/M10	18/M12	24/M16	
<b>Approved value of a single anchor</b>								
<b>Effective anchorage depth</b>		$h_{ef}$	40	60	70	80	100	
<b>Approved tensile load</b>	C20/25 <sup>1</sup> in cracked concrete	app. N [kN]	3,6	5,7	7,6	11,9	17,1	
	C20/25 <sup>1</sup> in non-cracked concrete	app. N [kN]	6,1	11,2	14,1	17,2	24,0	
<b>Approved shear load</b>	C20/25 <sup>1</sup> in cracked concrete	app. V [kN]	4,3	13,7 (15,9) <sup>2</sup>	20,1	24,5	34,3	
	C20/25 <sup>1</sup> in non-cracked concrete	app. V [kN]	6,1	13,7 (16,6) <sup>2</sup>	22,3 (26,3) <sup>2</sup>	32,6 (34,3) <sup>2</sup>	48,0	
<b>Approved bending moment</b>		app. M [Nm]	6,9	17,1	34,3	60,0	152,0	
<b>Fixture measurements</b>								
<b>Characteristic axial spacing</b>		$s_{cr, N}$ [mm]					$= 3 \times h_{ef}$	
<b>Characteristic edge distance</b>		$c_{cr, N}$ [mm]					$= 1,5 \times h_{ef}$	
<b>Minimum axial spacing</b>		$s_{min}$ [mm]	40 (40) <sup>3</sup>	50 (60) <sup>3</sup>	60 (70) <sup>3</sup>	70 (80) <sup>3</sup>	80 (100) <sup>3</sup>	
	for $c \geq$	[mm]	40 (70) <sup>3</sup>	80 (100) <sup>3</sup>	120 (100) <sup>3</sup>	140 (160) <sup>3</sup>	180 (200) <sup>3</sup>	
<b>Minimum edge distance</b>		$c_{min}$ [mm]	40 (40) <sup>3</sup>	50 (60) <sup>3</sup>	60 (70) <sup>3</sup>	70 (80) <sup>3</sup>	80 (100) <sup>3</sup>	
	for $s \geq$	[mm]	40 (70) <sup>3</sup>	80 (100) <sup>3</sup>	120 (140) <sup>3</sup>	160 (200) <sup>3</sup>	200 (220) <sup>3</sup>	
<b>Minimum structural component thickness</b>		$h_{min}$ [mm]	80	120	140	160	200	
<b>Installation parameters</b>								
<b>Nominal drill diameter</b>		$d_0$ [mm]	10	12	15	18	24	
<b>Clearance-hole in fixture to be attached</b>		$d_f \leq$ [mm]	12	14	17	20	26	
<b>Drill hole depth</b>		$h_1 \geq$ [mm]	55	80	90	105	125	
<b>Required torque</b>		$T_{inst}$ [Nm]	10	22,5 (17,5)*	40 (38)*	80	160 (120)*	

## Drop-in anchor BE

- European Technical Approval in non-cracked concrete option 7 and for multiple fixings of non-structural systems in cracked concrete (e.g. suspended ceilings) as well as fire resistance class F120
- Multiple fixing and removing as well as dismantling of the fixture flush with the surface is possible
- Suitable for standard metric screws and threaded rods
- Edge prevents anchor from slipping deeper into the hole, if the drillhole has been drilled too deeply and ensures that the fixation point looks better
- Simple setting for reduced drilling time and allows a cost-saving installation

### Application Area

- Approved for anchoring of e.g pipelines, ventilation pipes, sprinklers systems, cable trays, consoles, formwork brackets, ladders in concrete C20/25 to C50/60 in indoor areas
- Also suitable for concrete C12/15 and natural stone with dense structure

### Characteristics

- Version made of zinc-plated steel

### Hints

- For more technical data please request approval and use Berner Calculation Software

### Technical Data

Material Steel electrogalvanized [2]



Pipeline alignments



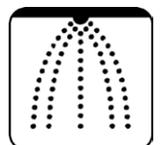
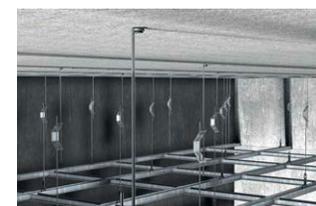
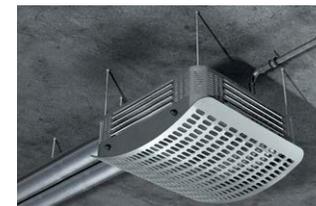
Suspending ceilings



Air ventilation ducts



Cable trays



Title	Thread	Dimension	Thread length	Drill hole-Ø	Embedm. depth	Min. Drill hole depth	PU Piece	Article No.
Drop-in anchor BE ZP	M 6	8 x 30 mm	13 mm	8 mm	30 mm	32 mm	100	080381
Drop-in anchor BE ZP	M 8	10 x 30 mm	13 mm	10 mm	30 mm	33 mm	100	080382
Drop-in anchor BE ZP	M 10	12 x 40 mm	17 mm	12 mm	40 mm	43 mm	50	080384
Drop-in anchor BE ZP	M 12	15 x 50 mm	22 mm	15 mm	50 mm	54 mm	25	080385
Drop-in anchor BE ZP	M 16	20 x 65 mm	28 mm	20 mm	65 mm	70 mm	20	080386

Title	Thread	Dimension	Thread length	Drill hole-Ø	Embedm. depth	Min. Drill hole depth	PU Piece	Article No.
Drop-in anchor BE ZP	M 20	25 x 80 mm	34 mm	25 mm	80 mm	85 mm	10	080387

AGR: 05.503

## Drop-in anchor BE A4

- European Technical Approval in non-cracked concrete option 7 and for multiple fixings of non-structural systems in cracked concrete (e.g. suspended ceilings) as well as fire resistance class F120
- Multiple fixing and removing as well as dismantling of the fixture flush with the surface is possible
- Suitable for standard metric screws and threaded rods
- Edge prevents anchor from slipping deeper into the hole, if the drillhole has been drilled too deeply and ensures that the fixation point looks better
- Simple setting for reduced drilling time and allows a cost-saving installation

### Application Area

- Approved for anchoring of e.g pipelines, ventilation pipes, sprinklers systems, cable trays, consoles, formwork brackets, ladders in concrete C20/25 to C50/60
- Also suitable for concrete C12/15 and natural stone with dense structure

### Hints

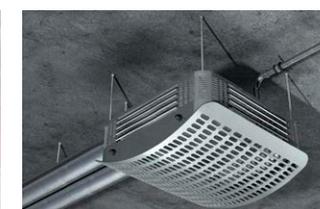
- For more technical data please request approval and use Berner Calculation Software

### Technical Data

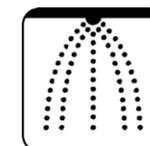
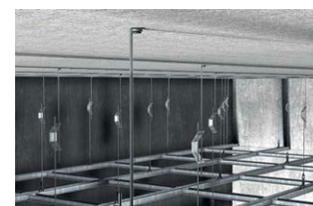
Material	Stainless Steel A4
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Formwork- and prop fixings



Air conditionings



Title	Thread	Dimension	Thread length	Drill hole-Ø	Embedm. depth	Min. Drill hole depth	PU Piece	Article No.
Drop-in anchor BE A4	M 6	8 x 30 mm	13 mm	8 mm	30 mm	32 mm	100	080443
Drop-in anchor BE A4	M 8	10 x 30 mm	13 mm	10 mm	30 mm	33 mm	100	080460
Drop-in anchor BE A4	M 10	12 x 40 mm	17 mm	12 mm	40 mm	43 mm	50	080461
Drop-in anchor BE A4	M 12	15 x 50 mm	22 mm	15 mm	50 mm	54 mm	25	080462
Drop-in anchor BE A4	M 16	20 x 65 mm	28 mm	20 mm	65 mm	70 mm	20	114618
Drop-in anchor BE A4	M 20	25 x 80 mm	34 mm	25 mm	80 mm	85 mm	10	114626

AGR: 05.503

## Setting tool BEW

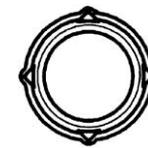
- Simple setting control through embossing of the rim when using the setting tool
- Hence high safety and time saving - as per approval no load tests are necessary
- With hand protection for your safety

### Application Area

- Manual setting of the drop-in anchor BE

### Hints

- Setting tool for drop-in anchor BE and BE A4



Title	Thread	PU Piece	Article No.
Setting tool BEW H 6	M 6	1	080473
Setting tool BEW H 8	M 8	1	080474
Setting tool BEW H 10	M 10	1	080476
Setting tool BEW H 12	M 12	1	080477
Setting tool BEW H 16	M 16	1	080478
Setting tool BEW H 20	M 20	1	080479

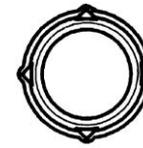
AGR: 05.591

## Setting tool BEW SDS-Plus

- Ideal for series assembly
- Easy and time saving installation

### Application Area

- Setting of the drop-in anchor BE by hammer drill with SDS-plus



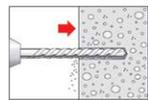
Title	Thread	PU Piece	Article No.
Setting tool BEW H 8 SDS-plus	M 8	1	114634
Setting tool BEW H 10 SDS-plus	M 10	1	114642
Setting tool BEW H 12 SDS-plus	M 12	1	114650

AGR: 05.591

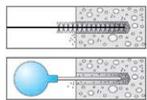
## Installation instruction

### Processing Information

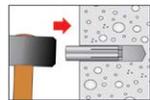
- When selecting the screw, the minimum and maximum screw-in depth needs to be observed



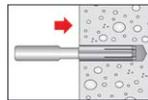
Drill the hole



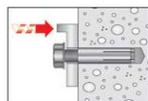
Clean the hole



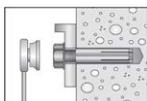
Hammer the anchor in flush



Anchor with the setting tool



Mount the fixture



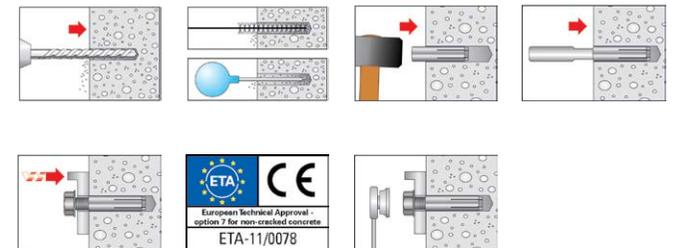
Apply torque

## Performance data Drop-in anchor BE

### Hints

- Part of application conditions from approval ETA-11/0078
- Anchor bearing capacity and shearing loads without influence on the axle spacing and edge distance
- Safety factors according to ETAG 001 are considered (yM and yF)
- <sup>1)</sup> The concrete is considered to be normally reinforced or non-reinforced. For higher concrete strength classes an increase in performance of up to 55 % is possible





Loads and parameters - Drop-in anchor BE (screw 8.8 + A4-70)				M 6	M 8	M 10	M 12	M 16	M 20
Effective embedment depth		$h_{ef}$	[mm]	30	30	40	50	65	80
Approved tensile for screw 8.8 + A4-70	C20/25 <sup>1</sup> in non-cracked concrete	zul. N	[kN]	3,9	3,9	6,1	8,5	12,6	17,2
Approved shear loads with screw 8.8	C20/25 <sup>1</sup> in non-cracked concrete	zul. V	[kN]	3,9	3,9	6,1	8,5	18,3	29,1
Approved shear loads with screw A4-70	C20/25 <sup>1</sup> in non-cracked concrete	zul. V	[kN]	3,2	3,9	6,1	8,5	21,1	33,7
Approved bending moment for screw 8.8		zul. M	[Nm]	6,9	17,1	34,3	60,0	152,0	295,4
Approved bending moment for screw A4-70		zul. M	[Nm]	5,0	11,9	23,8	42,1	106,2	207,9
Fixture measurements and installation parameters									
Characteristic spacing		$s_{cr, N}$	[mm]	90	90	120	150	195	240
Characteristic edge distance		$c_{cr, N}$	[mm]	45	45	60	75	97,5	120
Minimum spacing		$s_{min}$	[mm]	65	95	95	145	180	190
Minimum edge distance		$c_{min}$	[mm]	115	140	160	200	240	280
Minimum structural component thickness		$h_{min}$	[mm]	100	100	120	120	160	200
Nominal drill hole diameter		$d_0$	[mm]	8	10	12	15	20	25
Drill hole depth		$h_1 \geq$	[mm]	32	33	43	54	70	85
Required torque		$T_{inst}$	[Nm]	4	8	15	35	60	120

## Performance data Drop-in anchor BE for multiple fixings

### Hints

- Part of application conditions from approval ETA-11/0112
- Anchor bearing capacity and shearing loads without influence on the axle spacing and edge distance for multiple fixings of non-structural systems
- Safety factors according to ETAG 001 are considered ( $\gamma_M$  and  $\gamma_F$ )
- <sup>1)</sup> The minimum structural component thickness  $h_{min1}$  are valid along with the minimum spacing and edge distance  $s_{min1}$  or  $c_{min1}$ ; the minimum structural component thickness  $h_{min2}$  are valid along with the minimum spacing and edge distance  $s_{min2}$  or  $c_{min2}$



## Heavy duty fixing

Loads and parameters - Drop-in anchor BE for multiple fixings (screw 8.8 + A4-70)				M 6	M 8	M 10	M 12
Effective embedment depth		$h_{ef}$	[mm]	30	30	40	50
Approved tension, shear or combined tension and shear	C20/25 to C50/60 in cracked and non-cracked concrete	app. F	[kN]	1,0	1,7	2,5	3,6
Approved bending moment for screw 8.8		app. M	[Nm]	6,9	17,1	34,3	60,0
Approved bending moment for screw A4-70		app. M	[Nm]	5,0	11,9	23,8	42,1
<b>Fixture measurements and installation parameters</b>							
Characteristic spacing		$S_{cr, N}$	[mm]	90	90	200	300
Characteristic edge distance		$C_{cr, N}$	[mm]	45	45	100	150
Minimum spacing		$s_{min}$	[mm]	65 <sup>1</sup>	95 <sup>1</sup>	95 <sup>1</sup>	145 <sup>1</sup>
Minimum edge distance		$c_{min}$	[mm]	115 <sup>1</sup>	140 <sup>1</sup>	160 <sup>1</sup>	200 <sup>1</sup>
Minimum structural component thickness		$h_{min}$	[mm]	100	100	120	120
Nominal drill hole diameter		$d_0$	[mm]	8	10	12	15
Drill hole depth		$h_1 \geq$	[mm]	32	33	43	54
Required torque		$T_{inst}$	[Nm]	4	8	15	35

## Hollow ceiling anchor BHY

- General technical approval for anchoring in prestressed concrete hollow plate ceilings made of concrete C45/55
- Fire resistance F120
- Suitable for the use both in the cavity as well as in full building materials
- The molded rim prevents from slipping deeper into the drill hole
- Suitable for all screws or studs with metric threads
- Easy and affordable setting process with very few hammer blows and without special tools

### Application Area

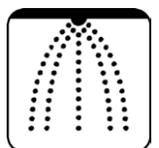
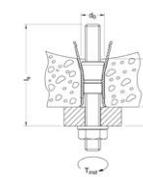
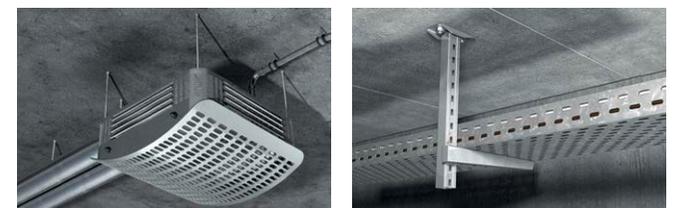
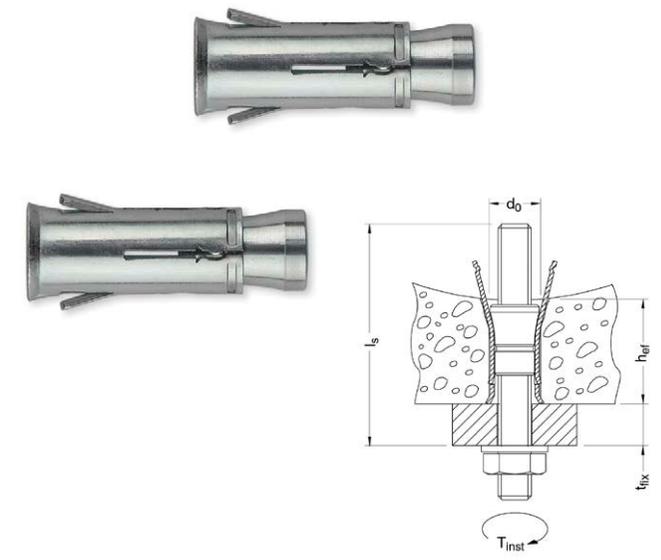
- For the approved anchoring of e.g. pipes, cable trays, ventilation ducts, sprinkler systems, suspended ceilings in prestressed concrete hollow plate ceilings made of concrete B55 or C45 / 55

### Characteristics

- Version made of zinc-plated steel

### Hints

- Anchoring with German certification in prestressed concrete hollow plate ceilings made of concrete B55 or C45/55 according to EN 206
- For technical data, please request approval



Title	Dimension	Thread	Drill hole-Ø	Effect. anchor depth	Min. Drill hole depth	PU Piece	Article No.
Hollow ceiling anchor BHY	10 x 37 mm	M 6	10 mm	30 mm	50 mm	50	115037
Hollow ceiling anchor BHY	12 x 43 mm	M 8	12 mm	35 mm	60 mm	25	080463
Hollow ceiling anchor BHY	16 x 52 mm	M 10	16 mm	40 mm	65 mm	20	080464

AGR: 05.519

## Performance data

### Hints

- Maximum loads<sup>1</sup>, fixture measurements and mounting parameters for tension, shear and combined tension and shear at any angle in hollow-slab floors of prestressed concrete of strength class B55 respectively C45/55. When dimensioning, observe the approval Z-21.1-1935 in its entirety
- <sup>1</sup>) The anchorage of the Hollow ceiling anchor BHY is permissible only in hollow-slab ceilings of prestressed concrete, the width of whose cavities is not more than 4.2 times the web width. The fixing may also be used as multiple fastening for anchoring lightweight ceiling coverings and underceilings to DIN 18168 on hollow-slab ceilings of prestressed concrete, and for statically similar anchorages up to 1.0 kN/m<sup>2</sup>. When external loads are suspended from the prestressed-concrete hollow-slab ceilings, the shearing loadbearing capacity must be reduced. For fastening lightweight ceiling coverings and underceilings, to DIN 18168, this reduction is not necessary
- <sup>2</sup>) For edge distances  $c_{min} < c \leq c_{cr}$  the permissible loads may be determined by linear interpolation
- <sup>3</sup>) The permissible load applies for a pair of fixings. The permissible load for the most highly stressed fixing must not exceed the values stated for the single fixing. For pairs of fixings with min axial distances of  $s_{min} 1.2 < s < s_{cr} 1.2$  the permissible load may be interpolated linearly. The linear value at  $s = s_{cr} 1.2$  for the pair of fixings with tensile load applied, may be assumed to be twice the permissible load for the single fixing



Anker type	d u	[mm]	M 6			M 8			M10		
			$\geq 25 / < 30$	$\geq 30 / < 40$	$\geq 40$	$\geq 25 / < 30$	$\geq 30 / < 40$	$\geq 40$	$\geq 30 / < 40$	$\geq 40$	
<b>Single anchor</b>											
App F <sup>2</sup> with	$c \geq c_{cr} 1,2$	[kN]	0,70	0,90	2,00	0,70	0,90	2,00	1,20	3,00	
App F <sup>2</sup> with	$c = c_{min} 1,2$	[kN]	0,35	0,80	1,80	0,35	0,80	1,80	1,00	2,70	
Edge distance <sup>2</sup>	$c_{cr} 1,2 \geq$	[mm]	150	150	150	150	150	150	150	150	
Edge distance <sup>2</sup>	$c_{min} 1,2 \geq$	[mm]	100	100	100	100	100	100	100	100	
Axial spacing	$s_{cr} 1,2 \geq$	[mm]	300	300	300	300	300	300	300	300	
<b>Pairs of fixings<sup>3</sup></b>											
App F with	$c \geq c_{cr} 1,2$	[kN]	0,70	1,40	2,60	0,70	1,40	2,60	2,00	4,80	
App F with	$c = c_{min}$	[kN]	0,35	1,25	2,35	0,35	1,25	2,35	1,80	4,30	
Minimum axial spacing	$s_{min} 1,2 \geq$	[mm]	70	80	100	70	80	100	80	100	
Edge distance	$c_{cr} 1,2 \geq$	[mm]	150	150	150	150	150	150	150	150	
Minimum edge distance	$c_{min} 1,2 =$	[mm]	100	100	100	100	100	100	100	100	

## Distance Assembly System TMfix Mini

- Reliable interruption of the thermal bridge due to a glass fibre reinforced separating element
- The adjustable system makes the alignment of the mounting object particularly easy
- High loads due to a secure anchorage in the supporting building material
- Quick and easy assembly due to a simple setting technology without special tools
- Variable connection options with universal dowel BXfix, chipboard screws, metric screws and tapping screws

### Application Area

- For the thermally separated mounting of medium loads such as downspouts, lamps, motion detectors, signs, mailboxes, blinds, trellises in insulated and plastered exterior facades. Ce be screwed into wood with pre-drilling

### Characteristics

- Separation element of glass fibre reinforced plastic
- Universal dowel of high-quality nylon

### Processing Information

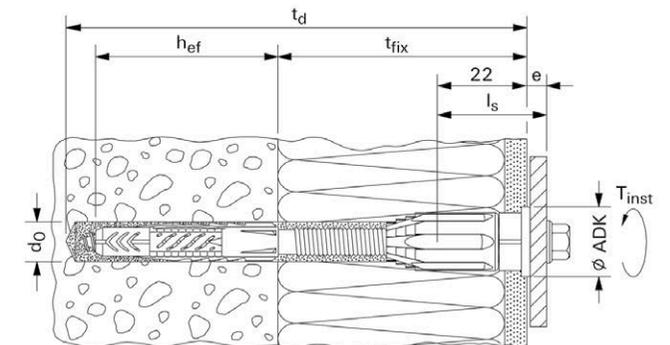
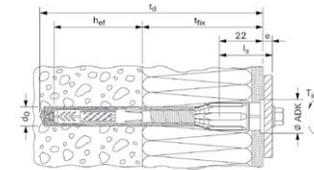
- Self-cutting, glass fibre reinforced cone mills directly through the plaster into the insulation during the installation
- Sealing of the expansion joint with Berner Power all-purpose adhesive

### Hints

- Type of installation: pre-positioned installation

### Technical Data

Material	Steel zinc plated
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Title	Ø	Anchorage depth	Min. drill hole depth	Max. usable length	Drive	Ø Cover Cap	For metric Screws-Ø	For screws from - up to	PU Piece	Article No.
Stand-off installat. system TMfix Mini	10 mm	60 mm	120 mm	45 - 60 mm	6KT 10	18 mm	6 mm	4.5 - 6 mm	20	113941
Stand-off installat. system TMfix Mini	10 mm	60 mm	140 mm	60 - 80 mm	6KT 10	18 mm	6 mm	4.5 - 6 mm	20	113942*
Stand-off installat. system TMfix Mini	10 mm	60 mm	160 mm	80 - 100 mm	6KT 10	18 mm	6 mm	4.5 - 6 mm	20	113943
Stand-off installat. system TMfix Mini	10 mm	60 mm	180 mm	100 - 120 mm	6KT 10	18 mm	6 mm	4.5 - 6 mm	20	113948
Stand-off installat. system TMfix Mini	10 mm	60 mm	200 mm	120 - 140 mm	6KT 10	18 mm	6 mm	4.5 - 6 mm	20	113950*
Stand-off installat. system TMfix Mini	10 mm	60 mm	220 mm	140 - 160 mm	6KT 10	18 mm	6 mm	4.5 - 6 mm	20	113955
Stand-off installat. system TMfix Mini	10 mm	60 mm	240 mm	160 - 180 mm	6KT 10	18 mm	6 mm	4.5 - 6 mm	20	113956
Stand-off installat. system TMfix Mini	12 mm	70 mm	240 mm	160 - 180 mm	6KT 13	22 mm	6 mm	4.5 - 6 mm	20	113973
Stand-off installat. system TMfix Mini	12 mm	70 mm	160 mm	80 - 100 mm	6KT 13	22 mm	8 mm	-	20	113974
Stand-off installat. system TMfix Mini	12 mm	70 mm	180 mm	100 - 120 mm	6KT 13	22 mm	8 mm	-	20	113975
Stand-off installat. system TMfix Mini	12 mm	70 mm	200 mm	120 - 140 mm	6KT 13	22 mm	8 mm	-	20	113980
Stand-off installat. system TMfix Mini	12 mm	70 mm	220 mm	140 - 160 mm	6KT 13	22 mm	8 mm	-	20	113982
Distance assembly system TMfix Mini	12 mm	70 mm	160 mm	80 - 100 mm	6KT 13	22 mm	10 mm	-	20	113983
Distance assembly system TMfix Mini	12 mm	70 mm	180 mm	100 - 120 mm	6KT 13	22 mm	10 mm	-	20	113984*
Distance assembly system TMfix Mini	12 mm	70 mm	200 mm	120 - 140 mm	6KT 13	22 mm	10 mm	-	20	114006*
Distance assembly system TMfix Mini	12 mm	70 mm	220 mm	140 - 160 mm	6KT 13	22 mm	10 mm	-	20	114022

\* = The delivery time is 35 days

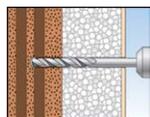
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## Installation instruction

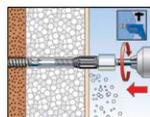
### Hints

- Installation requires no special tools
- Pre-drill for cement plaster

8



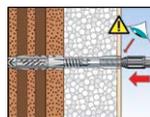
Drill the hole



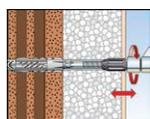
Mill out the plaster



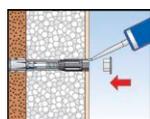
Cleaning, plug 1 turning into screw



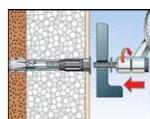
Put into hole until plaster



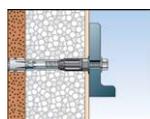
Screw in and justify



Sealing, attached the cover



Mount the fixture and tighten the screw



Installed condition

## Distance Assembly System TMfix 12 M12

- German Approval (DIBt) guarantees high application security in combination with the ETA's of the compound mortars MCS Uni Plus, Uni Plus W/E and MCS Diamond
- Fibre-glass reinforced cone interrupts the thermal barrier
- Variable applications for working length of 60 to 170mm
- The system is infinitely adjustable and thus positioning and alignment of the component part is child's play
- Easy installation requiring no special tools
- High load level in a lot of approved building materials
- Wide application opportunities because a usable length up to 170mm is possible

### Application Area

- Thermally separated fixing of high loads like awnings, canopies, railings for French balconies, air conditionings, stainless steel exterior chimneys, consoles, wooden constructions in insulated and plastered external facades

### Characteristics

- Version made of zinc plated steel and outer parts are made of stainless steel A4

### Processing Information

- During assembly the self-tapping, fibre-glass reinforced cone is milled through the plaster into the insulation
- Use included milling blades for milling of robust plaster

### Hints

- Type of installation: pre-positioned installation
- For the design the complete approval Z-21.8-1934 as well as the ETA-assessments of the used mortar, e.g. ETA-11/0384, ETA-11/0079 and ETA-11/0033 has to be considered

### Scope Of Delivery

- 10 threaded rods M 12, 10 anti-cold cone,
- 10 threaded pin M-12 A4, 10 washers A4,
- 10 nuts A4, 10 perforated sleeves 20 x 130, 3 bits,
- 3 milling blades, 3 assembly instructions



Awnings



Air conditionings



Satellite dish



Wooden constructions



Milling tool



Thermal separation with anti-cold cone



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Title	Thread	Material	Max. usable length	Length	PU Piece	Article No.
Distance assembly system TMfix	M 12	Steel zinc plated	60 - 170 mm	240 mm	10	114046

AGR: 05.403

## Spaced Installation System TMfix 16 M12

- German Approval (DIBt) guarantees high application security in combination with the ETA's of the compound mortars MCS Uni Plus, Uni Plus W/E and MCS Diamond
- Fibre-glass reinforced cone interrupts the thermal barrier
- Variable applications for working length of 60 to 290mm
- The system is infinitely adjustable and thus positioning and alignment of the component part is child's play
- Easy installation requiring no special tools
- High load level in a lot of approved building materials
- Wide application opportunities because a usable length up to 290mm is possible

### Application Area

- Thermally separated fixing of high loads like awnings, canopies, railings for French balconies, air conditionings, stainless steel exterior chimneys, consoles, wooden constructions in insulated and plastered external facades

### Characteristics

- Version galvanized steel and stainless steel A4
- Outer parts are made of stainless steel A4

### Processing Information

- During assembly the self-tapping, fibre-glass reinforced cone is milled through the plaster into the insulation
- Use included milling blades for milling of robust plaster

### Hints

- Type of installation: pre-positioned installation
- For the design the complete approval Z-21.8-1934 as well as the ETA-assessments of the used mortar, e.g. ETA-11/0384, ETA-11/0079 and ETA-11/0033 has to be considered

### Scope Of Delivery

- 10 threaded rod M 16, 10 anti-cold cone,
- 10 threaded pin M-12 A4, 10 washers A4,



Awnings



Canopies



Wooden constructions



Stainless steel exterior chimneys



Milling tool



Thermal separation with anti-cold cone



- 10 nuts A4, 10 perforated sleeves 20 x 200, 3 bits,
- 3 milling blades, 3 extension hoses for tip extractor, 3 mounting instructions

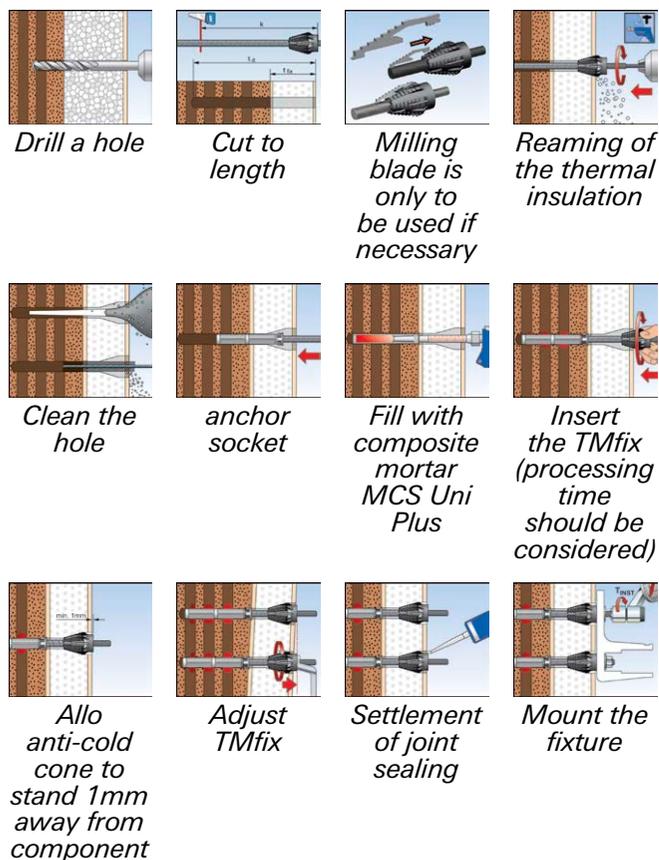
Title	Thread	Material	Max. usable length	Length	PU Piece	Article No.
Distance assembly system TMfix	M 16	Steel zinc plated	60 - 290 mm	370 mm	10	114057

AGR: 05.403

## Mounting Instructions

### Hints

- Mounting completely without special tools.
- Tip: Only resistant Plaster (eg thick cement Plaster) is recommended for the use of reaming TMfix milling blade, insert the milling blade, as shown in one of three possible wells of anti-cold cone - according to use the trimmer blade is to be adapted to again be disassembled.
- Detailed installation instructions are included with each package or can be downloaded from [www.berner.eu](http://www.berner.eu)



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## Internal Thread Expansion Anchor

- Variable selectable screw length, since the screw thread can be rotated through the cone
- High load capacities by force controlled bracing
- Multiple releasing or fastening of the component is possible due to surface flush mounting

### Application Area

- Mounting of medium loads such as machines, steel structures, consoles, signages in concrete  $\geq$  C 12/15, solid brick and natural stone with solid structure in dry interiors
- Subordinate fixings, for which no building approval is required
- Optimal mounting of diamond drilling machines in concrete and masonry

### Characteristics

- Version galvanized steel

### Technical Data

Material Steel zinc plated

Title	Dimension	Thread	Drill hole-Ø	Effect. anchor depth	Min. Drill hole depth	PU Piece	Article No.
INT.THREAD EXPANSION ANCHOR	20 x 75 mm	M 12	20 mm	70 mm	85 mm	25	177822

AGR: 05.530



## Aircrete anchor BPX-I

- European Technical Approval in aerated concrete, Fire resistance class F120 as well as usable for fixation of water extinguishing systems according to VdS
- Fast and easy assembly by tightening the anchor via a hex wrench (screwdriver or ratchet). Special tools are not needed
- High tensile and shear loads thanks to unique 4-fold expansion sleeve. Fewer anchorage points are needed
- Guaranteed setting control because the hex key disengaged automatically after 10-12 turns
- Variable applications. Suitable for all screws and studs with metric thread
- Approved fixation without cleaning the hole possible when you comply the minimum thickness of the member without hole cleaning

### Application Area

- Anchoring of eg. pipelines, ventilation pipes, cable trays, sprinklers systems, shelves, consoles, distance installation in aerated concrete

### Characteristics

- Version made of zinc-plated steel

### Hints

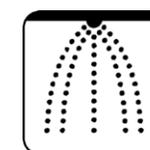
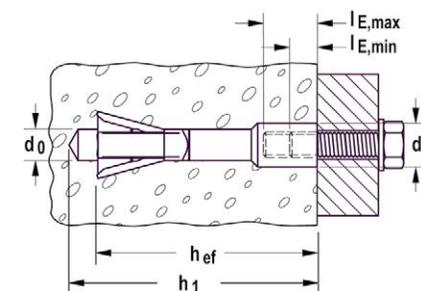
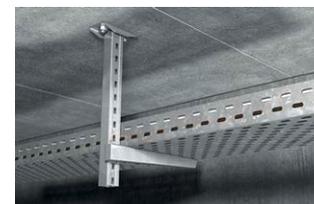
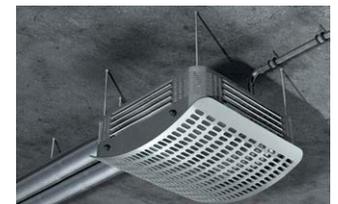
- Anchoring with European Technical Approval in aerated concrete with compressive strength class AAC 2 to 7 as well as aerated concrete wall and ceiling boards with compressive strength 3.3 to 4.4 N/mm<sup>2</sup>
- For more technical data please request approval and reports
- Installation type: Pre-positioned installation

### Scope Of Delivery

- In every box is a suitable hex key for setting the anchor

### Technical Data

Material Steel electrogalvanized [2]



## Heavy duty fixing

Title	Dimension	Thread	Drill hole-Ø	Effect. anchor depth	Min. Drill hole depth	Min. screw-in depth	Max. screw-in depth	PU Piece	Article No.
Aircrete anchor BPX-I	10 x 75 mm	M 6	10 mm	70 mm	95 mm	10 mm	15 mm	25	207810
Aircrete anchor BPX-I	10 x 75 mm	M 8	10 mm	70 mm	95 mm	8 mm	15 mm	25	207811
Aircrete anchor BPX-I	10 x 75 mm	M 10	10 mm	70 mm	95 mm	10 mm	15 mm	25	207812
Aircrete anchor BPX-I	10 x 75 mm	M 12	10 mm	70 mm	95 mm	12 mm	15 mm	25	207813

AGR: 05.110

## Capsule for Compound Anchor BCA

- High-performance mortar with European Technical Approval Option 7 guarantees high loads in non-cracked concrete
- In conjunction with internal threaded sleeves M 8 and M 12, can also be used for solvable connections
- Tension-free anchoring in the underground allows small edge and centre distances
- Sealing of the borehole prevents water damage in reinforcement proximity
- Suitable for use in wet concrete and in water-filled boreholes

### Application Area

- For fixing of medium and heavy loads e.g. railings, machineries, staircases, metal consoles in non-cracked concrete C20/25 to C50/60, combined with anchor rod BCA or internal threaded sleeve MCS Plus I
- Also suitable for natural stone with dense structure

### Characteristics

- 2-component mortar capsule is made of styrene-free, quick-setting vinyl ester resin and hardener
- Anchoring system consisting of mortar capsule Compound anchor BCA, threaded rod BCA and/or internal thread sleeve MCS Plus I
- During setting, the edges of the threaded rod destroy the capsule in the drill hole, which mix and activate the mortar

### Hints

- For more technical data request the approval and use Berner Calculation Software



High rack warehouses



Machines



Constructions made of steel



Heavy duty racks



Title	For thread-Ø	Dimension	Drill hole-Ø	Embedm. depth	Min. Drill hole depth	PU Piece	Article No.
Capsule for Compound anchor BCA	M 16	16.5 x 95	18 mm	125 mm	125 mm	10	114877
Capsule for Compound anchor BCA	M 20	23 x 160	25 mm	170 mm	170 mm	10	114885

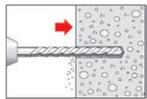
AGR: 05.610

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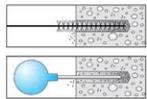
## Installation instruction

### Processing Information

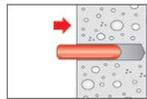
- <sup>1)</sup> Set-in anchor rod BCA with a power tool (impact drill, hammer drill) by using impact and rotation. Switch off drill immediately when reaching the drill hole base



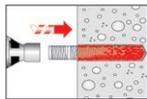
Drill the hole



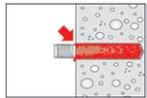
Clean the hole:  
4 x blow  
4 x brush  
4 x blow



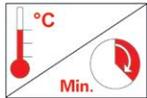
Put the mortar capsule BCA into the cleaned drill hole



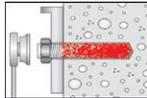
Mounting the anchor rod BCA<sup>1</sup>



After insertion, excess mortar must emerge from the mouth of the drill hole



Wait for the specified curing time



Mount the fixture and apply torque

## Threaded rod for Compound Anchor BCA ZP

- High-performance mortar with European Technical Approval Option 7 guarantees high loads in non-cracked concrete
- In conjunction with internal threaded sleeves M 8 and M 12, can also be used for solvable connections
- Tension-free anchoring in the underground allows small edge and centre distances
- Sealing of the borehole prevents water damage in reinforcement proximity
- Suitable for use in wet concrete and in water-filled boreholes



Heavy duty racks



Plant constructions



## Application Area

- For approved chemical anchoring of medium and heavy loads in indoor areas, combined with chemical mortars MCS or compound anchor BCA

## Characteristics

- Version with external hexagon for easy installation

## Hints

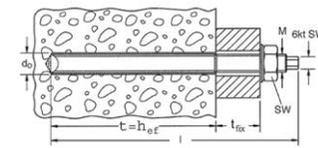
- For more technical data request the approval and use Berner Calculation Software

## Scope Of Delivery

- Threaded rod with nut and washer

## Technical Data

Material	Steel electrogalvanized [2]
Strength class	5.8



Title	Dimension	Max. usable length	Anchoring depth	Suitable for cartridge	PU Piece	Article No.
Threaded rod for compound anchor BCA ZP	8 x 110 mm	13 mm	80 mm	BCA M8	10	114910
Threaded rod for compound anchor BCA ZP	10 x 130 mm	20 mm	90 mm	BCA M10	10	114933
Threaded rod for compound anchor BCA ZP	12 x 160 mm	25 mm	110 mm	BCA M12	10	114936
Threaded rod for compound anchor BCA ZP	16 x 190 mm	35 mm	125 mm	BCA M16	10	114979
Threaded rod for compound anchor BCA ZP	16 x 250 mm	98 mm	125 mm	BCA M16	10	114980
Threaded rod for compound anchor BCA ZP	20 x 260 mm	65 mm	170 mm	BCA M20	10	114983

AGR: 05.612

## Threaded rod for Compound Anchor BCA A4

- High-performance mortar with European Technical Approval Option 7 guarantees high loads in non-cracked concrete



## Chemical fixing

- In conjunction with internal threaded sleeves M 8 and M 12, can also be used for solvable connections
- Tension-free anchoring in the underground allows small edge and centre distances
- Sealing of the borehole prevents water damage in reinforcement proximity
- Suitable for use in wet concrete and in water-filled boreholes

### Application Area

- For fixing of medium and heavy loads e.g. railings, machineries, staircases, metal consoles in non-cracked concrete C20/25 to C50/60
- Also suitable for natural stone with dense structure

### Characteristics

- Version with external hexagon for easier installation

### Hints

- For more technical data request the approval and use Berner Calculation Software

### Scope Of Delivery

- Threaded rod with nut and washer

### Technical Data

Material

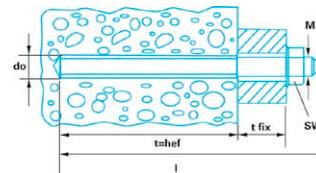
Stainless Steel A4



Seats



Constructions made of steel



Title	Dimension	Max. usable length	Anchoring depth	Suitable for cartridge	PU Piece	Article No.
Threaded rod for compound anchor BCA A4	8 x 110 mm	13 mm	80 mm	BCA M8	10	114902
Threaded rod for compound anchor BCA A4	10 x 130 mm	20 mm	90 mm	BCA M10	10	114903
Threaded rod for compound anchor BCA A4	12 x 160 mm	25 mm	110 mm	BCA M12	10	114904
Threaded rod for compound anchor BCA A4	16 x 190 mm	35 mm	125 mm	BCA M16	10	114905

AGR: 05.612

## Internal Threaded Sleeve MCS Plus I for Concrete



- Multiple attaching and detaching or flush-mounted dismantling of the attachment is possible
- Suitable for common types of metric screws and threaded rods for a wide range of applications
- High-performance mortar with European Technical Approval Option 7 guarantees high loads in non-cracked concrete
- In conjunction with internal threaded sleeves M 8 and M 12, can also be used for solvable connections
- Tension-free anchoring in the underground allows small edge and centre distances
- Sealing of the borehole prevents water damage in reinforcement proximity
- Suitable for use in wet concrete and in water-filled boreholes

## Application Area

- For approved chemical anchoring of medium and heavy loads in indoor areas, combined with chemical mortars MCS or compound anchor BCA

## Characteristics

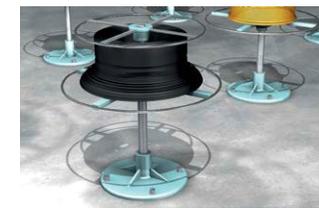
- Internal threaded anchor made of zinc-plated steel

## Processing Information

- Push in internal thread sleeve by hand, by twisting slightly, until it reaches the bottom of the drilled hole.  
1 division (cartridge) = 2 ml

## Hints

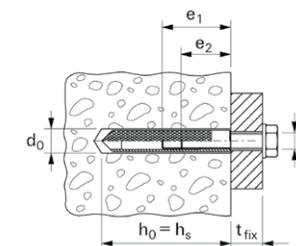
- For more technical data request the approval and use Berner Calculation Software



Plant constructions



Constructions made of steel



Title	Dimension	For threaded diameter from - to	Drill hole-Ø	Screw-in depth min - max	Min. Filling Volume	Suitable for cartridge	PU Piece	Article No.
Internal threaded anchor MCS Plus I	12 x 90 mm	M 8	14 mm	12 - 18 mm	5 Scale unit	BCA II M10	10	080526
Internal threaded anchor MCS Plus I	16 x 90 mm	M 10	18 mm	15 - 23 mm	7 Scale unit	BCA II M12	10	080528
Internal threaded anchor MCS Plus I	18 x 125 mm	M 12	20 mm	18 - 26 mm	11 Scale unit	BCA II M16	10	080529

AGR: 05.603

## Capsule for compound anchor BCA II

- High performance mortar with ETA Option 1 guarantees high loads in cracked and non-cracked concrete
- Fire resistance class F120
- Reduced drill hole cleaning without separate cleaning tools reduces installation time and risk of installation failures
- Approved for usage in flooded holes with anchor rods M12 - M20
- Usable in a wide range of installation temperature from -15°C to +40°C

### Application Area

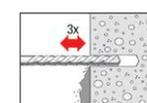
- For fixing of medium and heavy loads e.g. railings, machineries, staircases, metal consoles in cracked (M10 - M20) and non-cracked concrete (M8 - M20) C20/25 to C50/60, combined with anchor rod BCA or internal threaded sleeve MCS Plus I
- Also suitable for natural stone with dense structure

### Characteristics

- Anchoring system consisting of threaded rod, internal thread anchor and mortar capsule

### Processing Information

- Drill hole cleaning with hammer drill bit:
- Pull out the drill bit whilst power drill is switched on, when drill hole depth is reached. Repeat this procedure for minimum 3 times, beginning from the drill hole bottom to remove the dust.



*Drill hole cleaning without additional tools*



Title	For thread-Ø	Dimension	Drill hole-Ø	Embedm. depth	PU Piece	Article No.
Capsule Compound anchor BCA II	M 8	9 x 85	10 mm	80 mm	10	343856
Capsule Compound anchor BCA II	M 10	10.5 x 90	12 mm	90 mm	10	343857
Capsule Compound anchor BCA II	M 12	12.5 x 97	14 mm	110 mm	10	343858
Capsule Compound anchor BCA II	M 16	16.5 x 95	18 mm	125 mm	10	343859
Capsule Compound anchor BCA II	M 20	23 x 160	25 mm	170 mm	10	343860

AGR: 05.610

## Compound mortar MCS Universal

- Easy application without additional adapters in commercial open silicone cartridges due to newly innovative cartridge
- No odor during processing because it is free from styrene
- Also suitable as a repair and smoothing compound
- Low centre and edge distances at very high loads due to expansion free anchoring in the underground
- Reusability of the cartridges even after longer breaks by replacement of the mixing tube

### Application Area

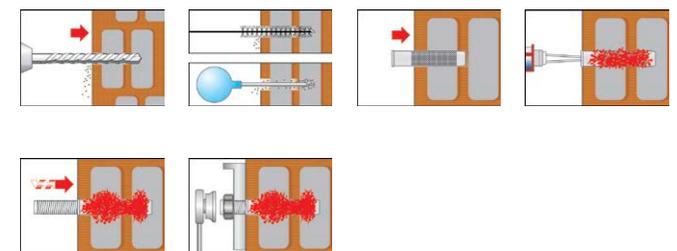
- Mounting of moderate to heavy loads, such as facade and roof substructures, canopies, pergolas, awnings, railings, grilles, sanitary fixtures, window elements in concrete and natural stone
- With perforated sleeve also suitable in perforated and hollow bricks
- In conjunction with a stainless steel A4 threaded rod, it can also be used outdoors

### Characteristics

- 2 component composite mortar system based on polyester, free from styrene

### Processing Information

- Drill perforated and hollow bricks in a rotary motion without a striking head



Title	Cartridge content	Content	PU Amount	Article No.
CM. MCS UNIVERSAL 280ML 15 PCS	300 ml	15 PC	1	034296
COMPOUNDM. MCS UNIVERSAL 300ML	300 ml	-	1/15	245349

AGR: 05.601

Accessories Available	PU Piece	Article No.
T-Mixer for Multicompoundsystem MCS Brick/Universal	10	369427
Nozzle for MCS Uni Plus	1/10	080621

INTERNAL/Approved (2019-03-22 20:55:31)

## Bera Clic+2 MCS Universal

- Especially for users which do not work with chemical mounts regularly.

### Characteristics

- The BERA CLIC+ case size 2 contains everything, from the composite mortar to the injection gun, which is needed for a chemical fastening



Title	PU Assortment	Article No.
BC+2 MCS UNIVERSAL	1	103193
<b>AGR: 07.211</b>		
<b>Scope Of Supply</b>		
T-Mixer for Multicompoundsystem MCS Brick/Universal	20	369427
Drill Hole Blower small	1	831867
Hammer drill bit SUPERSpeed II SDS-plus 16x150/210	1	213581
Anchor sleeve MCS Plus H	10	080537
COMPOUNDM. MCS UNIVERSAL 300ML	2	245349
Skeleton cartridge gun 310ml	1	812106
BERA CLIC+ Cushion Lids	1	104057
Bera Clic+ system case sz. 2	1	102545
BERA CLIC+ BERA CLIC+ MULTICOMPOUND System for Inlet	1	102563
Hammer drill bit SUPERSpeed II SDS-plus 14x150/210	1	213572
<b>Spare Parts</b>		
BERA CLIC+ BERA CLIC+ MULTICOMPOUND System for Inlet	1	102563
BERA CLIC+ Cushion Lids	1	104057
Bera Clic+ system case sz. 2	1	102545

## Screen tubes, suitable for cutting to length

- Made of metal – this allows the screen tubes to be easily cut to the required length

### Application Area

- For the mounting of threaded rods or internal thread sleeves at greater anchoring depths

### Hints

- Not part of a marketing authorization



Title	Sleeve external-Ø x length	Drill hole-Ø	For threaded diameter from - to	PU Piece	Article No.
SCRN.SLEEVE 11MM STRIPPABLE 1M	11 x 1000 mm	12 mm	M 6 - M 8	5	136706
SCRN.SLEEVE 14MM STRIPPABLE 1M	14 x 1000 mm	16 mm	M 8 - M 10	5	136705
SCRN.SLEEVE 20MM STRIPPABLE 1M	20 x 1000 mm	22 mm	M 12 - M 16	5	136707

AGR: 05.603

## Anchor rod standard zinc plated

### Characteristics

- Version steel, yellow galvanized

### Scope Of Delivery

- Complete, including nut and washer

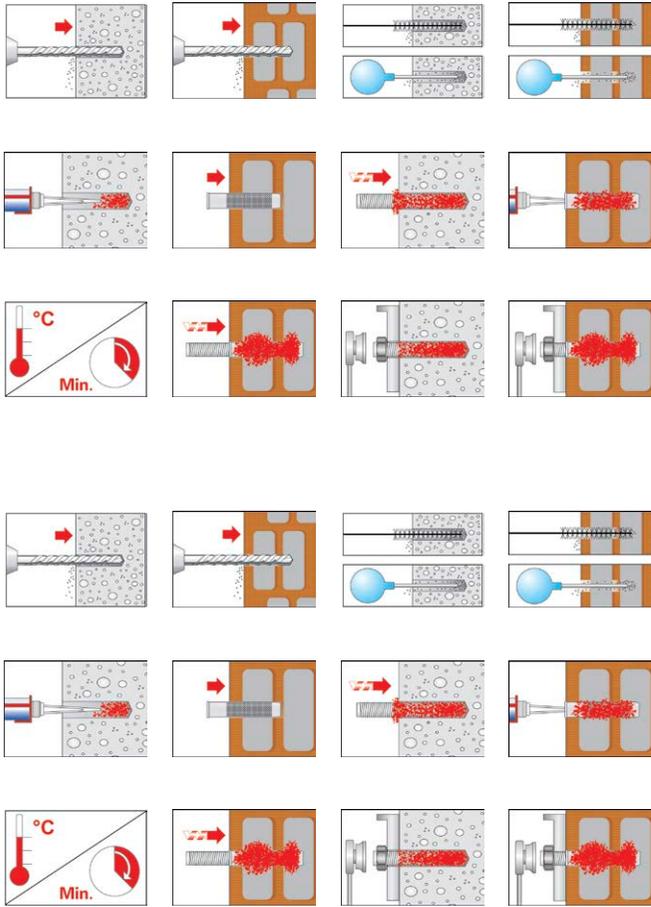
### Technical Data

Material	Steel
Strength class	4.6

Title	Dimension	Max. usable length	Anchoring depth	PU Piece	Article No.
THREADED ROD M 8X110 ZP	8 x 110 mm	20 mm	80 mm	10	914169
THREADED ROD M 10X110 ZP	10 x 110 mm	10 mm	90 mm	10	914185
THREADED ROD M 10X130 ZP	10 x 130 mm	30 mm	90 mm	10	914193
THREADED ROD M 12X130 ZP	12 x 130 mm	20 mm	100 mm	10	914215
THREADED ROD M 12X160 ZP	12 x 160 mm	40 mm	110 mm	10	821179

AGR: 05.602

# Chemical fixing



## T-mixer for Multicompoundsystem MCS Brick/ Universal

- Patented diffuser reduces the required extrusion force up to 40% compared to standard mixers
- Accurate mixing reduces waste
- Shorter than standard mixer - easier handling and reduced hardened waste in the mixer

### Application Area

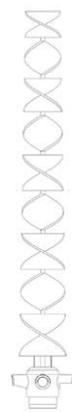
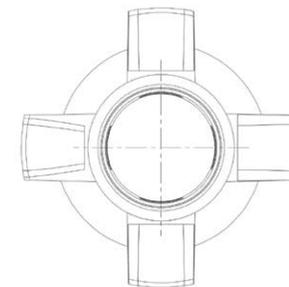
- For correct mixing of 2 component compound mortars MCS Brick and MCS Universal

Title	Length	Farbe innen	PU Piece	Article No.
T-Mixer MCS Brick/Universal	180 mm	black	10	369427

AGR: 05.604

### Accessories Available

	PU Amount	Article No.
COMPOUNDM. MCS UNIVERSAL 300ML	1/15	245349
MULTICOMPOUNDSYSTEM MCS Brick 410ml	1/15	245347
REFUG COLD SEAL. COMP. 0,45KG	1	210557



## MULTICOMPOUND<sup>system</sup> Brick 410 ml

- Highest mortar yield through optimized 410 ml cartridge
- Also suitable as a repair and smoothing compound
- Low centre and edge distances due to expansion free anchoring in the underground
- Reusability of the cartridges even after longer breaks by replacement of the mixing tube

### Application Area

- 2 component compound mortar containing styrene for medium to heavy in hollow construction materials in connection with perforated sleeves
- General technical approval for fixation in brickwork in connection with Screen tubes and anchor rods

### Characteristics

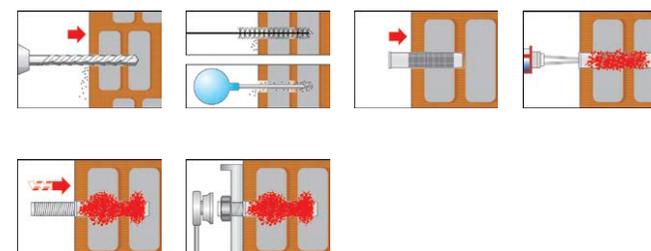
- 2 component composite mortar system
- Contains styrene, polyester-based

### Processing Information

- Drill perforated and hollow bricks in a rotary motion without a striking head

### Hints

- General technical approved for fixations in brickwork according to DIN 1053:  
 Full Brick  $\geq$  Mz 12 according to DIN  
 Solid sand-lime brick  $\geq$  KS 12 according to DIN 106  
 Vertically perforated bricks  $\geq$  Hlz 4 according to DIN 105  
 Perforated sand-lime brick  $\geq$  KSL 4 according to DIN 106
- You can find the accessories integrated in the approval under MULTICOMPOUNDsystem Premium

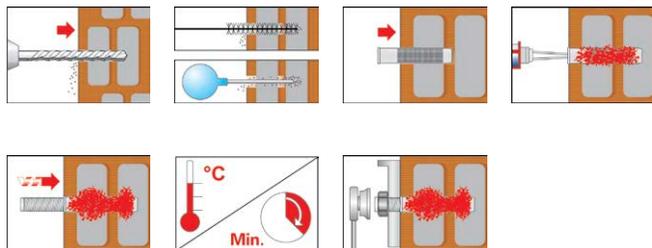


Title	Cartridge content	Content	PU Amount	Article No.
CM. MCS BRICK 410ML 15 PCS	410 ml	15 PC	1	034294
MULTICOMPOUNDsystem MCS Brick	410 ml	1 PC	1/15	245347

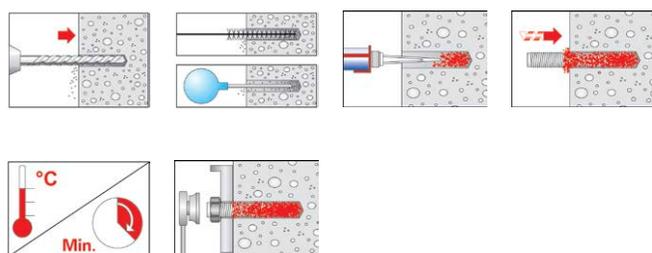
AGR: 05.601

Accessories Available	PU Amount	Article No.
T-Mixer for Multicompoundsystem MCS Brick/Universal	10	369427

## Installation instruction for perforated brick



## Installation instruction in solid brick



## Bera Clic+2 MCS Brick

- If no dovel is sufficient. Everything immediately ready for a tension-free anchoring in all solid building materials and cavity materials

### Characteristics

- The BERA CLIC+ case size 2 contains everything, from the composite mortar to the injection gun, which is needed for a chemical fastening



## Chemical fixing

Title	PU Assortment	Article No.
BC+2 MCS BRICK	1	103192
<b>AGR: 07.211</b>		
<b>Scope Of Supply</b>		
Drill Hole Blower small	1	831867
Anchor sleeve MCS Plus H	20	080538
T-Mixer for Multicompoundsystem MCS Brick/Universal	10	369427
MVS 2-component standard application gun	1	908312
Hammer drill bit SUPERSpeed II SDS-plus 14x150/210	1	213572
Hammer drill bit SUPERSpeed II SDS-plus 16x150/210	1	213581
BERA CLIC+ BERA CLIC+ MULTICOMPOUND System for Inlet	1	102563
BERA CLIC+ Cushion Lids	1	104057
Bera Clic+ system case sz. 2	1	102545
MULTICOMPOUNDsystem MCS Brick 410ml	2	245347
<b>Spare Parts</b>		
BERA CLIC+ BERA CLIC+ MULTICOMPOUND System for Inlet	1	102563
BERA CLIC+ Cushion Lids	1	104057
Bera Clic+ system case sz. 2	1	102545



## Starter Set MCS Brick

Title	PU Assortment	Article No.
STARTERSET MCS BRICK	1	039330
AGR: 05.600		
Scope Of Supply	Piece	Article No.
COMPOUNDM. MCS BRICK 410 ML	15	-
MULTICOMPOUNDSYSTEM Premium mixing tube	15	-
MVS 2-component standard application gun	1	908312



## T-mixer for Multicompoundsystem MCS Brick/Universal

- Patented diffuser reduces the required extrusion force up to 40% compared to standard mixers
- Accurate mixing reduces waste
- Shorter than standard mixer - easier handling and reduced hardened waste in the mixer

### Application Area

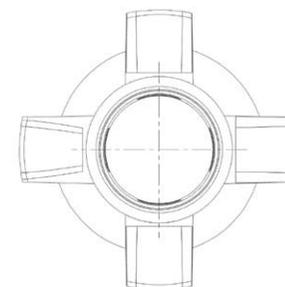
- For correct mixing of 2 component compound mortars MCS Brick and MCS Universal

Title	Length	Farbe innen	PU Piece	Article No.
T-Mixer MCS Brick/Universal	180 mm	black	10	369427

AGR: 05.604

### Accessories Available

	PU Amount	Article No.
COMPOUNDM. MCS UNIVERSAL 300ML	1/15	245349
MULTICOMPOUNDSYSTEM MCS Brick 410ml	1/15	245347
REFUG COLD SEAL. COMP. 0,45KG	1	210557



## Compound mortar MCS Uni Plus

- Universal compound mortar with a wide range of approved applications.
- With ETA approval Option 1 for anchoring in cracked (M10 - M30) and non-cracked concrete (M6 - M30), ETA for anchoring in masonry and aerated concrete, ETA for post-installed rebar connections (Ø 8 - 28mm).
- Fire resistance classification R120 in concrete and masonry.
- High load performance in all approvals ensure a high level of safety for the fixation.
- Coax 410ml cartridge system for highest yield mortar
- 410ml cartridge is approved for anchoring of sizes M12 - M30 in water flooded holes (ETA Option 1).
- Innovative 300ml cartridge system allows easy processing with conventional silicon guns - ideal for users with sporadic demand

### Characteristics

- High performance 2-component hybrid composite mortar styrene free

### Processing Information

- 1 scale division= 2 ml
- For bricks drill rotary

### Hints

- For more technical data request approval and use Berner Calculation Software.



Railings



Doors/Gates



Canopies



Awnings



Air conditionings



Post-installed rebar connections



Title	Cartridge content	Content Of Cartridge In Scale Marking	Color	PU Cartridge	Article No.
MORTAR MCS UNI PLUS S 300 ML	300 ml	-	Grey	1/12	240315
Chemical Mortar MCS Uni Plus	300 ml	150 Scale unit	Grey	1/12	117579
Chemical Mortar MCS Uni Plus	410 ml	205 Scale unit	Grey	1/12/60/120	177823

AGR: 05.601

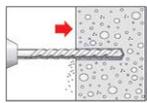
### Necessary Accessories

	PU Amount	Article No.
Nozzle mixer for MCS Uni Plus/Diamond 390ml	10	184393

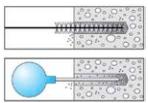
## Installation instruction

### Hints

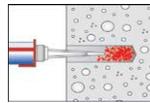
- <sup>1)</sup> If at the same time the drill hole diameter is  $\geq 18$  mm and the embedment depth hef is  $> 10d$ , blow out the drill hole with oil-free compressed air ( $p \geq 6$  bar)
- <sup>2)</sup> Use only complete mixed mortar



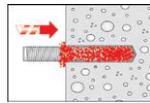
Drill a hole



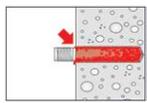
Clean the hole:  
4 x blow<sup>1</sup>  
4 x brush<sup>1</sup>  
4 x blow<sup>1</sup>



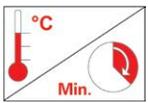
Fill approx. 2/3 of the drill hole with mortar<sup>2</sup>. Always begin from bottom of the hole to avoid eliminate voids



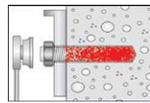
Push the anchor with twisting motions to the bottom of the resin filled hole



After insertion, excess mortar must emerge from the mouth of the drill hole

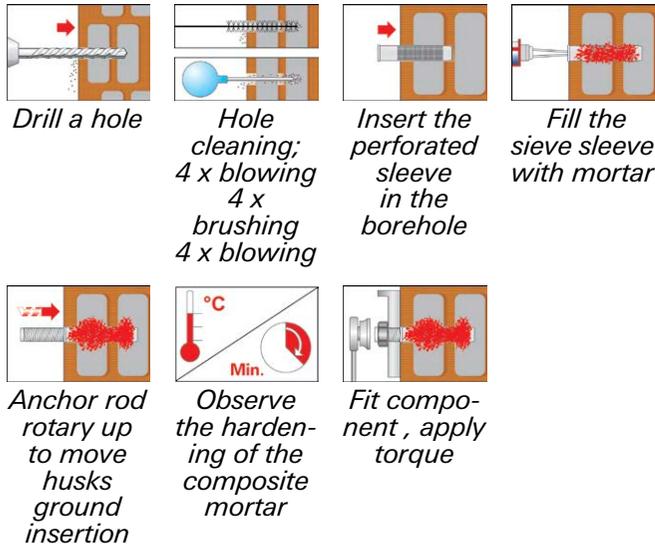


Wait for the specified curing time

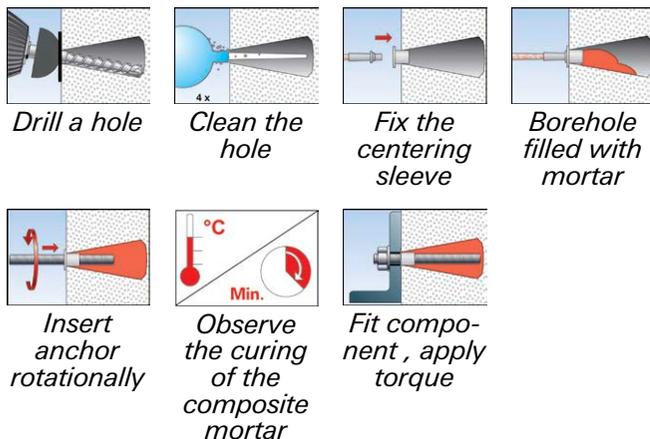


Mount the fixture and apply torque

## Installation Instructions for Perforated Stones



## Installation Instructions for Aerated Concrete



## Performance data Plus MCS Uni in masonry

### Hints

- Permissible loads of a single anchor in brick and lightweight aerated concrete (daily) to central aerated, shear and diagonal tension in any direction, and related dowel spacing and dimensions
- When measuring dimensions the entire approval is to be taken into consideration Z-21.3-1930
- Note the corresponding approvals for lightweight aerated concrete
- <sup>1)</sup> For masonry with load, the permissible load can increase to 1.4 kN



## Chemical fixing

- <sup>2)</sup> Increased values shall apply when drilling in the rotary gear (no impact), in perforated brick, the outer edges of the bricks must be at least 30mm thick (old Stones)
- <sup>3)</sup> Increased values apply to old masonry (1977) from vertically perforated bricks > = HLz 12, when drilling in the rotary gear (no impact)
- \*) In the case of anchor sleeves with a mounting depth  $h_s = 85$  mm a non-load bearing layer of up to 20mm may be bridged; for  $h_s = 130$ mm, the non-load bearing layer may be no more than 30mm; and for  $h_s = 200$ mm, the non-load bearing layer may be no more than 100mm. The bridging of the non-load bearing layer is only permitted for anchor rods.

Threaded rods MCS Plus A - Application with perforated sleeve		M6	M8	M8	M10
Type of the sieve sleeve MCS Plus H		12x50 II 12x85	12x50 II 12x85	16x85 II 16x130	16x85 II 16x130
Full Solid Brick	>= Mz 12 [kN]	1.0	1.0 II 1.7	1.7	1.7
Solid calcium silicate	>= KS 12 [kN]	1.0	1.0 II 1.7	1.7	1.7
Vertical perforated Solid Brick	>= HLz 4 [kN]	0.3 / 0.6 <sup>2</sup>	0.3 / 0.6 <sup>2</sup>	0.3 / 0.6 <sup>2</sup>	0.3 / 0.6 <sup>2</sup>
	>= HLz 6 [kN]	0.4 / 0.8 <sup>2</sup>	0.4 / 0.8 <sup>2</sup>	0.4 / 0.8 <sup>2</sup>	0.4 / 0.8 <sup>2</sup>
	>= HLz 12 [kN]	0.8 / 1.0 <sup>2</sup>	0.8 / 1.0 <sup>2</sup>	0.8 / 1.0 <sup>2</sup> / 1.4 <sup>3</sup> II 0.8 / 1.0 <sup>2</sup>	0.8 / 1.0 <sup>2</sup> / 1.6 <sup>3</sup>
Perforated calcium silicate	>= KSL 4 [kN]	0.4 / 0.6 <sup>2</sup>	0.4 / 0.6 <sup>2</sup>	0.4 / 0.6 <sup>2</sup>	0.4 / 0.6 <sup>2</sup>
	>= KSL 6 [kN]	0.6 / 0.8 <sup>2</sup>	0.6 / 0.8 <sup>2</sup>	0.6 / 0.8 <sup>2</sup>	0.6 / 0.8 <sup>2</sup>
	>= KSL 12 [kN]	0.8 / 1.4 <sup>2</sup>	0.8 / 1.4 <sup>2</sup>	0.8 / 1.4 <sup>2</sup>	0.8 / 1.4 <sup>2</sup>
Hollow block made from lightweight concrete	>= Hbl 2 [kN]	0.3 / 0.5 <sup>2</sup>	0.3 / 0.5 <sup>2</sup>	0.3 / 0.5 <sup>2</sup>	0.3 / 0.5 <sup>2</sup>
	>= Hbl 4 [kN]	0.6 / 0.8 <sup>2</sup>	0.6 / 0.8 <sup>2</sup>	0.6 / 0.8 <sup>2</sup>	0.6 / 0.8 <sup>2</sup>
Hollow block made of concrete	>= Hbn 4 [kN]	0.6 / 0.8 <sup>2</sup>	0.6 / 0.8 <sup>2</sup>	0.6 / 0.8 <sup>2</sup>	0.6 / 0.8 <sup>2</sup>
Fines lightweight concrete	TGL [kN]	-	-	1,3	1,3
Aerated concrete (see Performance data in Aerated concrete Chemical mortar)					
Nominal drill diameter	Ø d 0 [mm]	12	12	16	16
Hole depth	min h 0 [mm]	55 II 90	55 II 90	90 II 135	90 II 135
Installation depth of the sieve sleeve	h s [mm]	50 II 85	50 II 85	85 II 130	85 II 130
Anchorage depth	h ef [mm]	50 II 85*	50 II 85*	85* II 130*	85* II 130*
Minimum component thickness	d [mm]	90 II 110	90 II 110	110 II 150	110 II 150
Maximum permissible bending torque M permissible					
Permissible M for galvanized steel 5.8	gvz [Nm]	4.4	10.7	10.7	21.4
Permissible M stands for not rusting steel	A4 [Nm]	4.8	12.1	12.1	24.1
Installation parameters and dimensions					
Wheelbase (dowel group) * (for Hbl and Hbn: 200)	>= a [mm]	100	100	100	100
Wheelbase	min a [mm]	50	50	50	50
Minimum distance between	a z [mm]	250	250	250	250
Margin distance (only Mz, KS, HLz, KSL, Hbl, Hbn)					
- for masonry or tipping with superimposed load and without detection on the free Margin directed shearing (for Mz and KS: 60)	>= a r [mm]	50	50	50	50
- for masonry without superimposed load or tipping detection or the free Margin directed shearing (for Mz and KS: 250)	>= a r [mm]	200	200	200	200
Margin distance (only lightweight aggregate concrete TGL)					
- without the free Margin directed shearing	>= a r [mm]	150	150	150	150

Threaded rods MCS Plus A - Application with perforated sleeve		M6	M8	M8	M10
Type of the sieve sleeve MCS Plus H		12x50    12x85	12x50    12x85	16x85    16x130	16x85    16x130
- with the free Margin directed shearing	$\geq a_r$ [mm]	200	200	200	200
	min a_r [mm]	100	100	100	100
Through hole in the fixture	d_f [mm]	7	9	9	12
Maximum torque when mounting (2 Nm when the fixture in the mortar bed is not mounted)	T_inst [mm]	4	4	4	4
Load capacity Chemical mortar	[Scale parts]	5    10	5    10	12    15	12    15

## Performance data Plus MCS Uni in masonry



Threaded rods MCS Plus A - Application with perforated sleeve		M12	M12	M16	M16
Type of the perforated sleeve MCS Plus H		20x85    20x130	20x200	20x85    20x130	20x200
Full Solid Brick	$\geq Mz12$ [kN]	1.7	1.7	1.7	1.7
Solid calcium silicate	$\geq KS 12$ [kN]	1.7	1.7	1.7	1.7
Vertical perforated Solid Brick	$\geq HLz 4$ [kN]	0.3 / 0.6 <sup>2</sup>			
	$\geq HLz 6$ [kN]	0.4 / 0.8 <sup>2</sup>			
	$\geq HLz 12$ [kN]	0.8 / 1.0 <sup>2</sup> / 1.8 <sup>3</sup>			
Perforated calcium silicate	$\geq KSL 4$ [kN]	0.4 / 0.6 <sup>2</sup>			
	$\geq KSL 6$ [kN]	0.6 / 0.8 <sup>2</sup>			
	$\geq KSL 12$ [kN]	0.8 / 1.4 <sup>2</sup>			
Hollow block made from lightweight concrete	$\geq Hbl 2$ [kN]	0.3 / 0.5 <sup>2</sup>			
	$\geq Hbl 4$ [kN]	0.6 / 0.8 <sup>2</sup>			
Hollow block made of concrete	$\geq Hbn 4$ [kN]	0.6 / 0.8 <sup>2</sup>			
Fines lightweight concrete	TGL [kN]	2,0	-	2,0	-
Aerated concrete (see Performance data in Aerated concrete Chemical mortar)					
Nominal drill diameter	$\emptyset d_0$ [mm]	20	20	20	20
Hole depth	min h_0 [mm]	90    135	205	90    135	205
Installation depth of the sieve sleeve	h_s [mm]	85    130	200	85    130	200
Anchorage depth	h_ef [mm]	85*    130*	200*	85*    130*	200*
Minimum component thickness	d [mm]	110    150	240	110    150	240
Maximum permissible bending torque M permissible					
Permissible M for galvanized steel 5.8	gvz [Nm]	37.4	37.4	94.9	94.9
Permissible M stands for not rusting steel	A4 [Nm]	42.1	42.1	104.2	104.2
Installation parameters and dimensions					
Wheelbase (dowel group) * (for Hbl and Hbn: 200)	$\geq a$ [mm]	100	100	100	100
Wheelbase	min a [mm]	50	50	50	50
Minimum distance between	a_z [mm]	250	250	250	250
Margin distance (only Mz, KS, HLz, KSL, Hbl, Hbn)					
- for masonry without superimposed load or tipping detection or the free Margin directed shearing (for Mz and KS: 250)	$\geq a_r$ [mm]	200	200	200	200
- for masonry without superimposed load or tipping detection or the free Margin directed shearing (for Mz and KS: 250)	$\geq a_r$ [mm]	50	50	50	50
Wheelbase (only haufwerksporiger Leichtbeton TGL)					
- without the free Margin directed shearing	$\geq a_r$ [mm]	150	150	150	150

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Threaded rods MCS Plus A - Application with perforated sleeve		M12	M12	M16	M16
Type of the perforated sleeve MCS Plus H		20x85 II	20x130	20x200	20x85 II 20x130 20x200
- with the free Margin directed shearing	$\geq a_r$ [mm]	200	200	200	200
	min $a_r$ [mm]	100	100	100	100
Through hole in the fixture	d f [mm]	14	14	18	18
Maximum torque when mounting (2 Nm when the fixture in the mortar bed is is not mounted)	T inst [mm]	4	4	4	4
Load capacity Chemical mortar	[Scale parts]	15 II 25	40	15 II 25	40

## Performance data MCS Uni Plus in Masonry for Through-Hole Perforated Sleeves

### Hints

- Permissible loads of a single anchor in brick and lightweight aggregate concrete (TGL) to central tension, shear and diagonal tension in any direction, and associated dowel spacing and dimensions
- When measuring dimensions, the entire approval is to be taken into consideration Z-21.3-1930
- <sup>1)</sup> 2 Nm, when the fixture is not mounted in the mortar bed
- <sup>2)</sup> Increased values shall apply when drilling in the rotary gear (no impact), in KSL, the outer edges of the brick must be at least 30mm thick (old bricks)
- <sup>3)</sup> Increased values apply to old masonry (1977) from vertically perforated bricks  $\geq$  HLz 12, when drilling in the rotary gear (no impact)
- \*) The distances may be reduced to value min, when the permissible loads are simultaneously decreased. Does not apply to Hbl and Hbn masonry
- \*\*) The required mortar quantity depends on the thickness of the fixture and therefore on the length of the through-hole perforated sleeve. The smaller value is for a fixture thickness of 0 mm - of the great value is the maximum fixture thickness of 200mm. Intermediate values can be interpolated
- \*\*\*) The suspension of a non-load bearing layer of up to 30 mm is permitted. The simultaneous reduction of the anchorage depth is allowed here



Threaded rods MCS Plus A - Application with perforated sleeve		M10	M12	M16
Type of the perforated sleeve MCS Plus H		18x130/200	18x130/200	22x130/200
Solid brick	$\geq$ Mz12 [kN]	1.7	1.7	1.7
Solid calcium silicate	$\geq$ KS 12 [kN]	1.7	1.7	1.7
Vertical perforated brick	$\geq$ HLz 4 [kN]	0.3 / 0.6 <sup>2</sup>	0.3 / 0.6 <sup>2</sup>	0.3 / 0.6 <sup>2</sup>
	$\geq$ HLz 6 [kN]	0.4 / 0.8 <sup>2</sup>	0.4 / 0.8 <sup>2</sup>	0.4 / 0.8 <sup>2</sup>
	$\geq$ HLz 12 [kN]	0.8 / 1.0 <sup>2</sup> / 1.6 <sup>3</sup>	0.8 / 1.0 <sup>2</sup> / 1.8 <sup>3</sup>	0.8 / 1.0 <sup>2</sup> / 1.8 <sup>3</sup>

Threaded rods MCS Plus A - Application with perforated sleeve		M10	M12	M16
Type of the perforated sleeve MCS Plus H		18x130/200	18x130/200	22x130/200
Perforated calcium silicate	$\geq$ KSL 4 [kN]	0.4 / 0.6 <sup>2</sup>	0.4 / 0.6 <sup>2</sup>	0.4 / 0.6 <sup>2</sup>
	$\geq$ KSL 6 [kN]	0.6 / 0.8 <sup>2</sup>	0.6 / 0.8 <sup>2</sup>	0.6 / 0.8 <sup>2</sup>
	$\geq$ KSL 12 [kN]	0.8 / 1.4 <sup>2</sup>	0.8 / 1.4 <sup>2</sup>	0.8 / 1.4 <sup>2</sup>
Hollow block made from lightweight concrete	$\geq$ Hbl 2 [kN]	0.3 / 0.5 <sup>2</sup>	0.3 / 0.5 <sup>2</sup>	0.3 / 0.5 <sup>2</sup>
	$\geq$ Hbl 4 [kN]	0.6 / 0.8 <sup>2</sup>	0.6 / 0.8 <sup>2</sup>	0.6 / 0.8 <sup>2</sup>
Hollow block made of concrete	$\geq$ Hbn 4 [kN]	0.6 / 0.8 <sup>2</sup>	0.6 / 0.8 <sup>2</sup>	0.6 / 0.8 <sup>2</sup>
Lightweight aggregate	TGL [kN]	1.3	2.0	2.0
Aerated concrete (see Performance data in aerated concrete Chemical mortar)				
Nominal drill diameter	Ø d 0 [mm]	18	18	22
Hole depth	min h 0 [mm]	135	135	135
Installation depth of the perforated sleeve	h s [mm]	130	130	130
Anchorage depth	h ef [mm]	130***	130***	130***
Minimum component thickness (for lightweight aggregate concrete TGL: 150)	d [mm]	150	150	150
Maximum permissible bending torque permissible M				
Permissible M for galvanized steel 5.8	gvz [Nm]	21.4	37.4	94.9
Permissible M stands for not rusting steel	A4 [Nm]	24.1	42.1	104.2
Installation parameters and dimensions				
Axial distance (dowel group) * (for Hbl and Hbn: 200) for lightweight aggregate concrete TGL: 150)	$\geq$ a [mm]	100	100	100
Wheelbase (for lightweight aggregate concrete TGL: 100)	min a [mm]	50	50	50
Minimum distance between (for M8 and M10 in lightweight aggregate concrete: 200)	a z [mm]	250	250	250
Margin distance (only Mz, KS, HLz, KSL, Hbl, Hbn)				
- for masonry or tipping with superimposed load and without detection on the free margin directed shearing (for Mz and KS: 60)	$\geq$ a r [mm]	50	50	50
- for masonry without superimposed load or tipping detection or the free margin directed shearing (for Mz and KS: 250)	$\geq$ a r [mm]	200	200	200
Margin distance (only lightweight aggregate concrete TGL)				
- without the free margin directed shearing	$\geq$ a r [mm]	150	150	150
- with the free margin directed shearing	$\geq$ a r [mm]	200	200	200
	min a r [mm]	100	100	100
Through hole in the fixture	d f [mm]	18	18	22
Maximum torque during fastening	T inst [mm]	4 <sup>1</sup>	4 <sup>1</sup>	4 <sup>1</sup>
Load capacity Chemical mortar	[Scale parts]	15-35**	15-35**	25-45**

## Performance data MCS Uni Plus in aerated concrete

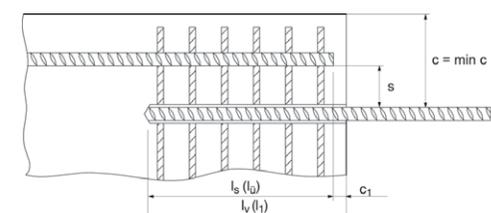
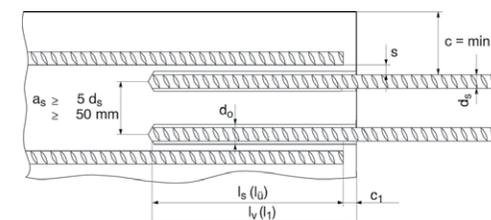
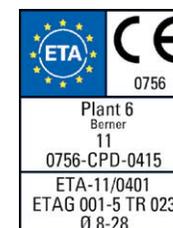


Anchor type		Threaded rod MCS Plus A	Threaded rod MCS Plus A	Female thread anchor MCS Plus I
Simply apply with centering sleeve		M8 / M10 / M12	M8 / M10 / M12	M6 / M8
Effective anchorage depth	h v [mm]	75	95	95
Assembly Data				
Hole depth	t $\geq$ [mm]	80	100	100
Nominal drill diameter	d 0 [mm]	14	14	14
Permissible loads F permissible [kN]				
Aerated cement blocks / aerated concrete blocks P2	F perm. [kN]	0.9	1.3	1.3

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Anchor type	Threaded rod MCS Plus A		
	Threaded rod MCS Plus A	Threaded rod MCS Plus A	Female thread anchor MCS Plus I
Simply apply with centering sleeve	M8 / M10 / M12	M8 / M10 / M12	M6 / M8
Aerated cement blocks / aerated concrete blocks P4	F perm. [kN] 1.2	1.7	1.7
Aerated cement blocks / aerated concrete blocks P6	F perm. [kN] 1.6	2.1	2.1
Reinforced and unreinforced wall panels G2.2	F perm. [kN] 0.9	1.4	1.4
Reinforced and unreinforced wall panels G3.3	F perm. [kN] 1.2	1.6	1.6
Reinforced and unreinforced wall panels G4.4	F perm. [kN] 1.4	1.9	1.9
High reinforced bullet wall panels G3.3	F perm. [kN] 1.2	1.6	1.6
High reinforced bullet wall panels G4.4	F perm. [kN] 1.4	1.9	1.9
Reinforced roof and ceiling tiles G2.2 <sup>1</sup>	F perm. [kN] 0.9	1.4	1.4
Reinforced roof and ceiling tiles G3.3 <sup>1</sup>	F perm. [kN] 1.2	1.6	1.6
Reinforced roof and ceiling tiles G4.4 <sup>1</sup>	F perm. [kN] 1.4	1.9	1.9
Permissible load per pair anchor	F perm. [kN] 2.6	2.6	2.6
<b>Component dimensions and mounting parameters</b>			
Minimum distance between	a z [mm] 250	250	250
Axial distance (dowel group) <sup>2</sup>	a >= [mm] 200	250	250
Axial distance (dowel group) <sup>2</sup>	min a [mm] 50	50	50
Mgin distance	a r >= [mm] 200	300	300
Mgin distanceunter under special conditions <sup>3</sup>	a r >= [mm] 100	150	150
Minimum component thickness	d [mm] 110	110	110
Through hole in the fixture	d f [mm] 9 / 12 / 14	9 / 12 / 14	7 / 9
Screw-in depth of the mounting screw	min s [mm] -	-	6 / 8
Screw-in depth of the mounting screw	max s [mm] -	-	60 / 60
Installation torque	T inst [Nm] 5 / 10 / 10	5 / 10 / 10	5 / 5
Filling quantity of chemical mortar	[Scale parts] 15	20	20

## Post-installed rebar connections with injection mortar MCS Uni Plus



Rebar size			Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 20	Ø 25	Ø 28
Steel grade	f <sub>yk</sub>	[N/mm <sup>2</sup> ]	500	500	500	500	500	500	500	500
Steel grade	f <sub>uk</sub>	[N/mm <sup>2</sup> ]	550	550	550	550	550	550	550	550
Basic value for the required anchorage length C20/25 <sup>23*</sup>	b <sub>r,qd</sub>	[mm]	379	472	567	661	756	945	1181	1323
Maximum design resistant tension load N Rd,s <sup>1</sup> of a single rebar at full steel capacity	Rd,s	[kN]	21.9	34.1	49.2	66.9	87.4	136.6	213.4	267.7
Maximum permissible tension load N perm,s <sup>1</sup> of a single rebar at full steel capacity	zul,s	[kN]	15.6	24.4	35.1	47.8	62.4	97.6	152.4	191.2
<b>Mounting parameters</b>										
Drill hole diameters	d <sub>0</sub>	[mm]	12	14	16	18	20	25	30	35
Maximum permissible embedment depth	lv	[mm]	1800	1800	1800	1800	1800	1800	2000	2000
Required mortar volume per 100 mm		[Skalenteile]	4.2	5.0	5.6	6.4	7.3	11.1	13.0	20.6

## Compound mortar MCS Uni Plus WE Winter/Express

- High security through authorization at ambient temperature to -10 °C, reduced curing times allow faster final assembly in the low temperature range
- With ETA-approval Option 1 for anchoring in cracked (M10 - M30) and non-cracked (M6 - M30) concrete, ETA for anchoring in masonry and aerated concrete.
- Fire resistance classification R120 in concrete and masonry.
- Approved for anchoring of sizes M12 - M30 in water flooded holes (ETA Option 1).
- High load performance in all approvals ensure a high level of safety for the fixation.
- Highest mortar yield by optimized 410ml cartridge

### Application Area

- Special styrene-free hybrid mortar with reduced curing time for usage in low temperatures
- Authorized with ETA approvals for anchoring to -10°C, applicable to -15°C outside the approvals.

### Processing Information

- Cartridge temperature must be at least amount to +5 ° C
- 1 scale division = 2ml
- For bricks drill rotary



Canopies



Railings



Doors/Gates



Awnings



## Hints

- For more technical data request approval and use Berner Calculation Software
- Not part of approval for post-installed rebar connections

Title	Cartridge content	Content Of Cartridge In Scale Marking	Color	PU Cartridge
MORTAR MCS UNI PLUS WE 410 ML	410 ml	205 Scale unit	Nature	1/12

Article No.

177824

AGR: 05.601

### Necessary Accessories

	PU Amount	Article No.
Nozzle mixer for MCS Uni Plus/Diamond 390ml	10	184393

### Accessories Available

	PU Piece	Article No.
MVS 2-component standard application gun	1	908312

## Starter Set MCS Premium

Title	PU Assortment	Article No.
STARTERSET MCS UNI PLUS	1	039329
<b>AGR: 05.600</b>		
Scope Of Supply	Amount	Article No.
Chemical Mortar MCS Uni Plus 410 ml	15	177823
MVS 2-component standard application gun	1	908312
Nozzle for MCS Uni Plus	15	080621



## Nozzle mixer for MCS Uni Plus

- Ensures a homogeneous mixture of the components

### Application Area

- For 2-component mortar MCS Uni Plus/MCS Uni Plus Winter/Express



Title	PU Piece	Article No.
Nozzle mixer for MCS Uni Plus	1/10	080621
AGR: 05.604		

## Bera Clic+2 MCS Premium

- If no dovel is sufficient. Everything immediately ready for a tension-free anchoring in all solid building materials and cavity materials

### Characteristics

- The BERA CLIC+ case size 2 contains everything, from the composite mortar to the injection gun, which is needed for a chemical fastening



Title	PU Assortment	Article No.
BC+2 MCS UNI PLUS	1	103190
<b>AGR: 07.211</b>		
<b>Scope Of Supply</b>		
MVS 2-component standard application gun	1	908312
Chemical Mortar MCS Uni Plus 410 ml	2	177823
Drill Hole Blower small	1	831867
Anchor sleeve MCS Plus H	20	080538
Nozzle mixer for MCS Uni Plus/Diamond 390ml	1	184393
Hammer drill bit SUPERSpeed II SDS-plus 16x150/210	1	213581
Hammer drill bit SUPERSpeed II SDS-plus 14x150/210	1	213572
Bera Clic+ system case sz. 2	1	102545
BERA CLIC+ BERA CLIC+ MULTICOMPOUND System for Inlet	1	102563
BERA CLIC+ Cushion Lids	1	104057
<b>Spare Parts</b>		
Bera Clic+ system case sz. 2	1	102545
BERA CLIC+ Cushion Lids	1	104057
BERA CLIC+ BERA CLIC+ MULTICOMPOUND System for Inlet	1	102563

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## Anchor Rods MCS Plus A ZI

- Approved anchor rod for drawing approval compliant fixings in concrete and masonry.



## Chemical fixing

- Variable anchoring depths of the anchor rods and thereby different clamping strengths allow optimal flexibility

### Processing Information

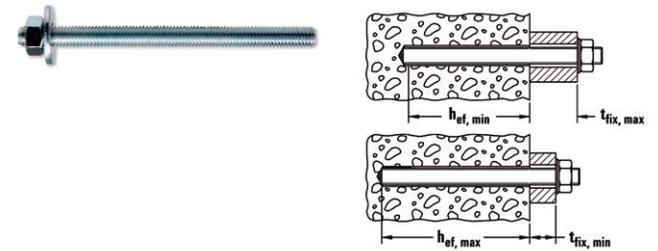
- The performance and installation data, please check the data of the respective composite mortar system

### Scope Of Delivery

- Anchor rod with nuts and washers

### Technical Data

Material	Steel electrogalvanized [2]
Strength class	5.8



Title	Dimension	PU Piece	Article No.
Threaded rod MCS Plus A ZP	8 x 90 mm	10	080543
Threaded rod MCS Plus A ZP	8 x 110 mm	10	080544
Threaded rod MCS Plus A ZP	8 x 130 mm	10	080545
Threaded rod MCS Plus A ZP	10 x 110 mm	10	080571
Threaded rod MCS Plus A ZP	10 x 130 mm	10	080553
Threaded rod MCS Plus A ZP	10 x 150 mm	10	080554
Threaded rod MCS Plus A ZP	10 x 200 mm	10	080555
Threaded rod MCS Plus A ZP	12 x 140 mm	10	080556
Threaded rod MCS Plus A ZP	12 x 160 mm	10	081300
Threaded rod MCS Plus A ZP	12 x 180 mm	10	080557
Threaded rod MCS Plus A ZP	12 x 210 mm	10	080558
Threaded rod MCS Plus A ZP	16 x 175 mm	10	080560
Threaded rod MCS Plus A ZP	16 x 200 mm	10	080561
Threaded rod MCS Plus A ZP	16 x 250 mm	10	080562
Threaded rod MCS Plus A ZP	16 x 300 mm	10	080563

AGR: 05.602

## Anchor Rod MCS Plus A A4

- Approved anchor rod for drawing approval compliant fixings in concrete and masonry.



- Variable anchoring depths of the anchor rods and thereby different clamping strengths allow optimal flexibility

## Processing Information

- The performance and installation data please the data of the respective composite mortar system found

## Hints

- 1 Division (cartridge) = 2 ml

## Scope Of Delivery

- Anchor rod with nuts and washers

## Technical Data

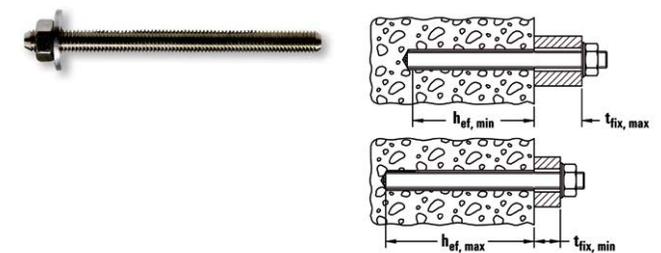
Material Stainless Steel A4

Title	Dimension	PU Piece	Article No.
Threaded rod MCS Plus A A4	8 x 110 mm	10	080566
Threaded rod MCS Plus A A4	10 x 130 mm	10	080567
Threaded rod MCS Plus A A4	12 x 160 mm	10	080568
Threaded rod MCS Plus A A4	16 x 200 mm	10	080569

AGR: 05.602

## Internal Threaded Sleeve MCS Plus I for Concrete

- Multiple attaching and detaching or flush-mounted dismantling of the attachment is possible
- Suitable for common types of metric screws and threaded rods for a wide range of applications
- High-performance mortar with European Technical Approval Option 7 guarantees high loads in non-cracked concrete
- In conjunction with internal threaded sleeves M 8 and M 12, can also be used for solvable connections
- Tension-free anchoring in the underground allows small edge and centre distances
- Sealing of the borehole prevents water damage in reinforcement proximity



Plant constructions



Constructions made of steel



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## Chemical fixing

- Suitable for use in wet concrete and in water-filled boreholes

### Application Area

- For approved chemical anchoring of medium and heavy loads in indoor areas, combined with chemical mortars MCS or compound anchor BCA

### Characteristics

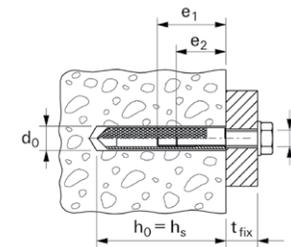
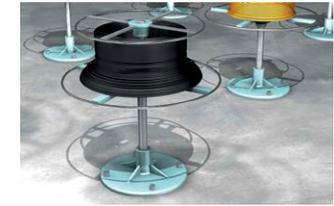
- Internal threaded anchor made of zinc-plated steel

### Processing Information

- Push in internal thread sleeve by hand, by twisting slightly, until it reaches the bottom of the drilled hole.  
1 division (cartridge) = 2 ml

### Hints

- For more technical data request the approval and use Berner Calculation Software



Title	Dimension	For threaded diameter from - to	Drill hole-Ø	Screw-in depth min - max	Min. Filling Volume	Suitable for cartridge	PU Piece	Article No.
Internal threaded anchor MCS Plus I	12 x 90 mm	M 8	14 mm	12 - 18 mm	5 Scale unit	BCA II M10	10	080526
Internal threaded anchor MCS Plus I	16 x 90 mm	M 10	18 mm	15 - 23 mm	7 Scale unit	BCA II M12	10	080528
Internal threaded anchor MCS Plus I	18 x 125 mm	M 12	20 mm	18 - 26 mm	11 Scale unit	BCA II M16	10	080529

AGR: 05.603

## Internal Threaded Sleeves MCS Plus E for Masonry

- General building approval for masonry in connection with Berner Chemical Mortar MCS Uni Plus
- Repeated fastening and loosening or removing of the surface-flush fixture is possible
- Suitable for standard metric bolts and threaded rods for a wide range of applications

### Characteristics

- Internal sleeve made of zinc plated steel



## Processing Information

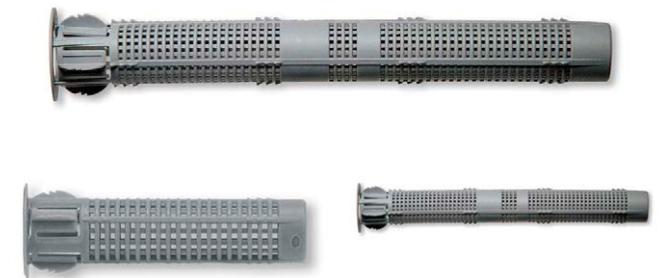
- Push the inner thread sleeves by hand under slight rotary movement until the screen sleeve base  
Can be used in solid brickwork without screen sleeve  
1 graduation (cartridge) = 2 ml  
For the purpose of conforming to the approval, please take note of the performance and assembly data of the respective composite mortar system

Title	Dimension	For threaded diameter from - to	Screw-in depth min - max	Min. Filling Volume	Suitable For Plastic Perforated Sleeve	PU Piece	Article No.
Internal threaded anchor MCS Plus E	11 x 85 mm	M 6	6 - 60 mm	12 Scale unit	MCS Plus H 16 x 85 / 20 x 85	10	080531
Internal threaded anchor MCS Plus E	11 x 85 mm	M 8	8 - 60 mm	12 Scale unit	MCS Plus H 16 x 85 / 20 x 85	10	080533
Internal threaded anchor MCS Plus E	15 x 85 mm	M 10	10 - 60 mm	15 Scale unit	MCS Plus H 20 X 85	10	080534
Internal threaded anchor MCS Plus E	15 x 85 mm	M 12	12 - 60 mm	15 Scale unit	MCS Plus H 20 X 85	10	080535

AGR: 05.603

## Perforated Sleeve MCS Plus H

- General Technical Approval for use in masonry chemical mortar in connection with Berner MCS Uni Plus and anchor rods MCS Plus A and female thread sleeves MCS Plus E
- Optimized lattice structure for economical use of mortar
- Centering align the threaded rod from ideal in the perforated sleeve and prevent them from slipping out for overhead mounting
- Edge of the perforated sleeve prevents anchor from slipping deeper into the hole and covers the same time from the bore hole
- Bypass non-bearing layers up to 100 mm



## Characteristics

- Perforated sleeves are made of durable nylon

## Processing Information

- 1 graduation (cartridge) = 2 ml  
For the approval-conforming processing, please pay attention to the performance and assembly data of the respective composite mortar system



Title	Sleeve external-Ø x length	Drill hole-Ø	Embedm. depth	Min. Filling Volume	For threaded diameter from - to	For internal thread anchor	PU Piece	Article No.
Anchor sleeve MCS Plus H	12 x 50 mm	12 mm	50 mm	5 Scale unit	M 6 - M 8	-	50	080536
Anchor sleeve MCS Plus H	12 x 85 mm	12 mm	85 mm	10 Scale unit	M 6 - M 8	-	50	080537
Anchor sleeve MCS Plus H	16 x 85 mm	16 mm	85 mm	12 Scale unit	M 8 - M 10	M 6 - M 8	50	080538
Anchor sleeve MCS Plus H	16 x 130 mm	16 mm	130 mm	15 Scale unit	M 8 - M 10	M 6 - M 8	20	080539
Anchor sleeve MCS Plus H	20 x 85 mm	20 mm	85 mm	15 Scale unit	M 12 - M 16	M 10 - M 12	20	080540
Anchor sleeve MCS Plus H	20 x 130 mm	20 mm	130 mm	25 Scale unit	M 12 - M 16	M 10 - M 12	20	080541
Anchor sleeve MCS Plus H	20 x 200 mm	20 mm	200 mm	40 Scale unit	M 12 - M 16	M 10 - M 12	20	080542

AGR: 05.603

## Through-Hole Perforated Sleeve MCS Plus H

- General building approval for use in masonry chemical mortar in content with Berner MCS Uni Plus and anchor rods MCS Plus A
- Problem solver for the through-hole mounting of bulky attachments with multiple attachment points. The fixture must no longer be removed from the wall during mounting
- High flexibility due variable clamping thicknesses from 20 - 200 mm. Simple adjustment to the application by cutting off the through-hole perforated sleeve. The anchor rod MCS Plus A can be shortened to the desired length
- Movable edge is moved before cutting to the desired thickness of the fixture, covering the borehole neatly



### Characteristics

- Perforated sleeves made of durable nylon

### Processing Information

- 1 graduation (cartridge) = 2 ml
- For the approval-conforming processing, please pay attention to the performance and assembly data of the respective composite mortar system

Title	Sleeve external-Ø x length	Drill hole-Ø	Max. usable length	Embedm. depth	Min. Filling Volume	For threaded diameter from - to	PU Piece	Article No.
Anchor sleeve MCS Plus H	18 x 330 mm	18 mm	200 mm	130 mm	35 Scale unit	M 10 - M 12	10	080619
Anchor sleeve MCS Plus H	22 x 330 mm	22 mm	200 mm	130 mm	45 Scale unit	M 16	10	080620

AGR: 05.603

## Accessories for Aerated Concrete

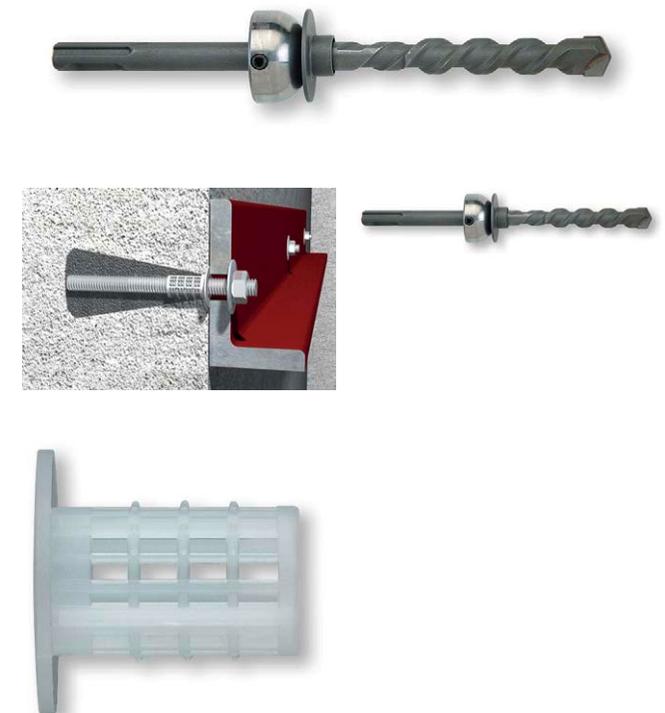
- General construction approval in connection with MCS Berner mortar and anchor rods MCS Uni Plus and Plus A
- High flexibility through two approved anchorage depths
- Easy and fast creation of undercut drill hole with the cone MCS Plus PBB
- Centering sleeve MCS Plus PBZ centres the fixing element and provides for overhead mounting
- Compound mortar MCS Uni Plus fixes the anchor rod. This achieves better power transfer in aerated concrete than in cylindrical bore holes

### Processing Information

- For the approval-conforming processing, please pay attention to the performance and assembly data of the respective composite mortar system

### Hints

- Adjustable drilling depth at the tapered drill: 50 mm, 80 mm, 100 mm
- Drilling diameter: 14.2 mm



Title	PU Piece	Article No.
Centring sleeve MCS Plus PBZ	10	080628
Cone drill MCS Plus PBB	1	080629

AGR: 05.604



## Injection mortar MCS Diamond

- European Technical Assessment Option 1 for cracked and non-cracked concrete on highest load level with threaded rods MCS Plus A M8 - M30 and with commercial threaded rods with inspection certificate 3.1
- ETA Assessment includes the usage in earthquake zones with seismic performance level C1 and C2
- European Technical Approval for post-installed rebar connections  $\varnothing$  8 - 40 mm as well as fire resistance class R180.
- Approved for hammer- and diamond-drilled bore holes.
- Due to longer processing time, MCS Diamond is especially suited for serial application and rebar connection with high filling volume and under high temperature.
- Also suitable for underwater installations.

### Application Area

- Approved for anchoring of e.g railings, steel constructions, high-bay rackings, soundproof walls in cracked and non-cracked concrete C20/25 to C50/60 as well as of post-installed reinforcement connections
- Also suitable for natural stone with dense structure

### Characteristics

- High-quality 2-component injection mortar based on epoxy resin

### Hints

- For more technical data please request approval and use Berner Calculation Software



Railings



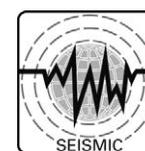
Heavy duty rail systems



Post-installed rebar connections



Bridge reconstructions



for rebar

Title	Cartridge content	Content Of Cartridge In Scale Marking	Color	PU Cartridge
MCS Diamond	390 ml	180 Scale unit	Grey	1/6
MORTAR MCS DIAMOND 585 ML	585 ml	270 Scale unit	Grey	1/6

Article No.

114861

143505

AGR: 05.601

Necessary Accessories	PU Amount	Article No.
Nozzle mixer for MCS Uni Plus/Diamond 390ml	10	184393
NOZZLE S FOR MCS DIAMOND 585ML	1/10	143459
Accessories Available	PU Amount	Article No.
MCS DIA. APPLICATION GUN 585ML	1	147595
MCS DIAMOND APPLICATION GUN	1	134907

## Rebar Case MCS

- Complete system for the professional design of post-installed rebar

### Application Area

- Post-installed rebar connections with Berner injection mortar MCS Diamond

### Characteristics

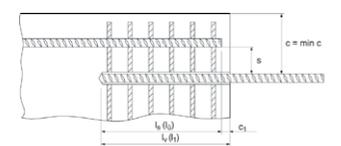
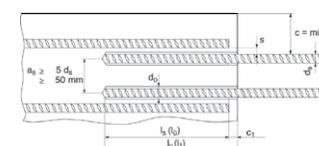
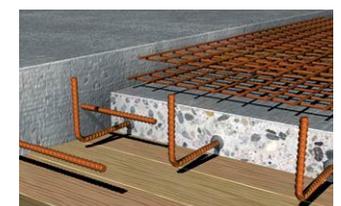
- European Technical Approval for rebar connections in conjunction with composite mortar MCS and MCS Uni Diamond Plus
- Technical Approvals for post-installed rebar connections with MCS and MCS Uni Diamond Plus

### Hints

- Proof of purchase of the Berner's Rebar suitcase is a prerequisite for obtaining a qualification certificate for the production of subsequent reinforcement connections to the Berner's composite mortar system MCS

### Scope Of Delivery

- 8 x cleaning brush,
- 5 x extensions for a cleaning brush '42 cm
- 1 x SDS recording with internal thread M 8
- 24 x Injectors
- 2 x extension tube  $\varnothing 9$  a '1000 mm
- 1 x cleaning hose complete with gun
- 1 x Brush control template
- 2 x cleaning nozzle for drill  $\varnothing 12 - \varnothing 15$
- 2 x cleaning nozzle for drill  $\varnothing 16 - \varnothing 19$
- 2 x cleaning nozzle for drill  $\varnothing 20 - \varnothing 25$
- 2 x cleaning nozzle for drill  $\varnothing 30 - \varnothing 35$



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## Chemical fixing

- 1 x marking tape
- 1 x Installation Instruction
- 10 x reset protocol
- 2 x end wrench SW7
- 1 x Goggles
- 1 x Thermometer
- 1x marker pen
- 1 x European Technical Approval
- 1 x General Approval



Title	PU Box	Article No.
MCS Rebar Case	1	114864*

\* = The delivery time is 30 days

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## Drilling aid for post-installed reinforcement

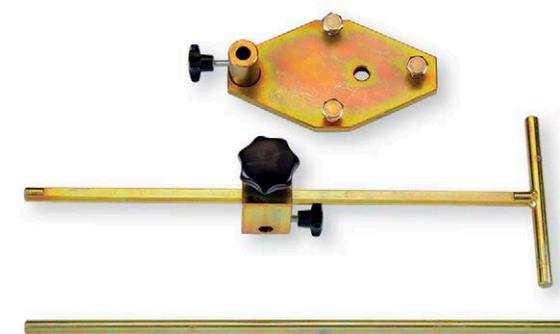
- The use of the drill guide facilitates compliance with the drilling direction and thus enables the reduction of edge distances

### Application Area

- For the officially approved production of subsequent rebar connections with composite mortar MULTICOMPOUNDsystem Diamond and MULTICOMPOUNDsystem Uni Plus

### Hints

- Necessary accessories for the production of overlap connections
- The approved production requires a proof of suitability of the operating company. Information to our seminar program can be found on our website



Title	PU Piece	Article No.
Drilling aid for rebar application	1	143401

AGR: 05.604

## Compressed Air Cleaning Hose

- Complete range of accessories for the construction of subsequent rebar connections for a rod diameter of 8 - 40mm
- Practical color coding system simplifies the assignment of components to the correct rod diameter

### Application Area

- Borehole cleaning
- For the officially approved production of subsequent rebar connections with composite mortar MULTICOMPOUNDsystem Diamond and MULTICOMPOUNDsystem Uni Plus

### Characteristics

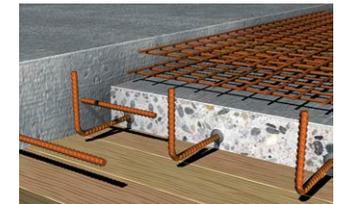
- With screw thread to unscrew the compressed air nozzles

### Processing Information

- Approvals for post-installed rebar connections oblige a borehole cleaning with oil-free compressed air of min. 6 bar

### Hints

- The approved production requires a proof of suitability of the operating company. Information to our seminar program can be found on our website



Title	PU Piece	Article No.
COMPRESSED AIR CLEANING HOSE	1	143400

AGR: 05.604

## Compressed Air Nozzle

- Provides targeted blowing out the holes, especially on the wall for optimum bond between the borehole wall and composite mortar

### Application Area

- For hole cleaning in conjunction with compressed air cleaning hose.

Title	For drill hole-Ø	PU Piece	Article No.
Compressed Air Nozzle	12 - 15 mm	2	143430
Compressed Air Nozzle	16 - 19 mm	2	143431
Compressed Air Nozzle	20 - 25 mm	2	143432
Compressed Air Nozzle	30 - 35 mm	2	143433
Compressed Air Nozzle	40 - 55 mm	2	143434

AGR: 05.604



## Injection support

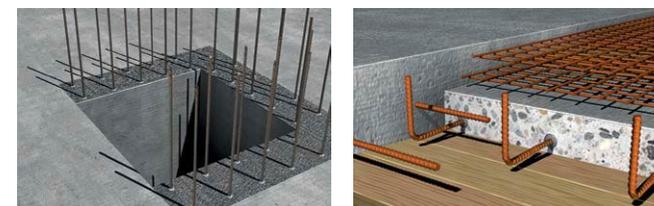
- Enable simple and bubble-free injecting of the composite mortar without air inclusions
- Complete range of accessories for the construction of subsequent rebar connections for a rod diameter of 8 - 40mm
- Practical color coding system simplifies the assignment of components to the correct rod diameter

### Application Area

- For the officially approved production of subsequent rebar connections with composite mortar MULTICOMPOUNDsystem Diamond and MULTICOMPOUNDsystem Uni Plus

### Hints

- The approved production requires a proof of suitability of the operating company. Information to our seminar program can be found on our website



Title	Drill hole-Ø	Color	Extension Hose Ø	PU Piece	Article No.
INJECT.DRILL Ø12 WHITE (Ø 9)	12 mm	White	9 mm	10	143404
INJECT.DRILL Ø14 BLUE (Ø 9)	14 mm	Blue	9 mm	10	143405
INJECT.DRILL Ø16 RED (Ø 9)	16 mm	Red	9 mm	10	143406
INJECT.DRILL Ø18 YELLOW (Ø 9)	18 mm	Yellow	9 mm	10	143407
INJECT.DRILL Ø20 GREEN (Ø 9)	20 mm	Green	9 mm	10	143413
INJECT.DRILL Ø20 GREEN (Ø15)	20 mm	Green	15 mm	10	143417
INJECT.DRILL Ø25 BLACK (Ø 9)	25 mm	black	9 mm	10	143418
INJECT.DRILL Ø25 BLACK (Ø15)	25 mm	black	15 mm	10	143419
INJECT.DRILL Ø30 GREY (Ø 9)	30 mm	Grey	9 mm	10	143420
INJECT.DRILL Ø30 GREY (Ø15)	30 mm	Grey	15 mm	10	143421
INJECT.DRILL Ø35 BROWN (Ø 9)	35 mm	Brown	9 mm	10	143422
INJECT.DRILL Ø35 BROWN (Ø 15)	35 mm	Brown	15 mm	10	143423
INJECT.DRILL Ø40 NEUTRAL (Ø 9)	40 mm	transparent-matt	9 mm	10	143424
INJECT.DRILL Ø40 NEUTRAL (Ø15)	40 mm	transparent-matt	15 mm	10	143425
INJECT.DRILL Ø45 NEUTRAL (Ø 9)	45 mm	transparent-matt	9 mm	10	143426
INJECT.DRILL Ø45 NEUTRAL (Ø15)	45 mm	transparent-matt	15 mm	10	143427
INJECT.DRILL Ø55 NEUTRAL (Ø 9)	55 mm	transparent-matt	9 mm	10	143428
INJECT.DRILL Ø55 NEUTRAL (Ø15)	55 mm	transparent-matt	15 mm	10	143429

AGR: 05.604

## Extension hose for MCS

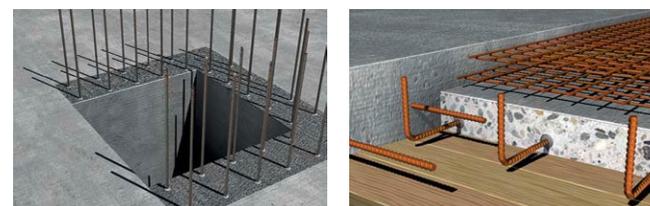
- Robust design simplifies the installation with larger anchoring depths
- Complete range of accessories for the construction of subsequent rebar connections for a rod diameter of 8 - 40mm
- Practical color coding system simplifies the assignment of components to the correct rod diameter

### Application Area

- For the officially approved production of subsequent rebar connections with composite mortar MULTICOMPOUNDsystem Diamond and MULTICOMPOUNDsystem Uni Plus

### Hints

- The approved production requires a proof of suitability of the operating company. Information to our seminar program can be found on our website



Title	For drill hole-Ø	Length	Extension Hose Ø	PU Piece	Article No.
MCS extension hose	10 - 55 mm	1000 mm	9 mm	10	143402
MCS extension hose	20 - 55 mm	10000 mm	15 mm	1	217825

AGR: 05.604

## Adaptor SDS with internal thread

- Complete range of accessories for the construction of subsequent rebar connections for a rod diameter of 8 - 40mm
- Practical color coding system simplifies the assignment of components to the correct rod diameter

### Hints

- SDS-holder for the brush extension and the brushes for borehole cleaning.
- The approved production requires a proof of suitability of the operating company. Information to our seminar program can be found on our website

### Technical Data

Material Steel

Title	Thread	PU Piece	Article No.
Adaptor SDS internal thread	M 8	2	143435

AGR: 05.604



## Extension rod for cleaning brush

- M8 screw thread for quick and easy tool change
- Complete range of accessories for the construction of subsequent rebar connections for a rod diameter of 8 - 40mm
- Practical color coding system simplifies the assignment of components to the correct rod diameter

### Application Area

- For the officially approved production of subsequent rebar connections with composite mortar MULTICOMPOUNDsystem Diamond and MULTICOMPOUNDsystem Uni Plus

### Hints

- The approved production requires a proof of suitability of the operating company. Information to our seminar program can be found on our website

### Technical Data

Material				Steel	
Title	Length	Thread	PU Piece	Article No.	
Extension rod for cleaning brush	420 mm	M 8	1	143398	

AGR: 05.604

## MCS cleaning brush with connection thread M 8

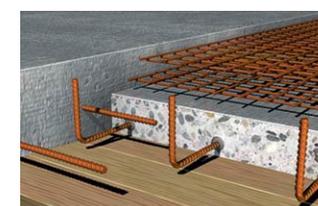
- Complete range of accessories for the construction of subsequent rebar connections for a rod diameter of 8 - 40mm
- Practical color coding system simplifies the assignment of components to the correct rod diameter

### Application Area

- For mechanical cleaning of the hole by means of
- SDS-plus hammer drill in conjunction with
- SDS-plus shank and Renewals

### Hints

- The approved production requires a proof of suitability of the operating company. Information to our seminar program can be found on our website



## Technical Data

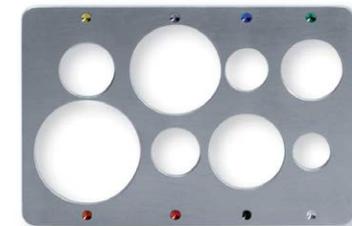
Material Steel

Title	For drill hole-Ø	Length	Color	Thread	PU Piece	Article No.
BRUSH FOR DRILL Ø 12 MM	12 mm	180 mm	White	M 8	1	143436
BRUSH FOR DRILL Ø 14 MM	14 mm	180 mm	Blue	M 8	1	143383
BRUSH FOR DRILL Ø 16 MM	16 mm	180 mm	Red	M 8	1	143389
BRUSH FOR DRILL Ø 18 MM	18 mm	180 mm	Yellow	M 8	1	143390
BRUSH FOR DRILL Ø 20 MM	20 mm	180 mm	Green	M 8	1	143391
BRUSH FOR DRILL Ø 25 MM	25 mm	180 mm	black	M 8	1	143392
BRUSH FOR DRILL Ø 30 MM	30 mm	180 mm	Grey	M 8	1	143393
BRUSH FOR DRILL Ø 35 MM	35 mm	180 mm	Brown	M 8	1	143394
BRUSH FOR DRILL Ø 40 MM	40 mm	180 mm	black	M 8	1	143395
BRUSH FOR DRILL Ø 45 MM	45 mm	180 mm	black	M 8	1	143396
BRUSH FOR DRILL Ø 55 MM	55 mm	180 mm	black	M 8	1	143397

AGR: 05.604

## Brush control template

- Complete range of accessories for the construction of subsequent rebar connections for a rod diameter of 8 - 40mm
- Practical color coding system simplifies the assignment of components to the correct rod diameter



## Application Area

- For quick and easy wear control of the MCS Reinigungsbürsten with color coding system

## Hints

- The approved production requires a proof of suitability of the operating company. Information to our seminar program can be found on our website

## Technical Data

Material Aluminium

Title	For drill hole-Ø	PU Piece	Article No.
EMPLATE F. CHECKING BRUSH WEAR	12 - 35 mm	1	143399

AGR: 05.604



## Application guns for MCS Diamond

### Hints

- Professional dispensing guns for side-by-side cartridges Multicomponent System Diamond
- Ergonomic manual application gun for fatigue-free working
- Pneumatic injection gun for quick and easy work progress, even in high volume applications and anchoring depths, e.g. when used for post-installed rebar connections



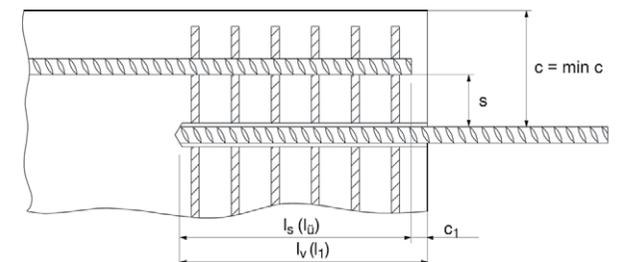
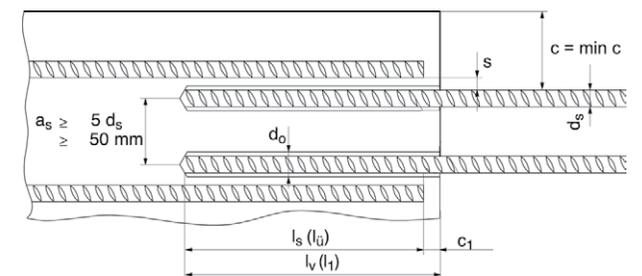
Title	PU Piece	Article No.
MCS DIA. APPLICATION GUN 585ML	1	147595
MCS DIAMOND APPLICATION GUN	1	134907

AGR: 05.604

## Post-installed rebar connections with injection mortar MCS Diamond

### Hints

- Highest permissible loads<sup>1</sup> of a single rebar post-installed with injection mortar MCS Diamond
- When measuring, follow the European Technical Approval ETA-11/0077 precisely
- <sup>1</sup>) In the EN 1992-1-1 the partial safety factors for resistance and the partial safety factors for load with  $\gamma_F = 1,4$  are considered
- <sup>2</sup>) The ETA approval includes the use in concrete C12/15 to C50/60
- <sup>3</sup>) For higher strengths of concrete  $\geq C25/30$  is the base of anchor length  $l_b, r_{qd}$  accordingly reduced. For strengths of concrete  $\geq C12/15$  and  $< C20/25$  is the base of anchor length  $l_b, r_{qd}$  accordingly increased
- \*) The values are valid for hammer drilling and diamond drilling. In the EN 1992-1-1 (EC2) specified lower limit for  $l_b, \min$  and  $l_o, \min$  has to be multiplied with a factor 1,3 in diamond drilled holes



Post-installed rebar connection with injection mortar MCS Diamond												
Rebar size	d s [mm]	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 20	Ø 25	Ø 28	Ø 32	Ø 36	Ø 40
Steel grade	f <sub>yk</sub> [N/mm <sup>2</sup> ]	500	500	500	500	500	500	500	500	500	500	500
	f <sub>uk</sub> [N/mm <sup>2</sup> ]	550	550	550	550	550	550	550	550	550	550	550
Basic value for the required anchorage length C20/25 <sup>23*</sup>	l <sub>b, reqd</sub> [mm]	379	472	567	661	756	945	1181	1323	1510	1700	1890
Maximum design resistant tension load N <sub>Rd,s</sub> <sup>1</sup> of a single rebar at full steel capacity	N <sub>Rd, s</sub> [kN]	21,9	34,1	49,2	66,9	87,4	136,6	213,4	267,7	349,7	442,6	546,4
Maximum permissible tension load N <sub>perm,s</sub> <sup>1</sup> of a single rebar at full steel capacity	N <sub>zul, s</sub> [kN]	15,6	24,4	35,1	47,8	62,4	97,6	152,4	191,2	249,8	316,1	390,3
Mounting parameters												
Drill hole diameters	d <sub>0</sub> [mm]	12	14	16	18	20	25	30	35	40	46	50
Maximum permissible embedment depth	max l <sub>v</sub> [mm]	1800	1800	1800	1800	1800	1800	2000	2000	2000	2000	2000
Required mortar volume per 100 mm	[Scale units]	4,2	5,0	5,6	6,4	7,3	11,1	13,0	20,6	27,0	34,0	42,0

## Anchor Rods MCS Plus A ZI

- Approved anchor rod for drawing approval compliant fixings in concrete and masonry.
- Variable anchoring depths of the anchor rods and thereby different clamping strengths allow optimal flexibility

### Processing Information

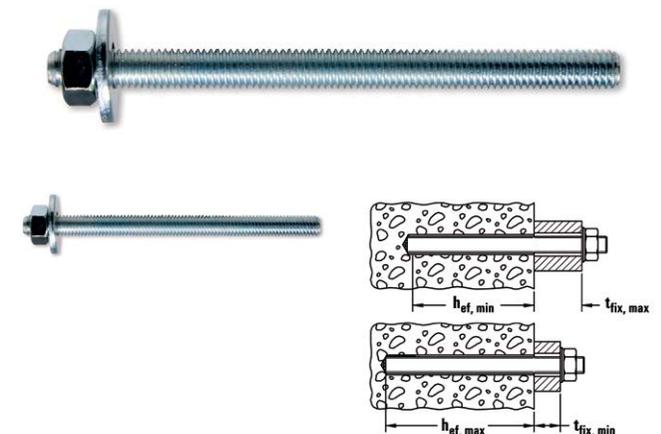
- The performance and installation data, please check the data of the respective composite mortar system

### Scope Of Delivery

- Anchor rod with nuts and washers

### Technical Data

Material	Steel electrogalvanized [2]
Strength class	5.8



Title	Dimension	PU Piece	Article No.
Threaded rod MCS Plus A ZP	8 x 90 mm	10	080543
Threaded rod MCS Plus A ZP	8 x 110 mm	10	080544
Threaded rod MCS Plus A ZP	8 x 130 mm	10	080545
Threaded rod MCS Plus A ZP	10 x 110 mm	10	080571
Threaded rod MCS Plus A ZP	10 x 130 mm	10	080553
Threaded rod MCS Plus A ZP	10 x 150 mm	10	080554
Threaded rod MCS Plus A ZP	10 x 200 mm	10	080555
Threaded rod MCS Plus A ZP	12 x 140 mm	10	080556
Threaded rod MCS Plus A ZP	12 x 160 mm	10	081300

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Title	Dimension	PU Piece	Article No.
Threaded rod MCS Plus A ZP	12 x 180 mm	10	080557
Threaded rod MCS Plus A ZP	12 x 210 mm	10	080558
Threaded rod MCS Plus A ZP	16 x 175 mm	10	080560
Threaded rod MCS Plus A ZP	16 x 200 mm	10	080561
Threaded rod MCS Plus A ZP	16 x 250 mm	10	080562
Threaded rod MCS Plus A ZP	16 x 300 mm	10	080563

AGR: 05.602

## Anchor Rod MCS Plus A A4

- Approved anchor rod for drawing approval compliant fixings in concrete and masonry.
- Variable anchoring depths of the anchor rods and thereby different clamping strengths allow optimal flexibility

### Processing Information

- The performance and installation data please the data of the respective composite mortar system found

### Hints

- 1 Division (cartridge) = 2 ml

### Scope Of Delivery

- Anchor rod with nuts and washers

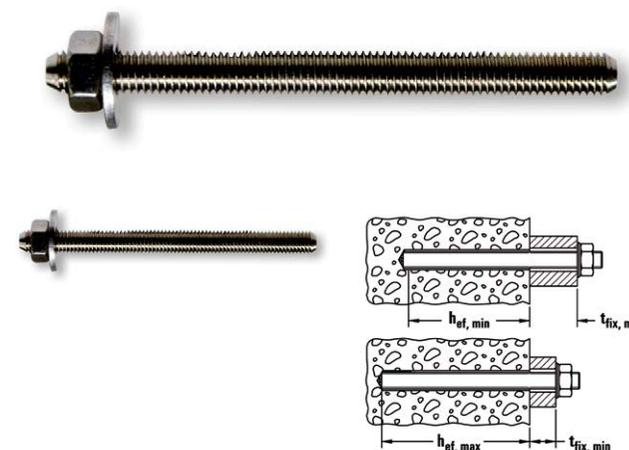
### Technical Data

Material Stainless Steel A4

Title	Dimension	PU Piece	Article No.
Threaded rod MCS Plus A A4	8 x 110 mm	10	080566
Threaded rod MCS Plus A A4	10 x 130 mm	10	080567
Threaded rod MCS Plus A A4	12 x 160 mm	10	080568
Threaded rod MCS Plus A A4	16 x 200 mm	10	080569

AGR: 05.602

## Internal Threaded Sleeve MCS Plus I for Concrete



- Multiple attaching and detaching or flush-mounted dismantling of the attachment is possible
- Suitable for common types of metric screws and threaded rods for a wide range of applications
- High-performance mortar with European Technical Approval Option 7 guarantees high loads in non-cracked concrete
- In conjunction with internal threaded sleeves M 8 and M 12, can also be used for solvable connections
- Tension-free anchoring in the underground allows small edge and centre distances
- Sealing of the borehole prevents water damage in reinforcement proximity
- Suitable for use in wet concrete and in water-filled boreholes

## Application Area

- For approved chemical anchoring of medium and heavy loads in indoor areas, combined with chemical mortars MCS or compound anchor BCA

## Characteristics

- Internal threaded anchor made of zinc-plated steel

## Processing Information

- Push in internal thread sleeve by hand, by twisting slightly, until it reaches the bottom of the drilled hole.  
1 division (cartridge) = 2 ml

## Hints

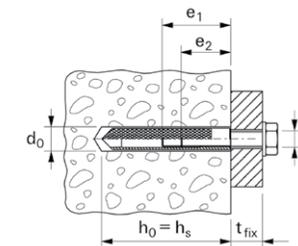
- For more technical data request the approval and use Berner Calculation Software



Plant constructions



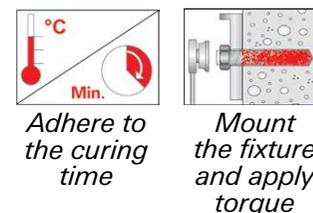
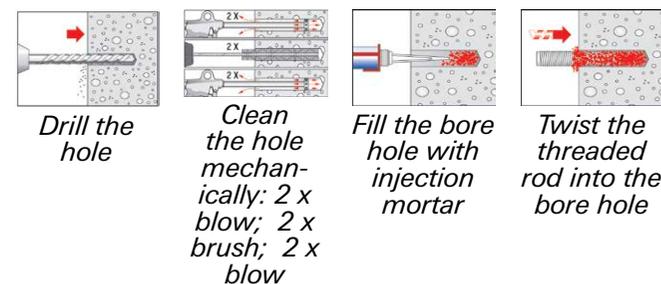
Constructions made of steel



Title	Dimension	For threaded diameter from - to	Drill hole-Ø	Screw-in depth min - max	Min. Filling Volume	Suitable for cartridge	PU Piece	Article No.
Internal threaded anchor MCS Plus I	12 x 90 mm	M 8	14 mm	12 - 18 mm	5 Scale unit	BCA II M10	10	080526
Internal threaded anchor MCS Plus I	16 x 90 mm	M 10	18 mm	15 - 23 mm	7 Scale unit	BCA II M12	10	080528
Internal threaded anchor MCS Plus I	18 x 125 mm	M 12	20 mm	18 - 26 mm	11 Scale unit	BCA II M16	10	080529

AGR: 05.603

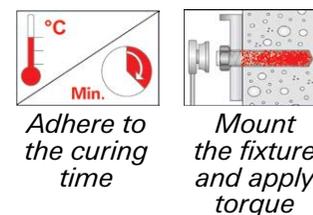
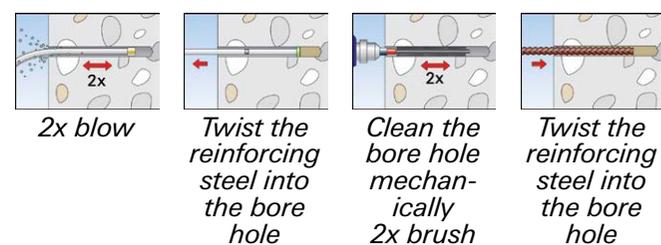
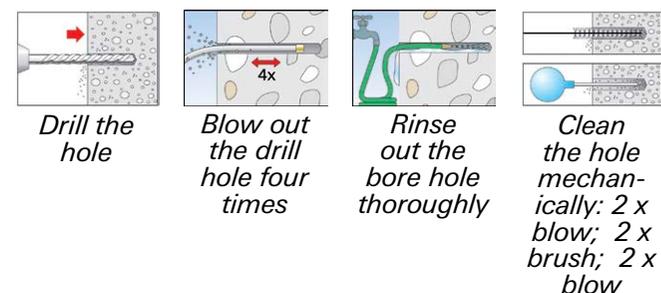
## Installation instruction MCS Diamond in concrete



## Installation instruction for concrete and masonry

### Hints

- Blow out the drill hole four times from bottom with a suitable cleaning nozzle (oil-free compressed air, at least 6 bar)



## Anchor rod standard zinc plated

### Characteristics

- Version steel, yellow galvanized

### Scope Of Delivery

- Complete, including nut and washer

### Technical Data

Material	Steel
Strength class	4.6

Title	Dimension	Max. usable length	Anchoring depth	PU Piece	Article No.
THREADED ROD M 8X110 ZP	8 x 110 mm	20 mm	80 mm	10	914169
THREADED ROD M 10X110 ZP	10 x 110 mm	10 mm	90 mm	10	914185
THREADED ROD M 10X130 ZP	10 x 130 mm	30 mm	90 mm	10	914193
THREADED ROD M 12X130 ZP	12 x 130 mm	20 mm	100 mm	10	914215
THREADED ROD M 12X160 ZP	12 x 160 mm	40 mm	110 mm	10	821179

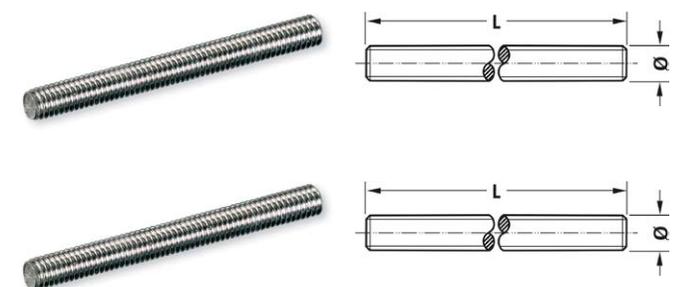
AGR: 05.602

## DIN 976-1, shape A, steel 4.8, zinc plated, 1 meter

- x
  -
- ### Characteristics
- Shape A = without crests

### Hints

- Former DIN 975



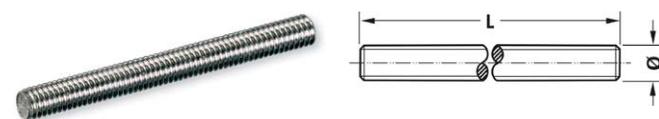
DIN 976-1, shape A, steel 4.8, zinc plated, 1 meter					
Title	Thread	Thread Pitch mm	Length	PU Piece	Article No.
Threaded rod	M 2	0.4 mm	1 m	1	126913*
Threaded rod	M 2.5	0.45 mm	1 m	1	126914*
Threaded rod	M 3	0.5 mm	1 m	1	249700
Threaded rod	M 3.5	0.6 mm	1 m	1	126915*
Threaded rod	M 4	0.7 mm	1 m	1	204331
Threaded rod	M 5	0.8 mm	1 m	1	204340
Threaded rod	M 6	1 mm	1 m	1	165670
Threaded rod	M 8	1.25 mm	1 m	1	165689
Threaded rod	M 10	1.5 mm	1 m	1	165697
Threaded rod	M 12	1.75 mm	1 m	1	165700
Threaded rod	M 14	2 mm	1 m	1	181277
Threaded rod	M 16	2 mm	1 m	1	181285
Threaded rod	M 18	2.5 mm	1 m	1	181293
Threaded rod	M 20	2.5 mm	1 m	1	162590
Threaded rod	M 22	2.5 mm	1 m	1	124150
Threaded rod	M 24	3 mm	1 m	1	242691
Threaded rod	M 27	3 mm	1 m	1	935825*
Threaded rod	M 30	3.5 mm	1 m	1	517925
Threaded rod	M 33	3.5 mm	1 m	1	126916*
Threaded rod	M 36	4 mm	1 m	1	126917*
Threaded rod	M 39	4 mm	1 m	1	126920*
Threaded rod	M 42	4.5 mm	1 m	1	126921*
Threaded rod	M 45	4.5 mm	1 m	1	126922*
Threaded rod	M 48	5 mm	1 m	1	126923*

\* = The delivery time is 10 days

AGR: 00.260

## DIN 976-1, shape A, stainless steel A2, 1 meter

- Stainless Steel version: A2
- Colour code: green



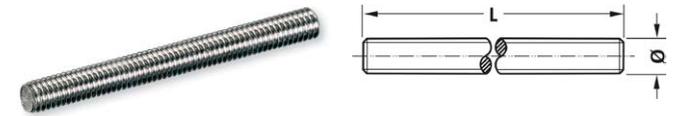
- Length: 1m

## Characteristics

- Shape A = without crests

## Hints

- Former DIN 975



DIN 976-1, shape A, stainless steel A2, 1 meter					
Title	Thread	Thread Pitch mm	Length	PU Amount	Article No.
Threaded rod	M 2	0.4 mm	1 m	20	095982*
Threaded rod	M 3	0.5 mm	1 m	1	105694
Threaded rod	M 4	0.7 mm	1 m	1	105724
Threaded rod	M 5	0.8 mm	1 m	1	080896
Threaded rod	M 6	1 mm	1 m	1	033073
Threaded rod	M 8	1.25 mm	1 m	1	023094
Threaded rod	M 10	1.5 mm	1 m	1	316997
Threaded rod	M 12	1.75 mm	1 m	1	319988
Threaded rod	M 14	2 mm	1 m	1	073180
Threaded rod	M 16	2 mm	1 m	1	066702
Threaded rod	M 18	2.5 mm	1 m	1	023769
Threaded rod	M 20	2.5 mm	1 m	1	073210
Threaded rod	M 22	2.5 mm	1 m	1	518026
Threaded rod	M 24	3 mm	1 m	1	257524
Threaded rod	M 27	3 mm	1 m	5	063115*
Threaded rod	M 30	3.5 mm	1 m	1	063116
Threaded rod	M 36	4 mm	1 m	5	095983*
Threaded rod	M 39	4 mm	1 m	5	095984*
Threaded rod	M 48	5 mm	1 m	5	095985*

\* = The delivery time is 14 days

AGR: 00.267

INTERNAL/Approved (2019-03-22 21:02:11)

## Screen tubes, suitable for cutting to length

- Made of metal – this allows the screen tubes to be easily cut to the required length

### Application Area

- For the mounting of threaded rods or internal thread sleeves at greater anchoring depths

### Hints

- Not part of a marketing authorization



Title	Sleeve external-Ø x length	Drill hole-Ø	For threaded diameter from - to	PU Piece	Article No.
SCRN.SLEEVE 11MM STRIPPABLE 1M	11 x 1000 mm	12 mm	M 6 - M 8	5	136706
SCRN.SLEEVE 14MM STRIPPABLE 1M	14 x 1000 mm	16 mm	M 8 - M 10	5	136705
SCRN.SLEEVE 20MM STRIPPABLE 1M	20 x 1000 mm	22 mm	M 12 - M 16	5	136707

AGR: 05.603

## MCS Profibag with pistole

### Scope Of Delivery

- Bera Clic+ case size 3
- BC+ ticking
- MCS cartridge applicator gun professional
- Borehole blowout large
- Borehole steel brush 12mm
- Borehole steel brush 14mm
- Borehole steel brush 20mm



Title	PU Assortment	Article No.
MCS Profibag with pistole	1	214980
<b>AGR: 05.604</b>		
Scope Of Supply	Piece	Article No.
Drill Hole Blower large	1	528544
Steel Brush for Hole Cleaning	1	528552
Steel Brush for Hole Cleaning	1	528560
Steel Brush for Hole Cleaning	1	544760
MVS 2-component standard application gun	1	908312
BC+ system case sz. 3	1	102546
BERA CLIC+ BERA CLIC+ MULTICOMPOUND System for Inlet	1	102563

## Application gun Standard for 410 ml cartridges

- Solid and economic application gun

### Application Area

- Processing of coaxial 2-component cartridges 380/410 ml MULTICOMPOUNDsystem



Title	PU Piece	Article No.
MVS 2-component standard application gun AGR: 05.604	1	908312

## Blower

### Application Area

- Manual drill hole cleaning

Title	Length	PU Piece	Article No.
Small Drill Hole Blow Pump	-	1	831867
Drill Hole Blower large	420 mm	1	528544

AGR: 05.590



INTERNAL/Approved (2019-03-22 21:02:57)

## Drill hole cleaning brushes

- Industrial quality wear resistant and tough steel wire, natural hard drawn, double corrugated

### Application Area

- To manually clean out drilled holes

### Technical Data

Material Steel

Title	Ø	For drill hole-Ø	Length	PU Piece	Article No.
Steel Brush for Hole Cleaning	12 mm	8 - 10 mm	300 mm	1	528552
Steel Brush for Hole Cleaning	14 mm	12 mm	300 mm	1	528560
Steel Brush for Hole Cleaning	18 mm	15 mm	300 mm	1	528579
Steel Brush for Hole Cleaning	20 mm	16 mm	300 mm	1	544760
Steel Brush for Hole Cleaning	25 mm	20 mm	300 mm	1	528587

AGR: 05.590



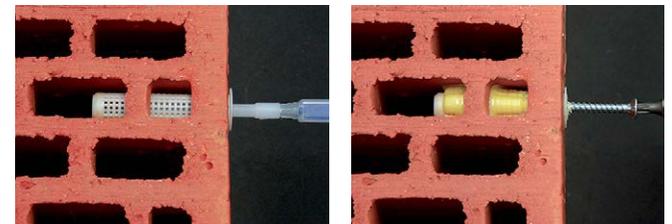
## LIQUIDfix Injection Fixing Dowel

- Maximum hold in cavities and torn boreholes is achieved thanks to slight expansion during hardening.
- Simple and quick to use: screws can be inserted directly into the hardened material such as wood
- Fast hardening results in lower waiting time to assemble.
- Expansion-free anchoring prevents damage to tiles and plaster
- Can also be used as a repair material for wood thanks to high bond strength
- Easy to grind due to coatable mass
- After use, reusable through in closing cap



### Application Area

- 2-components polyurethane injection liquid for fixing light weight components such as fastening components such as wall shelves, curtain rails, lightweight mirror cabinets, mail boxes, lamps, towel racks, shower rods, etc. in any underground
- Suitable for repairing broken bore holes
- Can be used as repair material for broken furniture hinges or wood joints



### Characteristics

- Injection fixing expands to a defined volume and hardens quickly. Hardening time 3-5 minutes. Wood or chipboard screws with a diameter of 2 - 6mm can be easily screwed and unscrewed in the hardened mass.

### Processing Information

- Thorough borehole cleaning (blow out brush out, blow out) is required for secure attachment
- Anchorage depth and Screw depth: 40 - 45 mm

### Scope Of Delivery

- 2 x injection fixing, each 25 ml
- 6 x mixing tips (207814)

Title	Cartridge content	PU Assortment	Article No.
Set LIQUIDfix 2x25 ml	25 ml	1	094183

AGR: 05.601

## DN ceiling nail **CEILINGanchor**

- Officially approved for suspended ceilings (multiple use)
- Tested for fire resistance F 90
- Secure hold of the fixing object due to a broad head
- Almost no slippage under load due to a forced spreading of the anchor in the borehole
- Not flammable due to a robust all-metal design (material class A1)

### Application Area

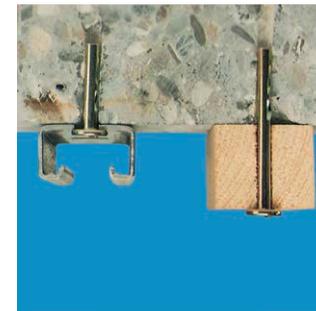
- Fixing of light components such as ceiling hangers, battens, squared timbers, chains, perforated belts in concrete ceilings in dry interiors

### Characteristics

- Model galvanized steel

### Hints

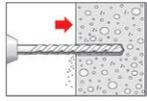
- Generally approved for lightweight ceiling linings and suspended ceilings according to DIN 18168 as well as statically comparable mountings of a concrete strength class of at least B 25 (C 20/25) and at most B 55 (C 50/60). For more technical data, please request approval.



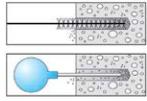
Title	Dimension	Max. usable length	Drill hole-Ø	Effect. anchor depth	Min. Drill hole depth	PU Piece	Article No.
CEILINGanchor DN	6 x 35 mm	4.5 mm	6 mm	32 mm	40 mm	100	409510
CEILINGanchor DN	6 x 65 mm	35 mm	6 mm	32 mm	40 mm	100	080047

AGR: 05.700

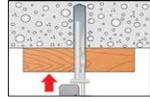
## Installation instructions



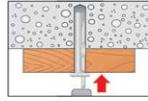
*Drill a hole*



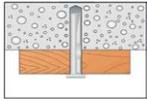
*Clean the hole*



*Insert the anchor through the component and hammer it in*



*Hammer in the spreader wedge until it is flush*



## Nail anchor BNA

- European Technical Approval for (redundant) multiple fixings for non-structural applications in cracked concrete C12/15 to C50/60
- Fire resistance class F120
- Fast installation through simple hammer set installation - no tightening torque is necessary for expanding the anchor
- Small anchoring depth avoids reinforcement hit and simplifies installation
- Small axial spacing and edge distances - useful for small component parts

### Application Area

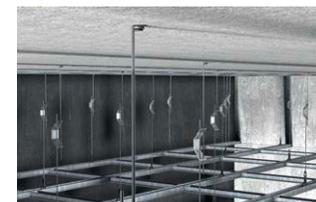
- Approved for the anchoring of e.g. suspended ceilings, pings and ventilation pipes, cable trays, sub constructions made of wood and metal, wire and nonius hangers in concrete C12/15 bis C50/60
- Also suitable for solid sand lime brick and natural stone with dense structure

### Characteristics

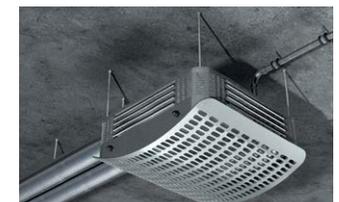
- With eye
- Version made of zinc plated steel

### Hints

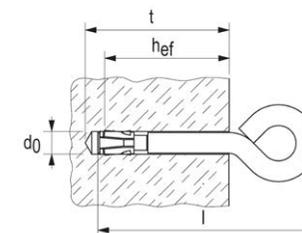
- For more technical data please request approval



Suspending ceilings



Air conditionings



Title	Dimension	Length	Max. usable length	Drill hole-Ø	Effect. anchor depth	Min. Drill hole depth	PU Piece	Article No.
Nail anchor BNA with eye ZP	6 x 54 mm	54 mm	8 mm	6 mm	25 mm	35 mm	50	792853

AGR: 05.701

### Nail anchor BNA

- Open hook gives the possibility to remove the fixed component
- Fast installation through simple hammer set installation - no tightening torque is necessary for expanding the anchor
- Small anchoring depth avoids reinforcement hit and simplifies installation
- Small axial spacing and edge distances - useful for small component parts

#### Application Area

- Efficient anchoring in concrete, solid sand lime brick and natural stone with dense structure, when no approval is needed

#### Characteristics

- With hook
- Version made of zinc plated steel

#### Hints

- Not part of the European Technical Approval

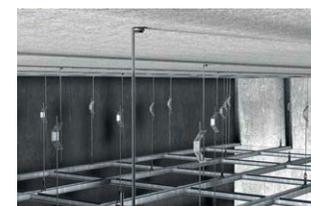
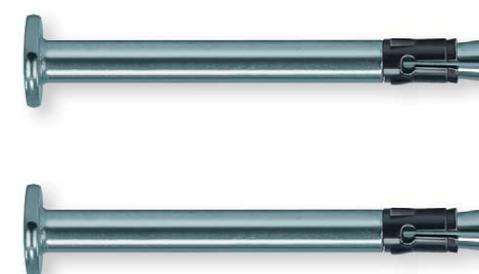


Title	Dimension	Max. usable length	Drill hole-Ø	Effect. anchor depth	Min. Drill hole depth	PU Piece	Article No.
Nail anchor BNA with hook ZP	6 x 54 mm	0 mm	6 mm	25 mm	35 mm	50	792861

AGR: 05.701

### Nail anchor BNA

- European Technical Approval for (redundant) multiple fixings for non-structural applications in cracked concrete C12/15 to C50/60
- Fire resistance class F120
- Fast installation through simple hammer set installation - no tightening torque is necessary for expanding the anchor
- Small anchoring depth avoids reinforcement hit and simplifies installation
- Small axial spacing and edge distances - useful for small component parts



*Suspending ceilings*



*Pipeline alignments*

## Application Area

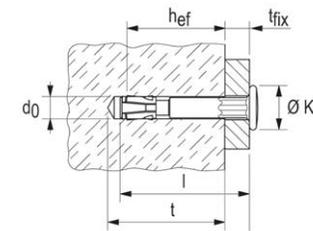
- Approved for the anchoring of e.g. suspended ceilings, pings and ventilation pipes, cable trays, sub constructions made of wood and metal, wire and nonius hangers in concrete C12/15 bis C50/60
- Also suitable for solid sand lime brick and natural stone with dense structure

## Characteristics

- Version made of zinc plated steel

## Hints

- For more technical data please request approval



Title	Dimension	Max. usable length	Drill hole-Ø	Effect. anchor depth	Min. Drill hole depth	PU Piece	Article No.
Nail anchor BNA ZP	6 x 35 mm	5 mm	6 mm	25 mm	35 mm	100	114614*
Nail anchor BNA ZP	6 x 40 mm	5 mm	6 mm	30 mm	40 mm	100	792772
Nail anchor BNA ZP	6 x 45 mm	5 mm	6 mm	25 mm	35 mm	100	114545
Nail anchor BNA ZP	6 x 55 mm	10 mm	6 mm	30 mm	40 mm	100	114578*
Nail anchor BNA ZP	6 x 65 mm	30 mm	6 mm	30 mm	40 mm	50	792780
Nail anchor BNA ZP	6 x 85 mm	50 mm	6 mm	30 mm	40 mm	50	792799
Nail anchor BNA ZP	6 x 110 mm	75 mm	6 mm	30 mm	40 mm	50	146083

\* = The delivery time is 35 days

AGR: 05.701