

Fixing Technology



Application of Fixings

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Metal Dowels



Universal Plugs

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Heavy-duty Fixings



Impact Anchors



Composite Anchor, Injection Mortar FIT

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Frame Anchors



Lightweight Building Fixings



Insulation and Scaffolding Fixings



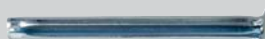
Frame Anchors Meta



Cavity Fixings

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Application table for lightweight fixing

Designation	AGR	Solid building material					Perforated bricks			Foam		Fiberboards			Lightweight build. material	Page
		Concrete	Natural stone	Lightweight concrete PB2 - PB4	Solid brick	Solid sand-lime beick	Perforated sand-lime	Hollow blocks	Vertically perforated	Rigid foam	Polystyrene	Gypsum plasterboard	Cement fiber board	Wooden fiber board	Lightweight concrete PB1 - PB2	
Multipurpose plug																
	8108	●	●	●	●	●	●	●	●			●	●	●	●	7/112
All-pur																
	8100/8101	●		●	●	●	●								●	7/113
Multipurpose 4MZ																
	8105/8106	●	●	●	●	●	●	●	●			●	●	●	●	7/113
TRIKA All-purpose anchors																
	8112/8113	●		●	●	●	●	●	●			●	●	●	●	7/114
Expansion anchor Nylon																
	8000	●			●	●									●	7/118
Hollow brick plug																
	8010						●	●	●						●	7/119
Nail plug																
	8020 - 8022	●														7/130
Nail plug with mushroom head																
	8025	●														7/130
Threaded nail plug																
	8022	●														7/131
Express nail																
	8023	●			●	●										7/131
Sealing nail																
	8024	●			●	●										7/132
Hammer rivets																
	8028	●			●											7/132
Frame anchor, short																
	8011	●			●	●										7/133
Frame anchor, long																
	8012						●		●						●	7/134
Universal frame anchors																
	8109	●		●	●	●	●	●	●							7/135

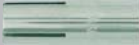
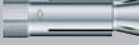
Application table for lightweight fixing

Designation	AGR	Solid building material					Perforated bricks			Foam		Fiberboards			Lightweight build. material	Page
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Multi-functional frame anchor MFR																
	8107	●			●	●	●		●						●	7/136
Lightweight concrete anchor																
	8130			●											●	7/142
Lightweight concrete dowel pin																
	8130 1			●												7/142
ISO Spiral plug																
	8137									●	●					7/143
Insulation plug, plastic																
	8084/8085/8086	●			●			●								7/144
Insulation plug, metal																
	8082	●					●	●								7/148
Distance mounting sleeve																
	8154								●	●	●	●	●			7/149
Scaffolding plug																
	8090/8091	●	●		●			●							●	7/154
Frame anchor, metal																
	8040/8042	●			●		●	●							●	7/157
Plasterboard plug																
	8055										●				●	7/158
Board anchor																
	8104	●			●		●	●			●	●	●			7/158
Injection Fixing 2K																
	8040	●	●	●	●	●	●	●			●	●	●		●	7/159
Hollow plug																
	8145										●	●	●			7/160
Spring toggle bolt																
	8060/8061/8062										●	●	●			7/161
Toggle bolt																
	8065/8066/8067										●	●	●			7/166

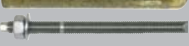
Application table for lightweight fixing

Designation	AGR	Solid building material					Perforated bricks			Foam		Fiberboards			Lightweight build. material	Page
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Spike grid metal																
	8155	●						●						●	7/167	
Expansion anchor brass																
	8050	●			●	●									7/167	
Drop-in anchor DM-PRO, galvanised steel																

Application table for heavy duty anchors

Designation	Material				Approvals								Page
	Cracked concrete	Non-cracked concrete	Hollow blocks	Solid bricks	ETA-Approval	DIBt-Approval	Fire-protection tested	VDS	FM	Shock tested	Seismic	Sprinkler system	
Drop-in anchor R-DCA, gv steel AGR 8209 2 	●	●			●		●						7/200
Drop-in anchor R-DCA, stainless steel A4 AGR 8209 3 	●	●			●		●						7/200
Drop-in anchor R-DCL-K, gv steel AGR 8209 1 	●	●			●		●						7/201
Hollow ceiling anchor Easy AGR 8258 	●	●				●	●	●					7/206
Drop-in anchor ED-DW 15 AGR 8250 		●											7/208
Nail anchor N-K AGR 8254 	●	●			●		●						7/209
Ceiling anch.R-GS, zinc-coated steel AGR 8241 	●	●			●		●						7/210
Nail anchor N-M 6-25 AGR 8254 	●	●			●		●					●	7/211
Bolt-anchor R-XPT, steel/stainless steel A4 AGR 8178/8178 1 / 		●			●								7/213 - 7/216
Bolt-anchor R-HPTII, Zinc-coated Steel AGR 8225 	●	●			●		●				●		7/218
Bolt-anchor R-HPTII, stainless steel A4 AGR 8226 	●	●			●		●				●		7/220
Wedge anchor B, Steel AGR 8165 		●			●		●		●				7/224
Wedge anchor B, Stainless Steel A4 AGR 8166 		●			●		●		●				7/226

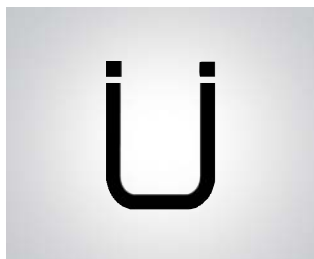
Application table for heavy duty anchors

Designation	Material				Perforated bricks								Page
	Cracked concrete	Non-cracked concrete	Hollow blocks	Solid bricks	ETA-Approval	DIBt-Approval	Fire-protection tested	VDS	FM	Shock tested	Seismic	Sprinkler system	
Bolt-anchor BZ, stainless steel A4 AGR 8169 	•	•			•		•		•	•	•	•	7/228
Bolt-anchor BZ, Stainless Steel A4 AGR 8169 1 	•	•			•	•	•		•	•	•	•	7/230
Bolt-anchor M2-U, steel AGR 8165 1 		•			•								7/214
Heavy-duty Anchor Type SZ-S AGR 8176 	•	•			•		•	•		•		•	7/236
Heavy-duty Anchor Type SZ-B AGR 8177 	•	•			•		•	•		•		•	7/237
Screw Anchor / Rail Anchor AGR 8171 	•	•			•		•				•	•	7/244
Shear connector AGR 8160 1 / 8167 / 8168 		•			•								7/252
Injection mortar FIT Express 345 AGR 8150 		•	•	•									7/258
Injection mortar FIT Z-MB7 AGR 8150 		•	•	•	•								7/302
Injection mortar FIT z-B 300 / 345 AGR 8150 	•	•	•	•	•		•						7/303
Injection mortar VMZ 345 AGR 8180 	•	•			•		•			•		•	7/313

Approvals and Certificates



European Technical Approval (ETA) with CE marking



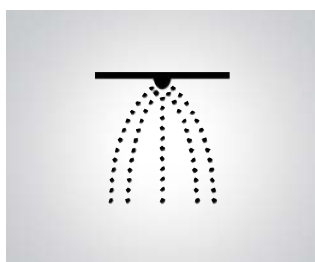
National approval from the Institut for Structural Engineering), Berlin



Shock approval from the Federal Office for Civil Protection, Bern, Switzerland



Factory Mutual (FM), U.S. approval for the installation of sprinkler systems



Suitability for the installation of sprinkler systems conforming to VdS (Schadensverhütung GmbH).



Endorsed by VdS Schadensverhütung GmbH for the installation of sprinkler systems.



Fire protection tested in accordance with DIN 4102-2, Fire Resistance Classes F30/R30, F60/R60, F90/R90, F120/R120



Identifies the anchors that are approved for absorbing fatigue-related (dynamic) effects



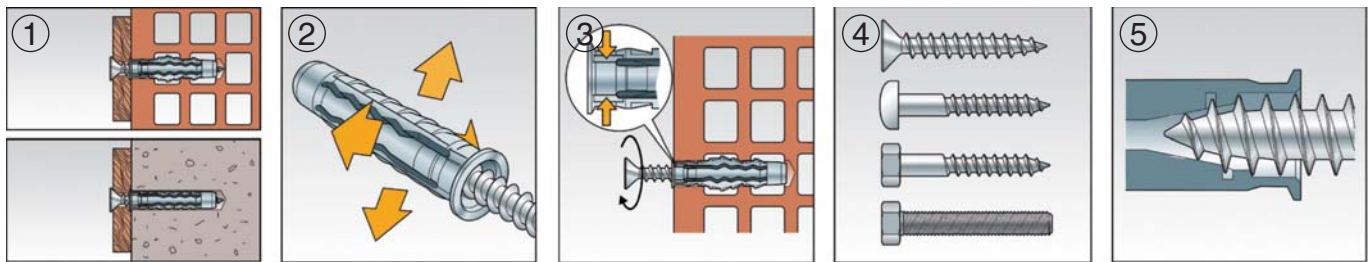
Material for stainless steel (A4)



Identifies the anchors that can be evaluated with the MKT design software.

Universal Plug GX Premium

- Innovative multipurpose/multi plug made of nylon of premium quality
- Quadruple expansion guarantees highest retaining values (pictures 1+2) in concrete and all brickwork materials
- A flexible plug flange avoids slipping in deep bore holes; however, if necessary it allows penetration (safety and push-through assembly, picture 3)
- Applicable for all existing types of screws such as wood screws, chipboard screws, tapping screws as well as screws with metric thread (picture 4)
- Screw-in centering ensures the expansion function (picture 5)



Article No.	Dimension		Article No.	Qty
8108 5	5x25mm	HF	8108P 5	1000
8108 6	6x30mm	HF	8108P 6	1000
8108 8	8x40mm	HW	8108P 8	500
8108 10	10x50mm	fH	8108P 10	250
8108 12	12x60mm	gf	8108P 12	200
8108 14	14x70mm	w	8108P 14	100

Technical Data		Recommended load in kN			
Designation	Screw Ø mm	Concrete	Solid bricks	Vertically perfor. bricks	Lightw. concrete
G x 5	3,0 - 4,0	1,20	1,00	0,80	0,30
G x 6	4,0 - 5,0	1,80	1,00	0,80	0,40
G x 8	4,5 - 6,0	2,50	2,00	1,50	0,90
G x 10	6,0 - 8,0	8,00	4,00	3,00	1,10
G x 12	8,0 - 10,0	12,00	4,60	3,30	1,30
G x 14	10,0 - 12,0	24,00	5,10	3,60	2,00

Universal Plug GX Premium Packed in System Box

- Several small packs per dimension, sorted in a high-quality system plastic case

Article No.	Article Description	QTY
8108S 5	SB<40.0>UNI.PLUG PREMIUM GX 5	1
8108S 6	SB<40.0>UNI.PLUG PREMIUM GX 6	1
8108S 8	SB<16.0>UNI.PLUG PREMIUM GX 8	1
8108S 10	SB<8.0>UNI.PLUG PREMIUM GX 10	1
8108S 12	SB<5.0>UNI.PLUG PREMIUM GX 12	1
8108S 14	SB<3.2>UNI.PLUG PREMIUM GX 14	1

Contents:

- Art.-No. 8108S 5: 40 packaging unit à 100 pieces
- Art.-No. 8108S 6: 40 packaging unit à 100 pieces
- Art.-No. 8108S 8: 16 packaging unit à 100 pieces
- Art.-No. 8108S 10: 16 packaging unit à 50 pieces
- Art.-No. 8108S 12: 20 packaging unit à 25 pieces
- Art.-No. 8108S 14: 16 packaging unit à 20 pieces



System Box Empty

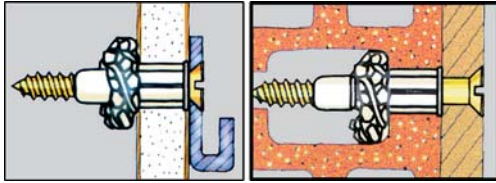
- Dimensions LxWxH: 40 x 30 x 22 mm

Article No.	Article Description	QTY
9027 403022	SYSTEM BOX - SMALL PARTS	1



All-Purpose Plug

- For through-bolt mountings
- For secure attachment in concrete, solid and perforated bricks
- Knotting of the plug in hollow spaces



Article No.	Dimension		Article No.	Qty
8100 5	5 x 29	F	8100P 5	1000
8100 6	6 x 33	F	8100P 6	1000
8100 8	8 x 46	W	8100P 8	500
8100 10	10 x 56	H	8100P 10	250
8100 12	12 x 65	f	8100P 12	200
8100 14	14 x 70	g	8100P 14	120

Technical Data		*Recommended load in kN			
Screw Ø mm	Con- crete*	Lightw. concrete PB4*	Solid brick*	Perfor. sand- lime brick*	Solid sand- lime brick*
3,0 - 3,5	0,28	0,15	0,15	0,15	0,15
3,0 - 4,0	0,45	0,15	0,25	0,20	0,25
4,0 - 6,0	1,00	0,40	0,80	0,35	0,80
6,0 - 8,0	1,10	0,50	0,90	0,50	0,90
8,0 - 10,0	1,30	0,60	0,95	0,60	0,95
10,0 - 12,0	2,40	0,82	1,10	0,85	0,85

All-Purpose Plug with Flange

- The cap or flange prevents sliding of the plug into the hollow space
- For flush mounting
- For secure attachment in concrete, solid and perforated bricks
- Knotting of the plug in hollow spaces



Article No.	Dimension		Article No.	Qty
8101 5	5 X 29	F	8101P 5	1000
8101 6	6 X 33	F	8101P 6	1000
8101 8	8 X 46	W	8101P 8	450
8101 10	10 X 56	H	8101P 10	250
8101 12	12 X 65	f	8101P 12	150
8101 14	14 X 70	g	8101P 14	120

Technical Data		*Recommended load in kN			
Screw Ø mm	Con- crete*	Lightw. concr. PB4*	Solid brick*	Perfor. sand- lime brick*	Solid sand-lime brick*
3,0 - 3,5	0,28	0,15	0,15	0,15	0,15
3,0 - 4,0	0,45	0,15	0,25	0,20	0,25
4,0 - 6,0	1,00	0,40	0,80	0,35	0,80
6,0 - 8,0	1,10	0,50	0,90	0,50	0,90
8,0 - 10,0	1,30	0,60	0,95	0,60	0,95
10,0 - 12,0	2,40	0,82	1,10	0,85	0,85

Multipurpose Plug 4 MZ

- For through-bolt mountings
- For secure attachment in concrete, solid and perforated bricks
- Knotting of the plug in hollow spaces



Article No.	Article Description	QTY
8105 6	MULTIPURPOSE PLUG 4MZ 6	500
8105 6 40	MULTIPURPOSE PLUG 4MZ 6X40	400
8105 8	MULTIPURPOSE PLUG 4MZ 8	200
8105 10	MULTIPURPOSE PLUG 4MZ 10	100
8105 12	MULTIPURPOSE PLUG 4MZ 12	50
8105 14	MULTIPURPOSE PLUG 4MZ 14	50

Technical Data		*Recommended load in kN			
Scr. Ø mm	Concr.*	L. concr. PB4*	Solid brick*	Perf. sand- lime brick*	Solid sand-l. brick*
3,0 - 4,5	0,30	0,06	0,16	0,22	0,26
3,0 - 4,5	0,72	0,12	0,27	0,21	0,51
3,5 - 6,0	0,52	0,14	0,43	0,27	0,59
6,0 - 8,0	1,56	0,25	0,68	0,31	1,07
8,0 - 10,0	2,02	0,39	-	0,42	1,31
10,0 - 12,0	-	0,59	-	0,33	-

Multipurpose Plug 4 MZ-K with Flange

- The flange prevents sliding of the plug into the hollow space
- For flush mounting
- For secure attachment in concrete, solid and perforated bricks
- Knotting of the plug in hollow spaces



Article No.	Article Description	QTY
8106 6	MULTIPURPOSE PLUG 4MZ-K 6	500
8106 6 41	MULTIPURPOSE PLUG 4MZ-K 6X41	300
8106 8	MULTIPURPOSE PLUG 4MZ-K 8	150
8106 10	MULTIPURPOSE PLUG 4MZ-K 10	100
8106 12	MULTIPURPOSE PLUG 4MZ-K 12	50
8106 14	MULTIPURPOSE PLUG 4MZ-K 14	50

Technical Data		*Recommended load in kN			
Scr. Ø mm	Concr.*	L.concr. PB4*	Solid brick*	Vert. perf. brick*	Solid sand l. brick*
3,0 - 4,5	0,30	0,06	0,16	0,22	0,26
3,0 - 4,5	0,72	0,12	0,27	0,21	0,51
3,5 - 6,0	0,52	0,14	0,43	0,27	0,59
6,0 - 8,0	1,56	0,25	0,68	0,31	1,07
8,0 - 10,0	2,02	0,39	-	0,42	1,31
10,0 - 12,0	-	0,59	-	0,33	-

TRI All-Purpose Anchors

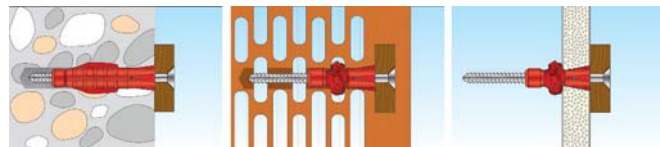
- All-purpose anchors for almost all building materials
- Secure knotting of the anchor into hollow frames
- Anti-rotation features on the anchor neck and rotary wings on the anchor body prevent it from turning in the construction material
- For push-through and pre-positioned installation

Application:

- Fastening into concrete, full brick, perforated brick, aerated concrete, plasterboard
- For the fastening of, e.g. hanging cupboards, shelves, TV equipment, pictures, lamps, handtowel holders, etc.



Article No.	Dimension		Article No.	Qty
8112 5	5x31	F	8112P 5	1000
8112 6	6x36	HF	8112P 6	1000
8112 6 51	6x51	HV	8112P 6 51	600
8112 8	8x51	W	8112P 8	500
8112 10	10x61	H	8112P 10	250
8112 12	12x71	f	8112P 12	200
8112 14	14x75	g	8112P 14	100



Technical Data									
Art.-No.	Screw-Ø	Min.drill hole depth mm	Concrete C20 / 25*	Full brick MZ12*	Very perfor. bricks ≥Hlz 12*	Hollow block stone ≥ Hbl 2*	Perfor. bricks Concrete PB2, PP2*	Gypsum bricks plate 12.5 mm*	Gypsum fibre bricks plate 2.5mm*
	mm								
8112 5	3.0 - 4.0	40	0.25	0.15	0.15	0.10		0.10	0.15
8112 6	4.0 - 5.0	45	0.50	0.35	0.25	0.15		0.10	0.20
8112 6 51	4.0 - 5.0	60	0.60	0.40	0.25	0.20	0.10	0.10	0.25
8112 8	5.0 - 6.0	60	1.00	0.80	0.30	0.25	0.15	0.10	0.30
8112 10	6.0 - 8.0	70	1.50	1.00	0.35	0.28	0.20	0.10	0.30
8112 12	8.0 - 10.0	80	1.60	1.20	0.40	0.30	0.25	0.10	
8112 14	10.0 - 12.0	85	2.00	1.40	0.40	0.35	0.25	0.10	

TRIKA All-Purpose Anchors

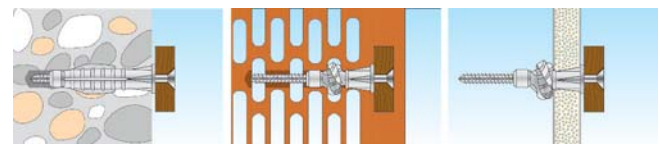
- All-purpose anchors for almost all building materials
- Anchor caps (collars) prevent the anchor from slipping deeper into the drill hole and protect the surface
- Secure knotting of the anchor into hollow frames
- Anti-rotation features on the anchor neck and rotary wings on the anchor body prevent it from turning in the construction material
- For pre-positioned installation

Application:

- Fastening into concrete, full brick, perforated brick, aerated concrete, plasterboard
- For the fastening of, e.g. hanging cupboards, shelves, TV equipment, pictures, lamps, handtowel holders, etc.



Article No.	Dimension		Article No.	Qty
8113 5	5x31	F	8113P 5	1000
8113 6	6x36	HF	8113P 6	1000
8113 6 51	6x51	HV	8113P 6 51	500
8113 8	8x51	W	8113P 8	450
8113 10	10x61	H	8113P 10	250
8113 12	12x71	f	8113P 12	150
8113 14	14x75	g	8113P 14	100



Technical Data									
Art.-No.	Screw-Ø	Min.drill hole depth mm	Concrete C20 / 25*	Full brick MZ12*	Very perfor. bricks ≥Hlz 12*	Hollow block bricks tone ≥ Hbl 2*	Perfor. bricks concrete PB2, PP2*	Gypsum bricks plate 12.5 mm*	Gypsum fibre bricks plate 2.5mm*
	mm								
8113 5	3.0 - 4.0	40	0.25	0.15	0.15	0.10		0.10	0.15
8113 6	4.0 - 5.0	45	0.50	0.35	0.25	0.15		0.10	0.20
8113 6 51	4.0 - 5.0	60	0.60	0.40	0.25	0.20	0.10	0.10	0.25
8113 8	5.0 - 6.0	60	1.00	0.80	0.30	0.25	0.15	0.10	0.30
8113 10	6.0 - 8.0	70	1.50	1.00	0.35	0.28	0.20	0.10	0.30
8113 12	8.0 - 10.0	80	1.60	1.20	0.40	0.30	0.25	0.10	
8113 14	10.0 - 12.0	85	2.00	1.40	0.40	0.35	0.25	0.10	

Universal Anchors GX Premium **VAROiBOXX**

- Range in VAROiBOXX
- Set contains 650 universal anchors in 4 different sizes

Contents:

Art. No.	Art. Description	Quantity
8108 6	UNIVERSAL PLUG GX PREMIUM 6MM	300
8108 8	UNIVERSAL PLUG GX PREMIUM 8MM	200
8108 10	UNIVERSAL PLUG GX PREMIUM 10MM	100
8108 12	UNIVERSAL PLUG GX PREMIUM 12MM	50
9004 1 10 10	INS.BOX BLUE10X10CM VAROBOXX 1	1
9004 1 10 15	INSETB.L-GR.10X15CM VAROBOXX 1	1
9008 1	VAROIBOXX EMPTY	1
9008 75 260	VAROIBOXX INSET.B.GREY7.5X26MM	3

Article No.	Article Description	QTY
9007 8108	UNIVER.ACHN.GX PREM.VARIOBOXX	1



All-Purpose Anchors **VAROiBOXX**

- Range in VAROiBOXX
- Set contains 650 all-purpose anchors in 4 different sizes

Contents:

Art. No.	Art. Description	Quantity
8100 6	ALL-PURPOSE PLUG 6	300
8100 8	ALL-PURPOSE PLUG 8	200
8100 10	ALL-PURPOSE PLUG 10	100
8100 12	ALL-PURPOSE PLUG 12	50
9004 1 10 10	INS.BOX BLUE10X10CM VAROBOXX 1	1
9004 1 10 15	INSETB.L-GR.10X15CM VAROBOXX 1	1
9008 1	VAROIBOXX EMPTY	1
9008 75 260	VAROIBOXX INSET.B.GREY7.5X26MM	3

Article No.	Article Description	QTY
9007 8100	ALL-PURPOSE ANCHORS VARIOBOXX	1



All-Purpose Anchors with Collars **VAROiBOXX**

- Range in VAROiBOXX
- Set contains 550 all-purpose anchors with collars in 4 different sizes

Contents:

Art. No.	Art. Description	Quantity
8101 6	ALL-PURPOSE PLUG/FLANGE 6	300
8101 8	ALL-PURPOSE PLUG/FLANGE 8	100
8101 10	ALL-PURPOSE PLUG/FLANGE 10	100
8101 12	ALL-PURPOSE PLUG/FLANGE 12	50
9004 1 10 10	INS.BOX BLUE10X10CM VAROBOXX 1	1
9004 1 10 15	INSETB.L-GR.10X15CM VAROBOXX 1	1
9008 1	VAROIBOXX EMPTY	1
9008 75 260	VAROIBOXX INSET.B.GREY7.5X26MM	3

Article No.	Article Description	QTY
9007 8101	ALL-PURP.ACHN.W.COLL.VARIOBOXX	1



TRI All-Purpose Anchors **VAROiBOXX**

- Range in VAROiBOXX
- Set contains 650 TRI all-purpose anchors in 4 different sizes

Contents:

Art. No.	Art. Description	Quantity
8112 6	TRI-ALLZWECKDÜBEL 6X36	300
8112 8	TRI-ALLZWECKDÜBEL 8X51	200
8112 10	TRI-ALLZWECKDÜBEL 10X61	100
8112 12	TRI-ALLZWECKDÜBEL 12X71	50
9004 1 10 10	INS.BOX BLUE10X10CM VAROBOXX 1	1
9004 1 10 15	INSETB.L-GR.10X15CM VAROBOXX 1	1
9008 1	VAROIBOXX EMPTY	1
9008 75 260	VAROIBOXX INSET.B.GREY7.5X26MM	3

Article No.	Article Description	QTY
9007 8112	TRI ALL-PURP.ANCH.VARIOBOXX	1



TRIKA All-Purpose Anchors **VAROiBOXX**

- Assortment in VAROiBOXX
- Set contains 650x TRIKA all-purpose anchors in 4 different sizes

Contents:

Art. No.	Art. Description	Quantity
8113 6	TRIKA-ALLZWECKDÜBEL 6X36	300
8113 8	TRIKA-ALLZWECKDÜBEL 8X51	200
8113 10	TRIKA-ALLZWECKDÜBEL 10X61	100
8113 12	TRIKA-ALLZWECKDÜBEL 12X71	50
9004 1 10 10	INS.BOX BLUE10X10CM VAROBOXX 1	1
9004 1 10 15	INSETB.L-GR.10X15CM VAROBOXX 1	1
9008 1	VAROIBOXX EMPTY	1
9008 75 260	VAROIBOXX INSET.B.GREY7.5X26MM	3

Article No.	Article Description	QTY
9007 8113	VARIOBOXX TRIKA ALL-PURP.ANCH	1



Nylon Expansion Anchors **VAROiBOXX**

- Range in VAROiBOXX
- Set contains 650 nylon expansion anchors in 4 different sizes

Contents:

Art. No.	Art. Description	Quantity
8000 6	NYLON-EXPANSION ANCHOR F 6	200
8000 8	NYLON-EXPANSION ANCHOR F 8	250
8000 10	NYLON-EXPANSION ANCHOR F 10	150
8000 12	NYLON-EXPANSION ANCHOR F 12	50
9004 1 10 10	INS.BOX BLUE10X10CM VAROBOXX 1	1
9004 1 10 15	INSETB.L-GR.10X15CM VAROBOXX 1	1
9008 1	VAROIBOXX EMPTY	1
9008 75 260	VAROIBOXX INSET.B.GREY7.5X26MM	3
9008 75 260 1	PART.INSERT BOX GREY VARIOBOXX	1

Article No.	Article Description	QTY
9007 8000	NYLON EXPANSION ANCH.VARIOBOXX	1



Expansion Anchor F Nylon

- Appropriate for all solid materials
- To fix all objects which can be secured with wood or chipboard screws



Article No.	Dimension		Article No.	Qty
8000 4	4 X 20	F		
8000 5	5 X 25	V		
8000 6	6 X 30	HF	8000P 6	1500
8000 7	7 X 35	V		
8000 8	8 X 40	Z	8000P 8	700
8000 10	10 X 50	G	8000P 10	250
8000 12	12 X 60	f	8000P 12	200
8000 14	14 X 70	f	8000P 14	130
8000 16	16 X 80	g		

Technical Data		*Recommended load in kN			
Screw-Ø mm	Con-crete*	Lightweight* concrete	Solid brick*	Perf. sand lime brick.*	
2,0 – 3,0	0,25	0,02	0,20	0,10	
3,0 – 4,0	0,35	0,04	0,30	0,15	
4,0 – 5,0	0,60	0,06	0,50	0,51	
4,0 – 5,0	0,70	0,07	0,65	0,55	
4,5 – 6,0	0,85	0,09	0,80	0,64	
6,0 – 8,0	1,40	0,20	1,00	0,65	
8,0 – 10,0	1,80	0,40	1,50	-	
10,0 – 12,0	3,00	0,50	1,60	-	
12,0 – 14,0	3,50	0,60	1,60	-	

Expansion Anchor F Black

- Appropriate for all solid materials To fix all objects which can be secured with wood or chipboard screws



Article No.	Dimension		Article No.	Qty
8000 2 6	6 X 30	HF	8000P 2 6	1500
8000 2 8	8 X 40	Z	8000P 2 14	130
8000 2 10	10 X 50	G		
8000 2 12	12 X 60	f		
8000 2 14	14 X 70	f		

Technical Data		*Recommended load in kN				
Screw Ø mm	Concr. B25*	Lightw. concr.* P2	Lightw. concr.* P4	Solid brick*	Vert. perf. brick*	Perf. sand lime brick*
5.0	0.50	0.08	0.12	0.50	0.25	0.50
6.0	0.80	0.16	0.21	0.80	0.35	0.80
8.0	1.25	0.25	0.35	1.12	0.45	1.50
10.0	1.80	0.25	0.50	1.50	0.55	1.70
12.0	2.85	0.36	0.75	-	-	-

Sound Insulation Anchor

- For light and medium loads
- Solid-borne sound insulation integrated in the dowel, reduced sound level up to 15.5 dB
- Suitable for all types of screws with wood thread, e. g. hanger and shoulder screws
- Excellent screw guidance, no eruption at the side
- Pre or through hole installation (without collar) possible
- UV and weather resistant
- Silicone and halogen free
- Temperature resistant from -40°C to +100°C

Applications:

- For attachment in heating, ventilation and sanitation (e.g. substructures, sound-absorbing constructions, cable and pipe clamps, bathrooms, flushing tanks, garage doors etc.)
- Can be used in concrete, nature stone, solid brick, sand-lime brick, gypsum wall panels, hollow blocks, vertically perforated bricks and perforated sand-lime brick

Mounting hints:

- The screw should not penetrate the dowel in order to prevent sound bridges



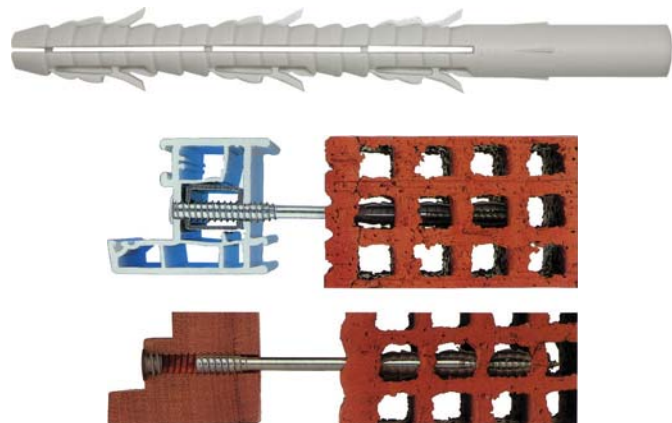
Article No.	Article Description	QTY
8031 10 30	SOU.INSU.ANCH.WITHO.COLL.10X30	25
8031 12 40	SOU.INSU.ANCH.WITHO.COLL.12X40	25
8031 14 50	SOU.INSU.ANCH.WITHO.COLL.14X50	25
8031 16 60	SOU.INSU.ANCH.WITHO.COLL.16X60	25
8031 18 70	SOU.INSU.ANCH.WITHO.COLL.18X70	25
8031 10 34	SOU.INSU.ANCH.WITH COLLAR10X34	25
8031 12 44	SOU.INSU.ANCH.WITH COLLAR12X44	25
8031 14 55	SOU.INSU.ANCH.WITH COLLAR14X55	25
8031 16 66	SOU.INSU.ANCH.WITH COLLAR16X66	25
8031 18 76	SOU.INSU.ANCH.WITH COLLAR18X76	25

Technical Data					*Recommended load in kN			
Wood screw	Hanger bolt	Collar strength and Ø	Sound insul. value dB		Con-crete ≥C20/25	Solid brick ≥MZ12, KS12	Vert. perf. brick ≥HLZ 12	Per. sand lime brick ≥KSL 12
Ø mm	Ø mm	Ø mm						
3.5- 5.0	-	-	12.5		0.15	0.15	0.10	0.15
4.5- 6.0	-	-	10.5		0.30	0.30	0.12	0.20
6.0- 8.0	8.0	-	13.5		0.50	0.50	0.20	0.30
8.0-10.0	10.0	-	15.0		0.80	0.80	0.25	0.60
10.0-12.0	12.0	-	15.5		1.20	1.20	0.35	0.80
3.5- 5.0	-	4 x 22	12.5		0.15	0.15	0.10	0.15
4.5- 6.0	-	4 x 30	10.5		0.30	0.30	0.12	0.20
6.0- 8.0	8.0	5 x 34	13.5		0.50	0.50	0.20	0.30
8.0-10.0	10.0	6 x 42	15.0		0.80	0.80	0.25	0.60
10.0-12.0	12.0	6 x 42	15.5		1.20	1.20	0.35	0.80

Hollow Brick Plug

- Extra-long plug for all hollow bricks such as vertically perforated bricks, perforated sand-lime bricks as well as lightweight concrete and other types of walls at best possible pull-out safety
- Triple plug locks positioned one after another - excellent overwind protection
- Long stable plug neck - For the types B 8 H 100 and B 8 H 120 the long plug neck serves as additional reinforcement and sound insulation when fixing window frames and door frames in particular in connection with spacer bolts

Article No.	Dimension		Article No.	Qty
8010 6 60	6X60	W	8010P 6 60	600
8010 8 80	8X80	H	8010P 8 80	350
8010 8 100	8X100	H	8010P 8 100	300
8010 10 90	10X90	H	8010P 10 90	250

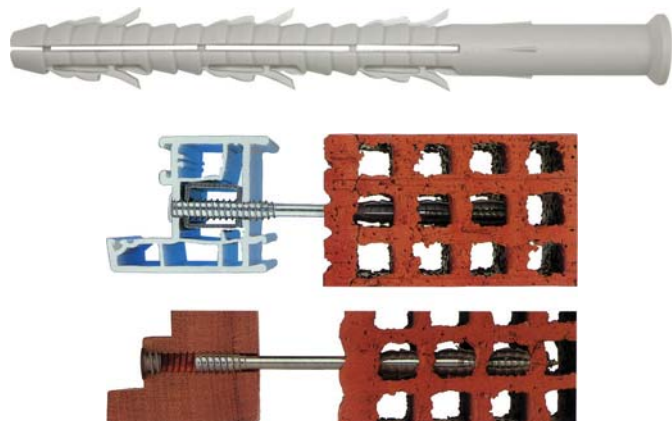


Technical Data				*Recommended load in kN			
Art.-No.	Screw-Ø mm	Min. drill.-depth mm	Min. drill hole mm	Hollow block*	Vert. perf. brick*	Lightw. concrete*	Perf. sand-lime brick*
8010 6 60	3.5 - 4.5	60	70	0.10	0.15	0.15	0.20
8010 8 80	4.5 - 6.0	80	90	0.15	0.25	0.20	0.30
8010 8 100	4.5 - 6.0	80	90	0.15	0.25	0.20	0.30
8010 10 90	6.0 - 8.0	90	100	0.20	0.35	0.35	0.50

Hollow Brick Plug with Collar

- Extra-long plugs for all hollow bricks such as vertically perforated bricks, as well as lightweight concrete and other types of walls at best possible pull-out safety
- Triple plug locks positioned one after another for excellent overwind protection
- Long stable plug neck, for the types B 8 H 100 and B 8 H 120 the long plug neck serves as additional reinforcement and sound insulation when fixing window frames and door frames in particular in connection with spacer bolts

Article No.	Dimension		Article No.	Qty
8010 8 100 1	8X100	H	8010P 8 100 1	250
8010 8 120	8X120	H	8010P 8 120	250
8010 10 120	10X120	f		
8010 10 135	10X135	f		
8010 10 160	10X160	f		
8010 10 185	10X185	f		
8010 10 230	10X230	f		
8010 14 135	14X135	g		
8010 14 160	14X160	g		
8010 14 185	14X185	g		
8010 14 230	14X230	g		



Technical Data				*Recommended load in kN			
Art.-No.	Screw Ø mm	Min. drilling depth mm	Minimum drilling hole depth mm	Hollow block*-	Vertically perforated brick*	Light-weight concrete*	Perforated sand-lime brick*
8010 8 100 1	4.5 - 6.0	80	90	0.15	0.20	0.30	0.25
8010 8 120	4.5 - 6.0	80	90	0.15	0.20	0.30	0.25
8010 10 120	6.0 - 8.0	90	100	0.20	0.35	0.50	0.35
8010 10 135	6.0 - 8.0	90	100	0.20	0.35	0.50	0.35
8010 10 160	6.0 - 8.0	90	100	0.20	0.35	0.50	0.35
8010 10 185	6.0 - 8.0	90	100	0.20	0.35	0.50	0.35
8010 10 230	6.0 - 8.0	90	100	0.20	0.35	0.50	0.35
8010 14 135	10.0 - 12.0	100	110	-	-	-	-
8010 14 160	10.0 - 12.0	100	110	-	-	-	-
8010 14 185	10.0 - 12.0	100	110	-	-	-	-
8010 14 230	10.0 - 12.0	100	110	-	-	-	-

ETA zinc-plated countersunk head nail plug

- Plastic nail plug made of nylon with ETA approval
- Zinc-plated steel nail
- Quick and inexpensive assembly
- Pre-assembled
- Resistant to UV rays and rot
- Can be loosened with a PZ screwdriver in the head of the screw
- Integrated hammer-in stop prevents premature spreading



Article No.	Article Description	QTY
8018 5 30	SK-NAIL PLUG ETA PZ 5X 30	200
8018 5 35	SK-NAIL PLUG ETA PZ 5X 35	200
8018 5 50	SK-NAIL PLUG ETA PZ 5X 50	200
8018 6 35	SK-NAIL PLUG ETA PZ 6X 35	200
8018 6 40	SK-NAIL PLUG ETA PZ 6X 40	200
8018 6 60	SK-NAIL PLUG ETA PZ 6X 60	200
8018 6 80	SK-NAIL PLUG ETA PZ 6X 80	200
8018 8 60	SK-NAIL PLUG ETA PZ 8X 60	100
8018 8 80	SK-NAIL PLUG ETA PZ 8X 80	100
8018 8 100	SK-NAIL PLUG ETA PZ 8X100	100
8018 8 120	SK-NAIL PLUG ETA PZ 8X120	50
8018 8 140	SK-NAIL PLUG ETA PZ 8X140	50
8018 8 160	SK-NAIL PLUG ETA PZ 8X160	50

Technical Data			
Bore diameter mm	Dowel length mm	Clamping thickness mm max.	permissible loads In kN concrete C20/25 and C50/60
5	30	5	0.3
5	35	10	0.3
5	50	25	0.3
6	35	6	0.3
6	40	11	0.3
6	60	30	0.3
6	80	50	0.3
8	60	20	0.5
8	80	40	0.5
8	100	60	0.5
8	120	80	0.5
8	140	100	0.5
8	160	120	0.5

ETA zinc-plated flat head nail plug

- Plastic nail plug made of nylon with ETA approval
- Zinc-plated steel nail
- Quick and inexpensive assembly
- Pre-assembled
- Resistant to UV rays and rot
- Can be loosened with a PZ screwdriver in the head of the screw
- Integrated hammer-in stop prevents premature spreading



Article No.	Article Description	QTY
8019 5 30	FK-NAIL PLUG ETA PZ 5 X 30	200
8019 5 35	FK-NAIL PLUG ETA PZ 5 X 35	200
8019 5 50	FK-NAIL PLUG ETA PZ 5 X 50	200
8019 6 35	FK-NAIL PLUG ETA PZ 6 X 35	200
8019 6 40	FK-NAIL PLUG ETA PZ 6 X 40	200
8019 6 45	FK-NAIL PLUG ETA PZ 6 X 45	200
8019 6 60	FK-NAIL PLUG ETA PZ 6 X 60	200
8019 6 80	FK-NAIL PLUG ETA PZ 6 X 80	200
8019 8 45	FK-NAIL PLUG ETA PZ 8 X 45	100
8019 8 60	FK-NAIL PLUG ETA PZ 8 X 60	100
8019 8 80	FK-NAIL PLUG ETA PZ 8 X 80	100
8019 8 100	FK-NAIL PLUG ETA PZ 8 X 100	100
8019 8 120	FK-NAIL PLUG ETA PZ 8 X 120	50

Technical Data			
Bore diameter mm	Dowel length mm	Clamping thickness mm max.	permissible loads In kN concrete C20/25 and C50/60
5	30	5	0.3
5	35	10	0.3
5	50	25	0.3
6	35	6	0.3
6	40	11	0.3
6	45	16	0.3
6	60	30	0.3
6	80	50	0.3
8	45	5	0.5
8	60	20	0.5
8	80	40	0.5
8	100	60	0.5
8	120	80	0.5

ETA zinc-plated mushroom head nail plug

- Plastic nail plug made of nylon with ETA approval
- Zinc-plated steel nail
- Quick and inexpensive assembly
- Pre-assembled
- Resistant to UV rays and rot
- Can be loosened with a PZ screwdriver in the head of the screw
- Integrated hammer-in stop prevents premature spreading



Article No.	Article Description	QTY
8025 6 40 1	NAIL PLUG MUSHR.HEAD ETA 6X40	200
8025 6 60 1	NAIL PLUG MUSHR.HEAD ETA 6X60	200

Technical Data			
Bore diameter mm	Dowel length mm	Clamping thickness mm max.	permissible loads In kN concrete C20/25 and C50/60
6	40	11	0.3
6	60	30	0.3

A2 countersunk head nail plug

- Plastic nail plug made of nylon
- A2 stainless steel nail
- Quick and inexpensive assembly
- Pre-assembled
- Resistant to UV rays and rot
- Can be loosened with a PZ screwdriver in the head of the screw
- Integrated hammer-in stop prevents premature spreading



Article No.	Article Description	QTY
8017 6 60	SK-NAGELDÜBEL A2 PZ 6X 60	100
8017 8 60	CS-NAIL PLUG A2 PZ 8X 60	100
8017 8 80	CS-NAIL PLUG A2 PZ 8X 80	100
8017 8 100	CS-NAIL PLUG A2 PZ 8X100	100

Technical Data			
Bore diameter mm	Dowel length mm	Clamping thickness mm max.	permissible loads In kN concrete C20/25 and C50/60
6	60	30	0.3
8	60	20	0.5
8	80	40	0.5
8	100	60	0.5

Nail Plug with Countersunk Head

- Drive PZ 2
- Pre-assembled
- 100% nylon/polyamide -Rot-proof, resistant against concrete silicid acid -Best possible pull-out values, resistant against chemical influences



Article No.	Dimension	Article No.	Qty
8020 5 30	5 × 30 W		
8020 5 35	5 × 35 W		
8020 5 50	5 × 50 W		
8020 6 35	6 × 35 W	8020P 6 35	1000
8020 6 40	6 × 40 W	8020P 6 40	1000
8020 6 60	6 × 60 W	8020P 6 60	1000
8020 6 80	6 × 80 W	8020P 6 80	1000
8020 8 60	8 × 60 H		
8020 8 80	8 × 80 H		
8020 8 100	8 × 100 H		
8020 8 120	8 × 120 f		
8020 8 140	8 × 140 f		
8020 8 160	8 × 160 f		

Technical Data		*Recommended load in kN Concrete*.
Min. anch. depth mm	Max. useful length mm	
20	10	0,20
25	15	0,15
25	30	0,15
35	10	0,15
30	15	0,25
30	35	0,25
30	45	0,25
40	20	0,35
40	40	0,35
40	60	0,35
40	80	0,35
40	100	0,35
40	120	0,35

Nail Plug with Flat Head

- Drive PZ 2
- Pre-assembled
- 100% nylon/polyamide, rot-proof, resistant against concrete silicid acid - Best possible pull-out values, resistant against chemical influences
- Type with flat/cylinder head, plane abut for profile and channel fixture and this way highest fixing safety



Article No.	Article Description	QTY
8021 5 30	NAIL PLUG PZ FLAT HEAD 5X30	200
8021 5 50	NAIL PLUG PZ FLAT HEAD 5X50	200
8021 6 40	NAIL PLUG PZ FLAT HEAD 6X40	200
8021 6 60	NAIL PLUG PZ FLAT HEAD 6X60	200
8021 6 80	NAIL PLUG PZ FLAT HEAD 6X80	200
8021 8 60	NAIL PLUG PZ FLAT HEAD 8X60	100
8021 8 80	NAIL PLUG PZ FLAT HEAD 8X80	100
8021 8 100	NAIL PLUG PZ FLAT HEAD 8X100	100
8021 8 120	NAIL PLUG PZ FLAT HEAD 8X120	50

Technical Data		*Recommended load in kN Concrete*
Min. anch. depth mm	Max. useful length mm	
25	10	0,15
25	30	0,15
30	15	0,25
30	35	0,25
30	45	0,25
40	20	0,35
40	40	0,35
40	60	0,35
40	80	0,35

Nail Plug-Countersunk Threaded Head

- Metric thread
- Pre-assembled, screw blue galvanized
- 100% nylon/polyamide, rot-proof, resistant against concrete silicid acid
- Best possible pull-out values, resistant against chemical influences



Article No.	Article Description	QTY
8022 6 40 6	CSK NAIL PLUG M6 6X40	200
8022 8 60 8	CSK NAIL PLUG M8 8X60	100

Technical Data		*Recommended load in kN
Min. anch. depth mm	Thread	Concrete*
40	M6	0,25
60	M8	0,35

Nail Plug with Flat Head Multi

- Drive PZ2
- Pre-assembled, screw blue galvanized

Application:

- For all kinds of substructures
- To be driven into concrete and brick, to be firmly screwed in difficult substructures, such as gypsum plasterboards, hollow bricks and gas concrete
- Particularly appropriate for electrical installation and interior work



Article No.	Article Description	QTY
8022 5 30	NAIL PLUG MULTI FL.HEAD 5X30MM	200
8022 6 40	NAIL PLUG MULTI FL.HEAD 6X40MM	200

Technical Data		*Recommended load in kN			
Min. anch. depth mm	Useful assembly length max. mm	Con-crete*	Hol-low brick*	Gyp-sum plast.*	Gas con-crete*
25	5	0,15	0,07	0,07	0,13
30	10	0,25	0,10	0,10	0,14

Express Nails

- Hardened spring steel
 - High tensile and heavy-duty load
 - High safety
- Galvanized and yellow chromated
 - Double corrosion protection
- The rapid and safe fixture of steel sheet profiles, lath substructures, frames, window fixtures and other objects to be firmly mounted on any solid materials



Article No.	Article Description	QTY
8023 6 30	EXPR. NAILS YELLOW GAL. 6X 30	100
8023 6 60	EXPR. NAILS YELLOW GAL. 6X 60	100
8023 6 80	EXPR. NAILS YELLOW GAL. 6X 80	100
8023 8 70	EXPR. NAILS YELLOW GAL. 8X 70	100
8023 8 90	EXPR. NAILS YELLOW GAL. 8X 90	100
8023 8 110	EXPR. NAILS YELLOW GAL. 8X110	100
8023 8 130	EXPR. NAILS YELLOW GAL. 8X130	100
8023 8 150	EXPR. NAILS YELLOW GAL. 8X150	100
8023 8 180	EXPR. NAILS YELLOW GAL. 8X180	100

Technical Data		*Recommended load in kN		
Min. anch. depth mm	Max. usef. length	Concr.*	Solid brick*	Chalky sandstone*
28	2	0,70	0,50	0,60
30	30	0,70	0,50	0,60
30	50	0,70	0,50	0,60
40	30	1,00	0,80	0,90
40	50	1,00	0,80	0,90
40	70	1,00	0,80	0,90
40	90	1,00	0,80	0,90
40	110	1,00	0,80	0,90
40	140	1,00	0,80	0,90

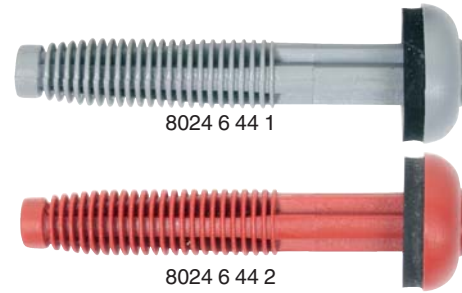
Sealing Nails

- Impact-resistant plastic made of polyamide
- Resistant to weather and ageing
- Sealing washer made of EPDM-rubber
- Conical centering point for easy processes
- Colour-coordinated to zinc and copper sheets
- Head-Ø 12 mm

Application:

- Attachment of sheets and connecting profiles
- Ideally suitable for all attachments in connection with full thermal insulation as no cold bridges arise
- Good pull-out values in concrete, sand-lime brick, brick and other solid building materials

Article No.	Dimension		Artikel-Nr.	Qty
8024 6 44 1	6 × 44mm	W	8024P 6 44 1	200
8024 6 44 2	6 × 44mm	W	8024P 6 44 2	200



Technical Data			*Recommended loads in kN	
*Concrete	*Solid brick	*Sand-lime brick	*Wood	
1.2	0.7	0.5	1.0	
1.2	0.7	0.5	1.0	

Hammer Rivets

- Safe and secure attachment of aluminum and steel sheet profiles, connecting walls and roof edge profiles, storm collars, copings, dome lights, roof sheetings, flange fixtures on solid materials
- Head-Ø 16 mm
- Rivet sleeve/head: special alloy (AL MG SI)
- Mandrel: stainless steel A2



Article No.	Article Description	QTY
8028 48 20	HAMMER RIVET K16MM 4.8X20	200
8028 48 26	HAMMER RIVET K16MM 4.8X26	200
8028 48 30	HAMMER RIVET K16MM 4.8X30	200
8028 48 35	HAMMER RIVET K16MM 4.8X35	200
8028 48 40	HAMMER RIVET K16MM 4.8X40	200
8028 48 50	HAMMER RIVET K16MM 4.8X50	200

Technical Data			*Recommended loads in kN	
Rivet mm	Drill Ø	Cl.-press. width mm	Concrete*	Solid brick*
48 x 20	5,0	5,0	0,35	0,35
48 x 26	5,0	10,0	0,35	0,35
48 x 30	5,0	15,0	0,35	0,35
48 x 35	5,0	20,0	0,35	0,35
48 x 40	5,0	35,0	0,35	0,35
48 x 50	5,0	45,0	0,35	0,35

Hammer Rivets Neoprene Sealing Rubber

- For water-proof attachment
- Ø 15 mm



Article No.	Article Description	QTY
8029 15	NEOPRENE SEALING RUBBER 15MM	100

Frame Anchor, Short Spreading, Countersunk Head

- Drive: Ø 8 Pozzi; Ø 10 TORX
- Short spreading area
- Anchor is delivered with screw
- For attaching: squared timber, wooden slats, mouldings, window and door frames, facade and roof construction made of wood, metal and plastic
- Anchor neck prevents premature moving
- Highly resistant against dynamic loads
- Temperature resistant from -40° C to +80° C
- High flexibility and mechanical properties such as impact-resistance and tensile strength



Article No.	Article Description	QTY
8011 8 60	CS-TX25 FRAME ANCH.SH.SPR.8X60	100
8011 8 80	CS-TX25 FRAME ANCH.SH.SPR.8X80	100
8011 8 100	CS-TX25 FRAME ANCH.SH.SP.8X100	50
8011 8 120	CS-TX25 FRAME ANCH.SH.SP.8X120	50
8011 8 140	CS-TX25 FRAME ANCH.SH.SP.8X140	50
8011 10 80	CS-TX40 FRAME ANC.SH.SP.10X 80	50

Article No.	Article Description	QTY
8011 10 100	CSK-TX40FRAME ANC.SH.SP.10X100	50
8011 10 120	CSK-TX40FRAME ANC.SH.SP.10X120	50
8011 10 140	CSK-TX40FRAME ANC.SH.SP.10X140	50
8011 10 160	CSK-TX40FRAME ANC.SH.SP.10X160	50
8011 10 180	CSK-TX40FRAME ANC.SH.SP.10X180	50

Technical Data				*empfohlene Lasten in kN		
Art.-No.	Minimum-Anchoring depth mm	Min. bore hole-depth mm	Max. working length mm	Concrete B25	Build.bricks MZ20	Sand-lime bricks KSV 20
8011 8 60	40	50	20	4,1	3,8	3,8
8011 8 80	40	50	40	4,1	3,8	3,8
8011 8 100	40	50	60	4,1	3,8	3,8
8011 8 120	40	50	80	4,1	3,8	3,8
8011 8 140	40	50	100	4,1	3,8	3,8
8011 10 80	50	60	30	4,4	3,9	3,9
8011 10 100	50	60	50	4,4	3,9	3,9
8011 10 120	50	60	70	4,4	3,9	3,9
8011 10 140	50	60	90	4,4	3,9	3,9
8011 10 160	50	60	110	4,4	3,9	3,9
8011 10 180	50	60	130	4,4	3,9	3,9

Frame Anchor, Long Spreading, Countersunk Head

- Drive: Ø 8 Pozzi; Ø 10 TORX
- Long spreading area
- Anchor is delivered with screw
- For attaching: squared timber, wooden slats, mouldings, window and door frames, facade and roof construction made of wood, metal and plastic
- Anchor neck prevents premature moving
- Highly resistant against dynamic loads
- Temperature resistant from -40° C to +80° C
- High flexibility and mechanical properties such as impact-resistance and tensile strength



Article No.	Article Description	QTY
8012 8 100	CS-TX25FRAME ANC.L.SPREA.8X100	50
8012 8 120	CS-TX25FRAME ANC.L.SPREA.8X120	50
8012 8 140	CS-TX25FRAME ANC.L.SPREA.8X140	50
8012 10 100	CSK-TX40FRAME ANC.L.SPR.10X100	50

Article No.	Article Description	QTY
8012 10 120	CSK-TX40FRAME ANC.L.SPR.10X120	50
8012 10 140	CSK-TX40FRAME ANC.L.SPR.10X140	50
8012 10 160	CSK-TX40FRAME ANC.L.SPR.10X160	50
8012 10 180	CSK-TX40FRAME ANC.L.SPR.10X180	50

Technical Data				*Recommended loads in kN		
Art.-No.	Min. anchoring- depth mm	Min. drill- hole depth mm	Max. working length mm	Hollow brick HLZ 20	Sand-lime brick KSL 12	Aerat.concrete G 4
8012 8 100	80	90	20	2,1	1,6	1,9
8012 8 120	80	90	40	2,1	1,6	1,9
8012 8 140	80	90	60	2,1	1,6	1,9
8012 10 100	80	100	20	3,4	2,2	3,5
8012 10 120	80	100	40	3,4	2,2	3,5
8012 10 140	80	100	60	3,4	2,2	3,5
8012 10 160	80	100	80	3,4	2,2	3,5
8012 10 180	80	100	100	3,4	2,2	3,5

VLF universal frame anchors, countersunk head

- Universal frame anchors for almost all construction materials
- 3-way expanding body with metal points for increased hold
- Pre-fitted galvanised countersunk head screw with TX drive
- Shaft with anti-rotation feature



Application:

- Fastening in concrete, solid brick, perforated brick, cellular concrete, Plasterboard
- For fastening, e.g., substructures, brackets, Metal rails, etc.

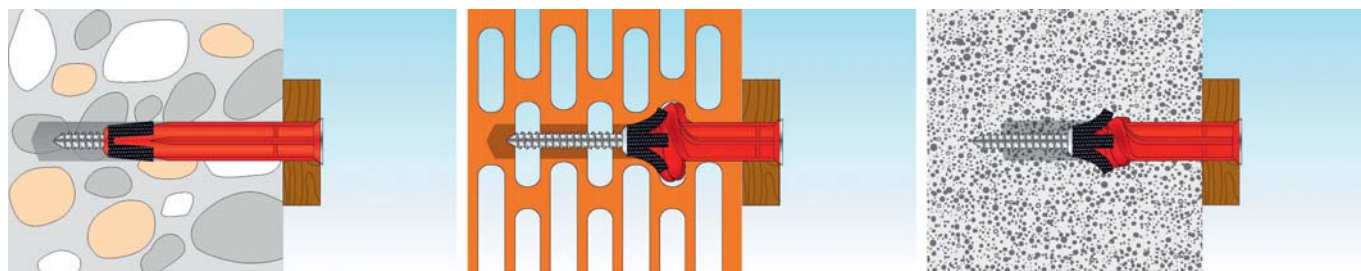
Usage:

- Always tighten the screw after putting the VLF universal frame anchor in position
- In PP2 cellular concrete, the VLF is simply hammered in without pre-drilling
- Optimum hold in cellular concrete achieved after 6 turns of the screw



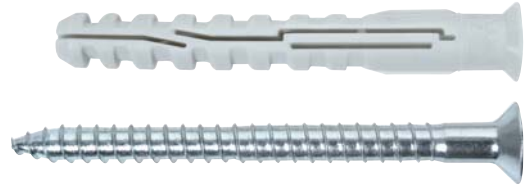
Article No.	Article Description	QTY
8109 6 50	UNIV.FRAME ANCH.VLF 6X 50 C.HD	100
8109 6 70	UNIV.FRAME ANCH.VLF 6X 70 C.HD	100
8109 8 60	UNIV.FRAME ANCH.VLF 8X 60 C.HD	100
8109 8 80	UNIV.FRAME ANCH.VLF 8X 80 C.HD	100
8109 8 100	UNIV.FRAME ANCH.VLF 8X100 C.HD	50
8109 8 120	UNIV.FRAME ANCH.VLF 8X120 C.HD	50
8109 8 140	UNIV.FRAME ANCH.VLF 8X140 C.HD	50
8109 10 100	UNIV.FRAME ANCH.VLF10X100 C.HD	50
8109 10 120	UNIV.FRAME ANCH.VLF10X120 C.HD	50
8109 10 140	UNIV.FRAME ANCH.VLF10X140 C.HD	50
8109 10 160	UNIV.FRAME ANCH.VLF10X160 C.HD	50

Technical Data									
Art.-No.	Drive	max. clamping thickn. mm	Min.anchoring depth mm	Concrete C20 / 25	Solid brick MZ12	Vertic.perfor. bricks ≥ Hlz12	hollow block ≥ Hbl2	Aerated concrete ≥ PB2, PP2	Plaster-board 12,5 mm
8109 6 50	TX 20	15 (- -)	35 (- -)	0,20	0,15	0,20	0,25		0,10
8109 6 70	TX 20	35 (- -)	35 (- -)	0,20	0,15	0,20	0,25		0,10
8109 8 60	TX 25	10 (- -)	50 (- -)	0,50	0,40	0,25	0,30		0,10
8109 8 80	TX 25	30 (10)	50 (70)	0,50	0,40	0,25	0,30	0,15	0,10
8109 8 100	TX 25	50 (30)	50 (70)	0,50	0,40	0,25	0,30	0,15	0,10
8109 8 120	TX 25	70 (50)	50 (70)	0,50	0,40	0,25	0,30	0,15	0,10
8109 8 140	TX 25	90 (70)	50 (70)	0,50	0,40	0,25	0,30	0,15	0,10
8109 10 100	TX 40	40 (20)	60 (80)	0,80	0,60	0,30	0,35	0,30	0,10
8109 10 120	TX 40	60 (40)	60 (80)	0,80	0,60	0,30	0,35	0,30	0,10
8109 10 140	TX 40	80 (60)	60 (80)	0,80	0,60	0,30	0,35	0,30	0,10
8109 10 160	TX 40	100 (80)	60 (80)	0,80	0,60	0,30	0,35	0,30	0,10



Multi-Function Facade Anchor MFR, countersunk TX

- Recess TX: - Ø10 mm TX40 - Ø14 mm TX50
- With European Technical Approval ETA-07/0337
- Universal facade anchors for concrete, perforated brick, solid brick and aerated concrete
- Quadruple extension with side bar provide a secure grip on all surfaces
- Low insertion depth of 70 mm in all building materials and for all dowel lengths
- Pre-assembled screws (from a length of 170 mm screws and dowels are not delivered in a pre-assembled version due to transport reasons)
- For fixation of: facade substructures made of wood and metal, roof constructions, window and door frames, gates, metal brackets and rails, support brackets, panels, square timber
- Fixation of non-bearing systems in cracked concrete to pure tensile load in case of multiple mounting



Article No.	Article Description	QTY
8107 1 8 60	SK-TX30 FAC.ANCHOR 8X 60/ 10	100
8107 1 8 80	SK-TX30 FAC.ANCHOR 8X 80/ 30	100
8107 1 8 100	SK-TX30 FAC.ANCHOR 8X100/ 50	50
8107 1 8 120	SK-TX30 FAC.ANCHOR 8X120/ 70	50
8107 1 10 80	SK-TX40 FAC.ANCHOR 10X 80/ 10	50
8107 1 10 100	SK-TX40 FAC.ANCHOR 10X100/ 30	50
8107 1 10 115	SK-TX40 FAC.ANCHOR 10X115/ 45	50
8107 1 10 135	SK-TX40 FAC.ANCHOR 10X135/ 65	50
8107 1 10 160	SK-TX40 FAC.ANCHOR 10X160/ 90	50
8107 1 10 200	SK-TX40 FAC.ANCHOR 10X200/130	25
8107 1 10 240	SK-TX40 FAC.ANCHOR 10X240/170	25
8107 1 14 80	SK-TX50 FAC.ANCHOR 14X 80/ 10	25
8107 1 14 110	SK-TX50 FAC.ANCHOR 14X110/ 40	25
8107 1 14 140	SK-TX50 FAC.ANCHOR 14X140/ 70	25
8107 1 14 170	SK-TX50 FAC.ANCHOR 14X170/100	25
8107 1 14 200	SK-TX50 FAC.ANCHOR 14X200/130	25
8107 1 14 230	HEX-FACADE ANCHOR 14X230/160	25
8107 1 14 270	HEX-FACADE ANCHOR 14X270/200	25

Technical Data		*admissible loads in kN				
max. Clamp. thickn. mm	Concrete	Solid brick	Sand-limePerfor. brick	Sand-limeperfor. stone	Aerat. concrete	
	≥ C 16/20	MZ 20	KS 20	HLZ 12	KSL 12	AAC 4
10	1,51	0,87	1,33	0,24	0,34	0,31
30	1,51	0,87	1,33	0,24	0,34	0,31
50	1,51	0,87	1,33	0,24	0,34	0,31
70	1,51	0,87	1,33	0,24	0,34	0,31
10	1,59	0,86	0,86	0,21	0,26	0,43
30	1,59	0,86	0,86	0,21	0,26	0,43
45	1,59	0,86	0,86	0,21	0,26	0,43
65	1,59	0,86	0,86	0,21	0,26	0,43
90	1,59	0,86	0,86	0,21	0,26	0,43
130	1,59	0,86	0,86	0,21	0,26	0,43
170	1,59	0,86	0,86	0,21	0,26	0,43
10	1,79	1,29	1,29	0,21	0,34	0,43
40	1,79	1,29	1,29	0,21	0,34	0,43
70	1,79	1,29	1,29	0,21	0,34	0,43
100	1,79	1,29	1,29	0,21	0,34	0,43
130	1,79	1,29	1,29	0,21	0,34	0,43
160	1,79	1,29	1,29	0,21	0,34	0,43
200	1,79	1,29	1,29	0,21	0,34	0,43

For further information with regard to brickwork (type of bricks and sizes) - see approval.

Multi-Function Facade Anchor MFR, countersunk HEX

- Recess: - Ø10 mm SW13/TX40 - Ø14 mm SW17/TX50
- With European Technical Approval ETA-07/0337
- Quadruple extension with side bar provide a secure grip on all surfaces
- Low insertion depth of 70 mm in all building materials and for all dowel lengths
- Pre-assembled screws (from a length of 170 mm screws and dowels are not delivered in a pre-assembled version due to transport reasons)
- For fixation of: facade substructures made of wood and metal, roof constructions, window and door frames, gates, metal brackets and rails, support brackets, panels, square timber
- Fixation of nonbearing systems in cracked concrete to pure tensile load in case of multiple mounting



Article No.	Article Description	QTY
8107 2 8 60	HEX-FACADE ANCHOR 8X 60/ 10	100
8107 2 8 80	HEX-FACADE ANCHOR 8X 80/ 30	100
8107 2 8 100	HEX-FACADE ANCHOR 8X100/ 50	50
8107 2 8 120	HEX-FACADE ANCHOR 8X120/ 70	50
8107 2 10 80	HEX-FACADE ANCHOR 10X 80/ 10	50
8107 2 10 100	HEX-FACADE ANCHOR 10X100/ 30	50
8107 2 10 115	HEX-FACADE ANCHOR 10X115/ 45	50
8107 2 10 135	HEX-FACADE ANCHOR 10X135/ 65	50
8107 2 10 160	HEX-FACADE ANCHOR 10X160/ 90	50
8107 2 10 200	HEX-FACADE ANCHOR 10X200/130	25
8107 2 10 240	HEX-FACADE ANCHOR 10X240/170	25
8107 2 14 80	HEX-FACADE ANCHOR 14X 80/ 10	25
8107 2 14 110	HEX-FACADE ANCHOR 14X110/ 40	25
8107 2 14 140	HEX-FACADE ANCHOR 14X140/ 70	25
8107 2 14 170	HEX-FACADE ANCHOR 14X170/100	25
8107 2 14 200	HEX-FACADE ANCHOR 14X200/130	25
8107 2 14 230	HEX-FACADE ANCHOR 14X230/160	25
8107 2 14 270	HEX-FACADE ANCHOR 14X270/200	25

Technical Data		*admissible loads in kN				
max. clamp. thickn.	Concrete	Solid brick	Sand-lime brick	Perfor. brick	Sand-lime perfor. stone	Aerated concrete
mm	≥ C 16/20	MZ 20	KS 20	HLZ 12	KSL 12	AAC 4
10	1,51	0,87	1,33	0,24	0,34	0,31
30	1,51	0,87	1,33	0,24	0,34	0,31
50	1,51	0,87	1,33	0,24	0,34	0,31
70	1,51	0,87	1,33	0,24	0,34	0,31
10	1,59	0,86	0,86	0,21	0,26	0,43
30	1,59	0,86	0,86	0,21	0,26	0,43
45	1,59	0,86	0,86	0,21	0,26	0,43
65	1,59	0,86	0,86	0,21	0,26	0,43
90	1,59	0,86	0,86	0,21	0,26	0,43
130	1,59	0,86	0,86	0,21	0,26	0,43
170	1,59	0,86	0,86	0,21	0,26	0,43
10	1,79	1,29	1,29	0,21	0,34	0,43
40	1,79	1,29	1,29	0,21	0,34	0,43
70	1,79	1,29	1,29	0,21	0,34	0,43
100	1,79	1,29	1,29	0,21	0,34	0,43
130	1,79	1,29	1,29	0,21	0,34	0,43
160	1,79	1,29	1,29	0,21	0,34	0,43
200	1,79	1,29	1,29	0,21	0,34	0,43

For further information with regard to brickwork (type of bricks and sizes) - see approval.

Multi-Function Facade Anchor MFR, flat collar HEX

- Recess: - Ø10 SW13/TX40 - Ø14 SW17/TX50
- With European Technical Approval ETA-07/0337
- Flat collar version avoids building of contact corrosion
- Universal facade anchors for concrete, perforated brick, solid brick and aerated concrete
- Quadruple extension with side bar provide a secure grip on all surfaces
- Low insertion depth of 70 mm in all building materials and for all dowel lengths
- Pre-assembled screws (from a length of 170 mm screws and dowels are not delivered in a pre-assembled version due to transport reasons)
- For fixation of: facade substructures made of wood and metal, roof constructions, window and door frames, gates, metal brackets and rails, support brackets, panels, square timber
- Fixation of non-bearing systems in cracked concrete to pure tensile load in case of multiple mounting



Article No.	Article Description	QTY
8107 3 8 60	FLAT-HEX-FAC.ANCHOR 8X 60/ 10	100
8107 3 8 80	FLAT-HEX-FAC.ANCHOR 8X 80/ 30	100
8107 3 10 80	FLAT-HEX-FAC.ANCHOR 10X 80/ 10	50
8107 3 10 100	FLAT-HEX-FAC.ANCHOR 10X100/ 30	50
8107 3 14 80	FLAT-HEX-FAC.ANCHOR 14X 80/ 10	25
8107 3 14 110	FLAT-HEX-FAC.ANCHOR 14X110/ 40	25
8107 3 14 140	FLAT-HEX-FAC.ANCHOR 14X140/ 70	25

Technical Data		*admissible loads in kN					
max. clamp. thickn. mm	Concrete	Solid brick	Sand-lime brick	Perfor. brick	Sand-lime perfor. stone	Aerated concrete	
	≥ C 16/20	MZ 20	KS 20	HLZ 12	KSL 12	AAC 4	
10	1,51	0,87	1,33	0,24	0,34	0,31	
30	1,51	0,87	1,33	0,24	0,34	0,31	
10	1,59	0,86	0,86	0,21	0,26	0,43	
30	1,59	0,86	0,86	0,21	0,26	0,43	
10	1,79	1,29	1,29	0,21	0,34	0,43	
40	1,79	1,29	1,29	0,21	0,34	0,43	
70	1,79	1,29	1,29	0,21	0,34	0,43	

For further information with regard to brickwork (types of bricks and sizes) - see approval.

Lightweight Concrete Anchor

- For expansion-free fixtures in lightweight concrete and gypsum
- 100% nylon – rot-proof, high pull-out values
- Screws with metric or wooden thread can be screwed in
- Including appropriate screwing-in tool of HP



Article No.	Dimension		Article No.	Qty
8130 6	6 X 50	H	8130P 6	200
8130 8	8 X 60	f	8130P 8	120
8130 10	10 X 70	b	8130P 10	70

Technical Data						*Recommended loads in kN	
Drilling Ø mm							
Item No	Lightweight concrete	Air concrete	Hexagon drive AF	Screw Ø wood	Screw Ø M	Lightweight concrete P1-P2*	Lightweight concrete P3-P4*
8130 6	10	8	10	5,0 - 6,0	6	1,1	2,6
8130 8	12	10	12	7,0 - 8,0	8	1,7	3,8
8130 10	14	12	14	9,0 - 10,0	10	2,3	5,5

Lightweight Concrete Dowel Pin

- special anchors with excellent holding values in aerated concrete
- suitable for fixations in aerated concrete using wood screws
- after inserting the screw, the spreading is optimally transmitted over three edges due to the dowel pin forming a kind of undercut

Installation tip

- in aerated concrete P4 all lightweight concrete dowel pins can also be hammered into a smaller size borehole
- in aerated concrete P2 the dowel pins can be driven by impact without hammer pre-drilling
- the screw length is calculated from the thickness of the fixture + dowel pin length + 10 mm

Suitable materials:

- aerated concrete
- gypsum wallboards



Article No.	Article Description	QTY
8130 1 10	AAC DOWEL PIN GB 10X55	25
8130 1 12	AAC DOWEL PIN GB 12X60	20
8130 1 14	AAC DOWEL PIN GB 14X75	10

8130 1 10

8130 1 12

8130 1 14

Technical Data						
Art.-No.	Drill-Ø mm	Depth of drill hole mm	Anchorage depth mm	Screw-Ø mm	Lightweight concrete P2	Lightweight concrete P4
8130 1 10	10	65	55	4,5 - 6	1.5	3.3
8130 1 12	12	70	60	7 - 8	2.0	4.0
8130 1 14	14	90	75	10	3.0	6.7

Cellular Concrete Screw

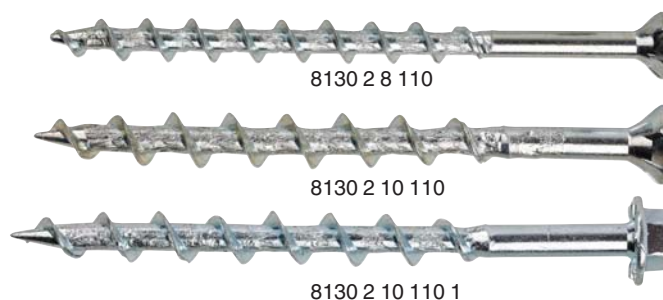
- Galvanised steel
- Quick and secure assembly with or without pre-drilling
- High service loads
- Force transfer via the undercut in the surface
- Material:
- With hexagonal head and force-locked washer
- With sunken head and multi-gear drive

Direct assembly:

- During direct assembly, the screw is inserted via the fixture

Assembly with pre-drilling:

- Drill the hole
- Insert screw (without percussion)
- The head of the screw must be in full contact with the fixture



Article No.	Article Description	QTY
8130 2 8 110	CELL.CONCR.SCREW GV 8X110	100
8130 2 10 110	CELL.CONCR.SCREW GV 10X110	100
8130 2 10 110 1	CELL.CONCR.HEX SCREW GV 10X110	100

Technical Data

Drill-Ø mm	Drill hole- depth mm	Anchoring- depth mm	Offset torque in Nm
0/4	40	80	8
0/4	50	100	10 – 12
0/4	50	100	10 – 12

Insulation Panel Screw IPS 80

- Special screw anchor for fast, simple direct fastening of wall connecting strips (capping strips) and light components in external thermal insulation composite systems (ETICS) without pre-drilling
- **TX drive** – quick, easy fixing
- **Tapered drill tip** – pre-drilling in plaster not necessary
- **Very pronounced threads** – increased hold in ETICS
- **Head hole** – possibility of additional fastening with Ø 3.0 – 3.5 mm chipboard screws
- **EPDM seal** – optimum, ageing-resistant seals

Suitable building materials:

- External thermal insulation composite systems (ETICS)
- Polystyrene panels (EPS, XPS)
- Hard foam panels
- Polystyrene panels



8136 10 80 1



8136 10 80 2



8136 10 80 3

Article No.	Article Description	QTY
8136 10 80 1	IPS SCREW SIGNAL WHITE RAL9003	100
8136 10 80 2	IPS SCREW TELEGREY 1 RAL7045	100
8136 10 80 3	IPS SCRE. TRAFFIC BLACK RAL9017	100

Technical Data

Length mm	TX drive	Thread Ø mm	Head Ø mm
80	25	8 – 10	16
80	25	8 – 10	16
80	25	8 – 10	16

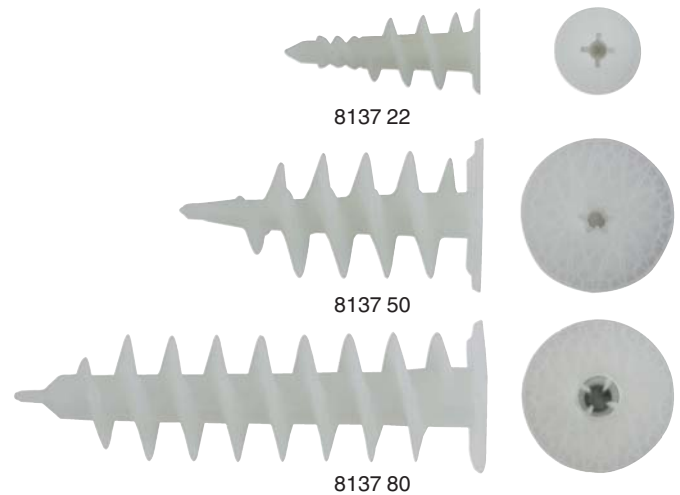


ISO spiral dowel

- For plastered or unplastered polystyrene and polyurethane hard foam panels
- Unique drill bits, **no pre-drilling**, not even through thick and reinforced layers of plaster
- Direct, form-locking attachment to insulation material
- No thermal bridges
- High extraction force
- For lightweight attachments, e.g. lamps, motion sensors, letterboxes, signs, house numbers, capping strips, end strips, overhang rails, downspouts, etc. in the insulation material
- **Includes screw-in tools, in accordance with Art. 8137P**

Assembly tip:

- Holes of the size of the max. anchor $\varnothing$ must be drilled in metal-faced sandwich panels before assembly
- After assembly is complete, seal the dowel flange with silicone/acrylic compound to prevent the ingress of water into the insulating material



Article No.	Article Description	QTY
8137 22	ISO-SPIRAL DOWEL 22	100
8137 50	ISO-SPIRAL DOWEL 50	50
8137 80	ISO-SPIRAL DOWEL 80	25
8137P 22	HP<2.0>ISO SPIRAL DOWEL 22	1
8137P 50	HP<1.0>ISO SPIRAL DOWEL 50	1
8137P 80	HP<0.5>ISO SPIRAL DOWEL 80	1

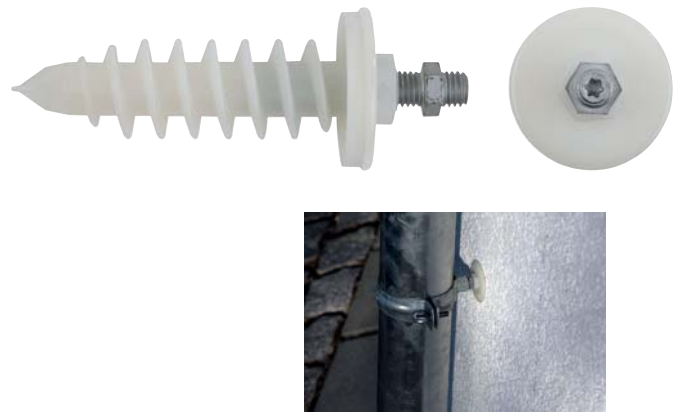
Technical Data				
Dowel length mm	Dowel $\varnothing$ mm	Drive	Bolt $\varnothing$ mm	permissible loads in kN
22	14	PZ 2	3.5 – 4.0	0.01
55	28	TX 40	4.0 – 5.0	0.05
85	28	I-6-edges 8	6.0 – 7.0	0.10

ISO spiral dowel with threaded pin

- Special threaded pin made of A2 stainless steel or with zinc flake coating for good corrosion protection
- Perfect solution for fixing downpipe clamps to the ETIC system: simple, flexible, fast and adjustable!
- Direct thermal-bridge-free attachment to the insulating material
- Pre-assembled special threaded pin: ideal distance of 30 mm between the downpipe and the wall; adjustment by up to a further 25 mm possible by hand
- Pre-assembled sealing ring made of weather-resistant cellular rubber
- Robust, self-drilling (ETICS plaster ≤ 7 mm) nylon dowel, weather resistant

Suitable building materials:

- Heat insulation composite systems (ETICS), polystyrene panels (EPS, XPS), wood fibre insulation boards (pre-drilling: 13 mm), hard foam boards, polystyrene boards and Heraklith boards



Article No.	Article Description	QTY
8137 10 95	ISO SPIR.DOWEL W.THR.PIN M10GV	z 50
8137 10 95 1	ISO SPIR.DOWEL W.THR.PIN M10A2	z 50

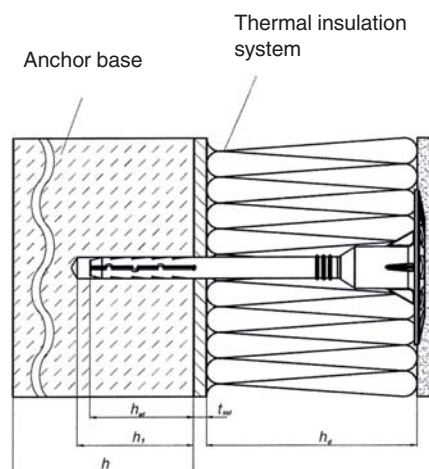
Technical Data			
Dowel length mm	Drive Dowel $\varnothing$	Drive Threaded pin	$\varnothing$ Internal thread / Connector thread
95	Size 17	TX 25 / SW 13	M 10
95	Size 17	TX 25 / SW 13	M 10

Insulation Plugs ETICS

- Impact anchor to fix external thermal insulation composite systems with rendering in concrete and brickwork
- With reduced installation depth of 35 mm
- With European technical approval ETA-07/0336
- The plug must only be used as multi-fixture for the anchoring of glued external thermal insulation composite systems (ETICS) according to ETAG 004 in concrete and brickwork.
- Appropriate for concrete and brickwork
- The used ETICS is not subject of this general technical approval



Technical Data			
Art.-No.	Plug Ø length mm	Disc-Ø mm	Insulation material thickness mm
8086 8 95	8 x 95	60	60
8086 8 115	8 x 115	60	80
8086 8 135	8 x 135	60	100
8086 8 155	8 x 155	60	120
8086 8 175	8 x 175	60	140
8086 8 195	8 x 195	60	160
8086 8 215	8 x 215	60	180
8086 8 235	8 x 235	60	200
8086 8 255	8 x 255	60	220
8086 8 275	8 x 275	60	240



Article No.	Article Description	QTY
8086 8 95	INSULATION PLUGS ETICS 8 X 95	200
8086 8 115	INSULATION PLUGS ETICS 8 X 115	200
8086 8 135	INSULATION PLUGS ETICS 8 X 135	200
8086 8 155	INSULATION PLUGS ETICS 8 X 155	200
8086 8 175	INSULATION PLUGS ETICS 8 X 175	200
8086 8 195	INSULATION PLUGS ETICS 8 X 195	200
8086 8 215	INSULATION PLUGS ETICS 8 X 215	100
8086 8 235	INSULATION PLUGS ETICS 8 X 235	100
8086 8 255	INSULATION PLUGS ETICS 8 X 255	100
8086 8 275	INSULATION PLUGS ETICS 8 X 275	100

Characteristic Tensile Strength N_{RK} kN each PlugTyp TFIX-8M

Anchoring base	Tube density class (kg/dm ³)	Min.resistance to pressure β (N/mm ²)	Notes	Characteristic Tensile Strength N_{RK}
Concrete C 12/15			EN 206-1	1.5 kN
Concrete C 20/25			EN 206-1	1.5 kN
Concrete C 50/60			EN 206-1	1.5 kN
Brick e.g. according to DIN 105, Mz	≥ 2.0 kg/dm ³	12 N/mm ²	Cross section up to 15% reduced by vertical perforation with regard to the bearing surface	1.5 kN
Solid sand-lime brick e.g. acc. to DIN 106, KS	≥ 1.8 kg/dm ³	12 N/mm ²	Cross section up to 15% reduced by vertical perforation with regard to the bearing surface	1.5 kN
Solid sand-lime brick e.g. according to DIN 106, KSL	≥ 1.6 kg/dm ³	12 N/mm ²	Cross section up to 15% reduced by vertical perforation with regard to the bearing surface, thickness of the outer strap ≥ 20 mm	0.9 kN
Vertically perforated brick e.g. acc. to DIN 106, KS	≥ 1.0 kg/dm ³	12 N/mm ²	Cross section more than 15% and less than 50% reduced by perforation (2) EN 206-1	0.6 kN
Lightweight concrete DIN 18152, Vbl	≥ 0.7 kg/dm ³	4 N/mm ²	Ratio of the handle holes to the bearing surface up to 10%, maximum size of the holes: 110 x 45 mm	0.5 kN
Lightweight concrete DIN 18151, Hbl	≥ 0.9 kg/dm ³	2 N/mm ²	According to annex 6 (3)	0.5 kN

Corresponding partial safety factor γ_M : 2,0³⁾

1 Thickness of the outer strap ≥ 14 mm 2 Thickness of the outer strap ≥ 35 mm 3 To be used in the absence of national regulations

Insulation Plugs made of Plastic Material

- Pre-mounted with plastic expansion nail
- For building heights up to 8 meters in order to fix polystyrene
- To fix smooth and pressure-resistant insulation boards
- On bricks, lightweight concrete, lightweight and solid bricks, etc.
- High-quality, impact-proof plastic material – high retaining values
- For stuccoers, plasterers, painters and facade constructor
- Minimum depth of the anchorage: 50 mm



Article No.	Article Description	QTY
8084 90	INS.PL. M.- OF PLASTIC MAT. 90	250
8084 120	INS. PL. M.-OF PLAST. MAT.120	250
8084 140	INS. PL. M.-OF PLAST.MAT. 140	250
8084 160	INS. PL. M.-OF PLAST. MAT. 160	250
8084 180	INS. PL. M.-OF PLAST. MAT.180	250
8084 200	INS.PL.M.-OF PLASTIC MAT 200	250
8084 220	INS.PL.M.-OF PLASTIC MAT 220	250

Technical Data			*Recommended loads in kN		
Plug-Ø mm	Disk-Ø mm	Insulat- material mm	Concr.	Vertic. perf.brick	Solid- brick
10 x 90	50	55	0,18	0,12	0,14
10 x 120	60	85	0,18	0,12	0,14
10 x 140	60	105	0,18	0,12	0,14
10 x 160	60	125	0,18	0,12	0,14
10 x 180	60	145	0,18	0,12	0,14
10 x 200	60	165	0,18	0,12	0,14
10 x 220	60	185	0,18	0,12	0,14

Insulating Board Fixation Metal

- Increased corrosion protection due to aluminium-zinc layer
- All-metal execution, fire-resistance time F120 acc. to the General Test Certificate No. P-3444/7404-MPA BS
- For fastening of smooth and pressure-resistant insulation boards onto concrete and other solid underground
- For stuccoers, plasterers, painters and facade constructors
- Head Ø 35 mm, can be increased with the insulation panel disk out of metal to 80 mm
- Diameter of bore hole: 8 mm



Article No.	Article Description	QTY
8082 30	INSUL. BOARD FIXATION METAL 30	250
8082 60	INSUL. BOARD FIXATION METAL 60	250
8082 90	INSUL. BOARD FIXATION METAL 90	250
8082 170	INSUL.BOARD FIX.MET. TID-S 170	250
8082 200	INSUL.BOARD FIX.MET. TID-S 200	250
8082 250	INSUL.BOARD FIX.MET. TID-S 250	200

Technical Data				*Recommended loads in kN	
dimen- sion mm	min. setting depth mm	min. drill hole depth mm	max. thickn. of insulat. material	Con- crete	Sand-lime brick
8 x 80	30	40	50	0,2	0,2
8 x 110	35	45	75	0,2	0,2
8 x 140	40	50	100	0,2	0,2
8 x 170	45	55	125	0,2	0,2
8 x 200	50	55	150	0,2	0,2
8 x 250	50	55	200	0,2	0,2

Insulation Board Disk made of Metal

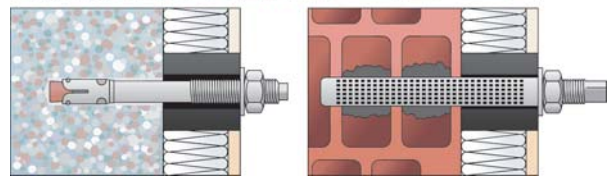
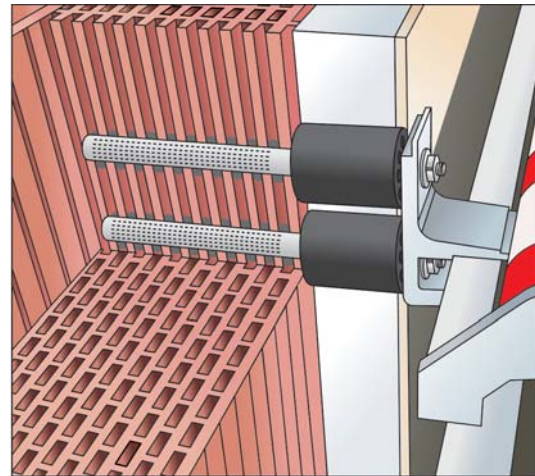
- Appropriate for insulation board fixing metal
- In particular for smooth insulation boards

Article No.	Article Description	QTY
8083 80	INSUL. BOARD DISK M.-OF MET.80	250



Distance Mounting Bushes DIMO-BLOCK

- Material: plastic material
- Pluggable distance bush to bridge loads of heavy-duty fixings in facades with full thermal protection
- To mount marquees, projecting roofs, window shutters, industrial ladders, consoles, etc.
- Applicable with FÖRCH injection mortar, anchor bolts, heavy-duty anchors or cladding plugs, etc.



Article No.	Article Description	QTY
8154 10	DIMO-BLOCK 10MM	50
8154 30	DIMO-BLOCK 30MM	25
8154 50	DIMO-BLOCK 50MM	25
8154 100	DIMO-BLOCK 100MM	20

Technical Data

Outer Ø mm	Inner Ø mm	Distance height mm	Drilling Ø mm
49	18	10	50/51
49	18	30	50/51
49	18	50	50/51
49	18	100	50/51

Hole Saw XL DIMO-BLOCK

- Bimetal hole saw to drill in insulations
- Art.-No 5750 4 50:**
 - Ø 50 mm, length 120 mm
 - Replacement drill bit Art.-No. 5510 70
- Art.-No 5750 4 51:** • Ø 50 mm, length 250 mm
- Art.-No 5750 4 50 and Art.-No 5750 4 51:**
 - Incl. hexagon adapter and drill bit
 - Replacement drill bit Art.-No. 5508 90
 - Not suitable for abrasive materials (Wedi and Haraklith-plates)

Article No.	Article Description	QTY
5750 4 50	KIT BMETAL HOLE SAW XL DIMO 50	1
5750 4 50 1	BIMETAL HOLE SAW XL DIMO 50	1
5750 4 51	KIT BMETAL HOLE SAW XL DIMO 51	1
5750 4 51 1	BIMETAL HOLE SAW XL DIMO 50	1



Scaffolding Screws

To fix:

- Scaffolds, tensioning ropes, chains for trellis, safety harnesses, etc.

Suitable for:

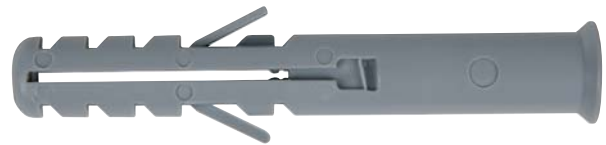
- Concrete, natural stones, solid bricks, hollow blocks, lightweight concrete, wood (without plugs), etc.
- Eyebolt Ø 23 mm

Article No.	Article Description	QTY
8090 12 90	SCAFF. EYEBOLT ZINC PL. 12X 90	20
8090 12 120	SCAFF. EYEBOLT ZINC PL. 12X120	20
8090 12 160	SCAFF. EYEBOLT ZINC PL. 12X160	20
8090 12 190	SCAFF. EYEBOLT ZINC PL. 12X190	10
8090 12 230	SCAFF. EYEBOLT ZINC PL. 12X230	20
8090 12 300	SCAFF. EYEBOLT ZINC PL. 12X300	25
8090 12 350	SCAFF. EYEBOLT ZINC PL. 12X350	25

(Shaft dimensions Ø mm x L mm)



Scaffolding Plug Nylon



Article No.	Article Description	QTY
8091 14 70	SCAFFOLDING PLUG NYLON 14X70	20
8091 14 100	SCAFFOLDING PLUG NYLON 14X100	20
8091 14 135	SCAFFOLDING PLUG NYLON 14X135	20
8091 14 185	SCAFFOLDING PLUG NYLON 14X185	20

(Drill bit Ø mm/plug length mm)

Technical Data			
Min. drill hole depth for push-through mounting mm	Min. depth of anchoring mm	Max. useful length mm	Min. slide-in depth mm
80	70	-	75
110	70	30	105
145	70	65	140
195	70	110	190

Cover Caps for Drill Holes

- Avoids the penetration of humidity
- Slightly cracked drill holes are well-covered
- For multiple use of a drill hole or plug the cap can be easily disassembled using a screwdriver

Article No.	Article Description	QTY
8092 1	COVER CAPS 12X40 WHITE	100
8092 2	COVER CAPS 12X40 GREY	100



Cover Caps for Frame Plugs Metal TX

- For TX 30 drive



8044 15

8044 16

Article No.	Article Description	QTY
8044 15	COV.CAPS CONVEX WHITE 15 9016	H 500
8044 16	COV. CAPS FLAT WHITE 16 9016	H 500

Technical Data

For plug Ø	Type	Color
10 mm	Curved Ø 15 mm	white RAL 9016
10 mm	Flat Ø 16 mm	white RAL 9016

Cover Caps for Frame Plugs Metal PZ

- For PZ drive
- For AGR 8040



8041 15

8044 15 1

8041 16

8041 16 1

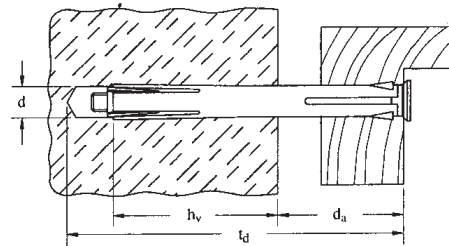
Article No.	Article Description	QTY
8041 15	COV.CAPS CONVEX WHITE 15 9016	H 500
8041 15 1	COV.CAPS CONVEX D.BR.15 1 8017	H 500
8041 16	COV. CAPS FLAT WHITE 16 9016	H 500
8041 16 1	COV. CAPS FLAT D.BR.16 1 8017	H 500

Technical Data

For plug Ø	Type
10 mm	Curved Ø 15 mm
10 mm	Curved Ø 15 mm
10 mm	Flat Ø 16 mm
10 mm	Flat Ø 16 mm

Frame Anchor Metal with Countersunk Head Screw PZ

- With PZ 3 drive
- Screw head Ø 13 mm, with captive cone
- Rapid, stable frame mounting without stresses and without back filling or splitting with a wedge
- Exact distance mounting of window and door frames made of wood, plastic material light metal or steel
- Exact radial tensioning of the metal bushes
- Special stud avoids that the cone rotates simultaneously
- Material:- Screw: steel, yellow chromated - Cone: steel diecast, yellow chromated- Bush: steel, aluminum-zinc coated
- Appropriate for concrete, solid bricks, solid sand-lime bricks, vertically perforated bricks, perforated sand-lime bricks, hollow blocks, solid pumice, gas concrete, natural stone, etc.
- Min. anchoring depth 30 mm (refer to hv)



Article No.	Article Description	QTY
8040 10 72	CS PZ3 METAL FR.ANCH. 10X 72	100
8040 10 92	CS PZ3 METAL FR.ANCH. 10X 92	100
8040 10 112	CS PZ3 METAL FR.ANCH. 10X112	100
8040 10 132	CS PZ3 METAL FR.ANCH. 10X132	100
8040 10 152	CS PZ3 METAL FR.ANCH. 10X152	100
8040 10 182	CS PZ3 METAL FR.ANCH. 10X182	100
8040 10 202	CS PZ3 METAL FR.ANCH. 10X202	100

Technical Data			Recomm.loads in KN				Recomm.cross-loads in KN	
Art.-No.	min. drill hole-depth;push-through install. mm	max. usable-length mm	Concrete and solid brick	Vertic.perfor.- brick	Sand-lime brick perfor.stone	Aerated concrete	Concrete, sol.brick Vertic.perfor.brick Sand-lime brick	Aerated-concrete
8040 10 72	90	42	0,6	0,5	0,3	0,1	0,4	0,25
8040 10 92	110	62	0,6	0,5	0,3	0,1	0,4	0,25
8040 10 112	130	82	0,6	0,5	0,3	0,1	0,4	0,25
8040 10 132	150	102	0,6	0,5	0,3	0,1	0,4	0,25
8040 10 152	170	122	0,6	0,5	0,3	0,1	0,4	0,25
8040 10 182	200	152	0,6	0,5	0,3	0,1	0,4	0,25
8040 10 202	215	172	0,6	0,5	0,3	0,1	0,4	0,25

Plasterboard Fasteners

- For mounting electrical equipment on plasterboard and Heraklith panels
- Even when screwing in the fastener, the dowel remains firmly anchored in the building material
- Quick and easy mounting
- Galvanized spring steel
- Temperature range: -10 °C to +85 °C
- Colour: light grey

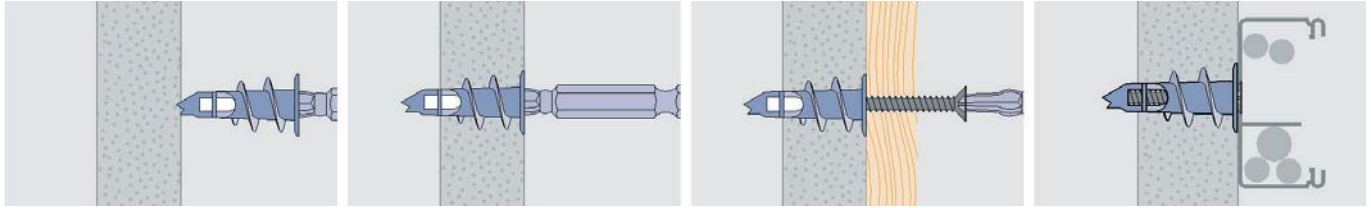
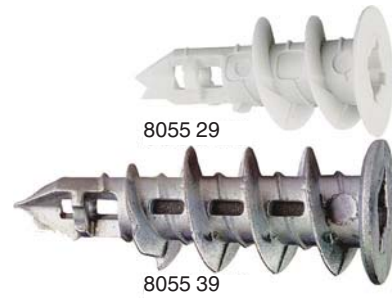
Technical Data		
Art.-No.	Screw- Ø	Length mm
8104 30	3.5 - 4.5	30
8104 43	3.5 - 4.5	43



Article No.	Article Description	QTY
8104 30	PLASTERBOARD FASTENERS 30MM	100
8104 43	PLASTERBOARD FASTENERS 43MM	100

Plasterboard Plug

- Perfect for plasterboard and lightweight construction boards such as lightweight concrete and gypsum – for gypsum pre-drill 8 mm
- Centered plug drill bit – precise marking
- Special structure of the interior threads – wooden screws of 3.9 - 4.5 as well as threaded screws M 4 can be universally screwed in
- Delivery including appropriate screw-in tool in HP



Article No.	Dimension		Article No.	Qty
8055 29	25	R	8055P 29	750
8055 39	39	HR	8055P 39	500

(mm)

Technical Data		*Recommended loads in kN	
Screw mm	Material	Gypsum plasterboards*	Lightweight concrete*
4,0 - 4,5 / M4	Metal	0,10	0,10
4,0 - 4,5 / M4	Plastic material	0,09	-

Duo-Bit for Plasterboard Plugs

- Drive 1/4" hexagon E 6.3
- Duo-Bit for type 29 + 39
- Screwing in the plug and a screw with PZ/PH 2 drive

Article No.	Article Description	QTY
8055 39 1	DUO-BIT F.PLASTERBOARD PLUG	e 10



Board Anchor

- To mount light-weighted structural components into gypsum plasterboards and chipboards
- For chipboard screws 3.5 mm, minimum screw length 50 mm
- Appropriate for electricians, interior work
- Clamping width plate thickness max. 2 x 12.5 mm



Article No.	Dimension		Article No.	Qty
8104 10 47	10X47	H	8104P 10 47	250

Technical Data		*Recommended loads in kN			
Screw Ø mm	Concrete*	Solid brick*	Vertic. perfor. brick*	Perfor. sand-lime brick*	Gypsum plasterboard*
4,0 - 5,0	0,30	2,00	0,10	0,20	0,08

Injection Fixing 2K

- 2-component injection system on the basis of polyurethane
- To fix light-weighted components, to repair and fill broken out or too large drilled holes in all mineral building materials
- Slight increase in volume during curing guarantees maximum retention
- Can also be used in hollow or perforated materials with perforated sleeve
- Expansion-free anchoring avoids damages on tiles and plaster
- Rapid curing, therefore little waiting times until mounting is possible
- Screws can be directly screwed in the cured compound and thus it is possible to screw them in and out several times
- Can be painted over or sanded
- Mounting of different screws, hook or eyelets up to Ø 6 mm
- Ideal to anchor, e.g. curtain rails, coat pegs, lamps, towel rails, light-weighted racks, shower rods, etc.

Notes:

- Storage space must be cool, dry and dark
- Storage temperature: +10 °C to +30 °C
- Minimum durability: 12 months
- Cure time: 2 - 4 minutes



8140 25



8140 25 1



8140 25 2



8140 25 3



Article No.	Article Description	QTY
8140 25	2K-INJECTION FIXING 25ML	e 10
8140 25 1	STATIC MIXT. F.2K-INJ.FIXING	10
8140 25 2	PERF.SLEEVE F.2K-INJECT.FIXING	10
8140 25 3	EXTENSION FOR 2K-INJECT.FIXING	10

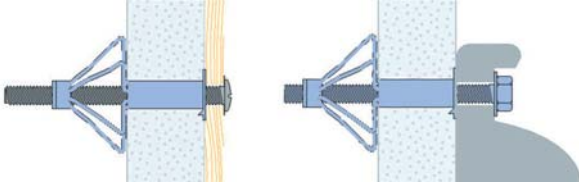
Contents of Art.-No. 8140 25:

- 1x Injection fixing 25 ml, 2x static mixtures, 2x perforated sleeve, 2x extensions

Technical Data			*Recommended loads in kN	
Screw-Ø mm	Drill-Ø mm	Min. anch. depth mm	Solid material*	Perforated- material*
4	6 - 10	45	0.4	0.2
5	8 - 10	45	0.5	0.25
6	10	45	0.6	0.3

Hollow Plug Metal

- To fix component parts of medium weight on gypsum plasterboards or other board materials
- Appropriate for electricians, heat, air conditioning and sanitary installers, drywall installation and interior work
- Screws pre-mounted
- Efficient, easy expanding process by using tongs



Article No.	Article Description	QTY
8145 4 38	LK-PH2 METAL HOLLOW PLUG 4X38	100
8145 4 45	LK-PH2 METAL HOLLOW PLUG 4X45	100
8145 4 52	LK-PH2 METAL HOLLOW PLUG 4x52	100
8145 5 52	LK-PH2 METAL HOLLOW PLUG 5X52	100
8145 5 65	LK-PH2 METAL HOLLOW PLUG 5X65	100
8145 5 80	LK-PH2 METAL HOLLOW PLUG 5x80	100
8145 6 52	LK-PH2 METAL HOLLOW PLUG 6X52	100
8145 6 65	LK-PH2 METAL HOLLOW PLUG 6X65	100
8145 6 80	LK-PH2 METAL HOLLOW PLUG 6x80	100
8145 8 53	LK-PH2 METAL HOLLOW PLUG 8X53	100
8145 8 66	LK-PH2 METAL HOLLOW PLUG 8X66	100
8145 8 81	LK-PH2 METAL HOLLOW PLUG 8x81	100

Technical Data			*Recommended loads in kN		
Drive	Clamp. thickn. plate thickn. mm	Drill-Ø mm	Plaster board*	Wooden board*	Cement fibre board*
PH 2	8 - 16	8	0,15	0,20	0,35
PH 2	18 - 24	8	0,15	0,20	0,35
PH 2	32 - 38	8	0,18	0,25	0,40
PH 2	3 - 16	10	0,18	0,25	0,40
PH 2	14 - 32	10	0,18	0,25	0,40
PH 2	32 - 45	10	0,20	0,28	0,42
PH 2	3 - 16	12	0,20	0,28	0,42
PH 2	14 - 32	12	0,20	0,28	0,42
PH 2	32 - 45	12	0,20	0,30	0,45
PH 2	3 - 16	13	0,20	0,30	0,45
PH 2	16 - 32	13	0,20	0,30	0,45
PH 2	32 - 45	13	0,20	0,30	0,45

Mounting Tongs for Hollow Plugs Made of Metal

Article No.	Article Description	QTY
8145 1	M. TO. F. H. PL. M.-OF ME. M4-M6	1
8145 2	MOUNT. PLIERS F. HOLL. PLUG M4-M8	1

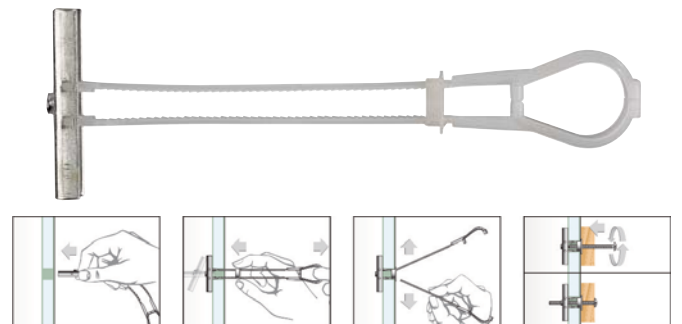


Hollow cavity dowel universal

- Universally usable for plate thicknesses from 10 – 70 mm
- Excellent holding properties
- Immediately usable, no waiting
- Quick and easy handling
- No special setting tool required

Suitable building materials:

- Sandwich-type plaster boards, chipboards, perforated bricks with large chambers, hollow chamber ceilings etc.



Article No.	Article Description	QTY
8146 5	HOLLOW CAV.DOW.UNIVERSAL M5	25
8146 6	HOLLOW CAV.DOW.UNIVERSAL M6	25
8146 8	HOLLOW CAV.DOW.UNIVERSAL M8	25

Technical Data		*Recommended loads in kN			
Screw Ø mm	Bore Ø mm	9.5mm Sandw-type plast.board	12.5mm Sandw-type plast.board	16.0mm Sandw-type plast.board	19.0mm Sandw-type plast.board
5	13	0.10	0.20	0.20	0.20
6	13	0.20	0.20	0.20	0.20
8	19	0.20	0.20	0.20	0.20

Spring Toggle Fixing with Knurled Nut

- Suitable for: plasterboards, gypsum fibreboards, chipboards, cement fibreboards, wood wool slabs, hardboards, hollow tile ceilings, reinforced block floor, hollow brick ceilings, trapezoidal sheet metal, etc.
- To fix: racks, switches, wall units, curtain rails, cable ducts, boilers, wardrobes, etc.



Article No.	Article Description	QTY
8060 3 85	SPR. TOG. FIX. W.MS-MU. M3X85	100
8060 4 95	SPR. TOG. FIX. W.MS-MU. M4X95	50

Technical Data		*Recommended loads in kN			
Drilling Ø mm	Thread M x length mm	Plaster- board*	Wooden board*	Cement fiber plate*	Breaking forces*
11	3 x 85	0.16*	0.30*	0.33	1.00
15	4 x 95	0.20*	0.35*	0.57	2.00

Spring Toggle Fixing with Disk

- Appropriate for: plasterboards, gypsum fibreboards, chipboards, cement fibreboards, wood wool slabs, hardboards, hollow tile ceilings, reinforced block floor, hollow brick ceilings, trapezoidal sheet metal, etc.
- To fix: racks, switches, wall units, curtain rails, cable ducts, boilers, wardrobes, etc.



Article No.	Article Description	QTY
8061 4 95	SP. TOG. FIX. W.NUT A.WA.M4X95	50

Technical Data		*Recommended loads in kN			
Drilling Ø mm	Thread M x length mm	Plaster- board*	Wooden board*	Cement fiber plate*	Breaking forces*
15	4 x 95	0.16*	0.3*	0.33	2.00

Spring Toggle Fixing with Hook and Disk

Appropriate for:

- plasterboards, gypsum fibreboards, chipboards, cement fibreboards, wood wool slabs, hardboards, hollow tile ceilings, reinforced block floor, hollow brick ceilings, trapezoidal sheet metal, etc.

To fix:

- lamps, hanging baskets, etc.



Article No.	Article Description	QTY
8062 3 85	SPR. TOGG. FIXING W.HOOK M3X90	100
8062 4 95	SPR. TOGG. FIXING W.HOOK M4X95	50

Technical Data		*Recommended loads in kN			
Drilling Ø mm	Thread M x length mm	Plaster- board*	Wooden board*	Cement fiber plate*	Breaking forces*
11	3 x 85	0.16	0.30	0.33*	0.10**
15	4 x 95	0.20	0.35	0.57*	0.40**

* Indicated values depending on the building material

** Hooks are bending up

Breaking forces:

Threaded rod breaking or failure of the tipping element (the load-bearing capacity of the ceiling or of the wall is not considered)

Toggle Fixing with Disk

- Appropriate for: plasterboards, gypsum fibreboards, chipboards, cement fibreboards, wood wool slabs, hardboards, hollow tile ceilings, reinforced block floor, hollow brick ceilings, trapezoidal sheet metal, etc.
- To fix: lamps, racks, switches, wall units, curtain rails, rack rails, cable ducts, boilers, wardrobes, etc.



Article No.	Article Description	QTY
8065 5 100	TOGG.FIX. W.NUT A.WASH. M5X100	25

Technical Data			*Recommended loads in kN		
Drilling Ø mm	Thread M x length mm	Plaster- board*	Wooden board*	Cement fiber plate*	Breaking forces*
14	5 x 100	0.23*	0.40*	0.65*	3.00

Toggle Fixing with Hook

- Appropriate for: plasterboards, gypsum fibreboards, chipboards, cement fibreboards, wood wool slabs, hardboards, hollow tile ceilings, reinforced block floor, hollow brick ceilings, trapezoidal sheet metal, etc.
- To fix: lamps, hanging baskets, etc.



Article No.	Article Description	QTY
8066 5 100	TOGGLE FIXING W.HOOK M5X100	25

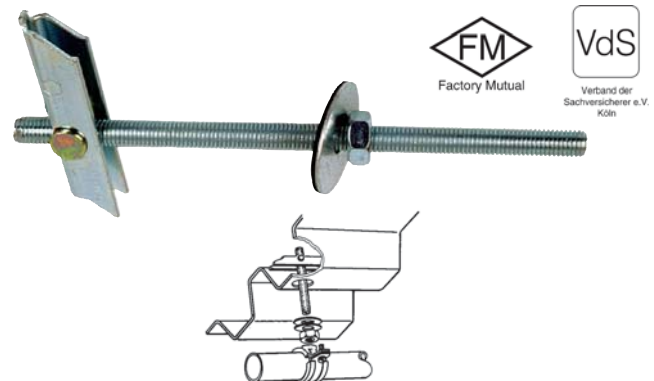
Technical Data			*Recommended loads in kN		
Drilling Ø mm	Thread M x length mm	Plaster- board*	Wooden board*	Cement fiber plate*	Breaking forces*
14	5 x 100	0.23*	0.40*	0.65*	0.60**

Toggle Bolt for Trapezoidal Steel Sheets

- Pre-mounted including turnout-protected threaded rod, Hypalen sealing disk, U-washer and hexagon nut – rapidly and economic
- FM-tested and approved by the VdS No G 4890027 – approved for tube fixture up to Ø 50 according to VdS provisions as well as of air conditioning channels, illumination rails, mounting rails, holding traverses, etc. – tested and guaranteed safety
- Turnable threaded rod – each fixing point can be leveled individually; it is possible to create any incline
- Galvanized – corrosion-protected

Load value:

- Max. point load on trapezoidal sheet metals / tubes and other fixtures: 800 N / 1000 N
- Breaking load value plug: 20 kN
- It is recommended to apply each 4th or 5th fixture at a statically highly loadable position



Article No.	Article Description	QTY
8067 8 100	TOGG.FIX. F.TRAP. SH. M. 8X100	50
8067 8 200	TOGG.FIX. F.TRAP. SH. M. 8X200	25
8067 8 300	TOGG. FIX. F.TRAP. SH. M.8X300	25
8067 10 100	TOGG. FIX. F.TRAP. SH.M.10X100	25

Technical Data	
Drilling Ø	Thread M x length mm
22 mm	8 x 100
22 mm	8 x 200
22 mm	8 x 300
25 mm	10 x 100

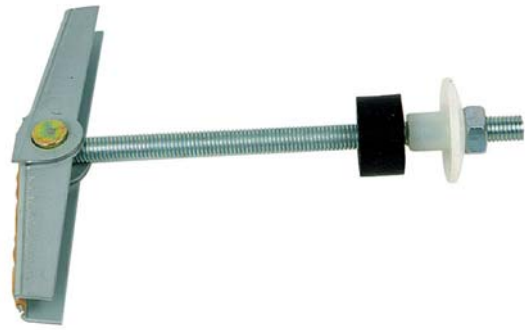
* Indicated values depending on the building material

** Hooks are bending up

Breaking forces: Threaded rod breaking or failure of the tipping element (the load-bearing capacity of the ceiling or of the wall is not considered)

Spring Toggle Fixing for Washstand Attachment

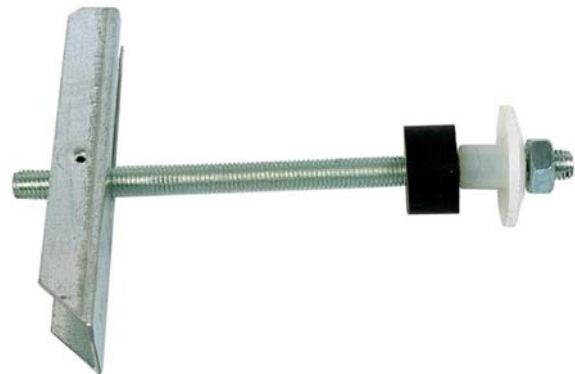
- Pre-mounted with turnout-protected threaded rod, rubber plug to fill the drilling hole and to center the threaded rod, nylon collar bushing and hexagon nut M10
- Large bearing surface – perfect wash stand fixing, in particular in smooth materials with little compressive strength such as gas concrete, plasterboard or similar materials
- Galvanized – corrosion-protected
- Drilling hole Ø: 30 mm
- Required cavity depth: 90 mm
- Max. wall and ceiling thickness: 140 mm incl. fixing object



Article No.	Article Description	QTY
8063 10 180	SPR.TOGG. FIX. WASH ST. 10X180	25

Spring Toggle Fixings for Washstand Attachment

- Pre-mounted with turnout-protected threaded rod, rubber plug to fill the drilling hole and to center the threaded rod, nylon collar bushing and hexagon nut M10
- Large bearing surface – perfect wash stand fixing, in particular in smooth materials with little compressive strength such as gas concrete, plasterboard or similar materials
- Galvanized – corrosion-protected
- Drilling hole Ø: 30 mm
- Required cavity depth: 145 mm
- Max. wall and ceiling thickness: 140 mm incl. fixing object
- Bearing surface: 30 cm²



Article No.	Article Description	QTY
8068 10 180	TOGG. FIXING F.WASH ST. 10X180	25

Spike Grid Metal

- Applicable in poroton, perforated brick tiles, pumice and lightweight concrete
- Particularly designed for light-weight assemblies
- Drive in the plug into gas concrete without pre-drilling
- For hanger bolts, wooden boards, chipboards and drywall screws, etc.
- Complies with the technical guidelines for gas installations (TRGI) in relation with hanger bolts



Article No.	Dimension		Article No.	Qty
8155 6	6X32	H	8155P 6	1000
8155 8	8X38	H	8155P 8	500
8155 8 60	8X60	H	8155P 8 60	250
8155 10	10 X 60	H	8155P 10	200

Technical Data	*Recommended loads in kN		
	Concrete B25*	Light-weight concrete*	Vertically perforated brick*
Screws Ø mm			
5 - 6	0,30	0,12	0,15
6 - 8	0,44	0,18	0,22
6 - 8	0,76	0,35	0,38
8 - 10	0,86	0,42	0,43

Expansion Anchor Brass

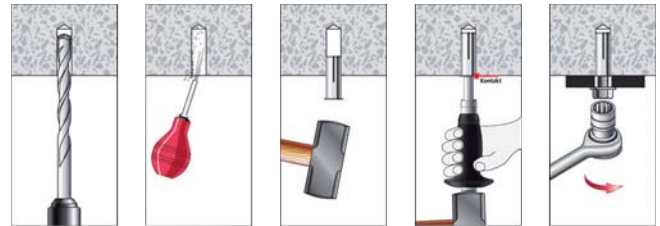
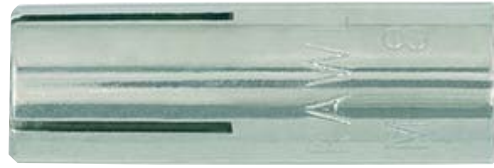
- Applicable in concrete, solid bricks, natural stone, clinker, sand-lime bricks, solid wood and composite lumber
- With metric interior thread
- High retaining values, turn-proof and slip-proof



Technical Data			*Recommended loads in kN	
Screws M	Drilling Ø mm	min. drilling hole depth mm	Concrete B25*	Solid brick*
5	7,0	30	0,30	0,26
6	8,0	30	0,40	0,36
8	10,0	40	0,8	0,63
10	12,0	45	1,00	0,9
12	15,0	50	1,22	1,1
16	22,0	60	3,90	2,35

R-DCA drop-in anchor , galvanised steel

- Easy-to-place anchor with ETA approval, option 7 for concrete without cracks and part 6 for cracked concrete
- Galvanised internally threaded expansion anchor for mounting threaded rods or bolts
- Fire resistance class F120
- Quick mounting due the special cone geometry
- Attachment using hammer and setting tool
- Extra shallow setting depth for M6 × 25
- Special red plastic disc stabilises the cone during transport
- Ideal for the secure attachment of mechanical components, cable troughs, electrical platforms, drain covers, suspended ceilings, etc.
- Securing of equipment which needs to be removed and reattached



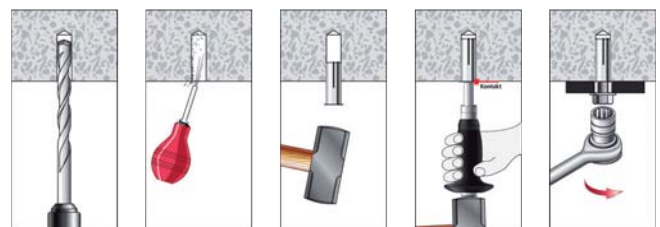
Article No.	Article Description	QTY
8209 2 6	DROP-IN ANCHOR R-DCA-M 6 GV	100
8209 2 8	DROP-IN ANCHOR R-DCA-M 8 GV	100
8209 2 10	DROP-IN ANCHOR R-DCA-M10 GV	50
8209 2 12	DROP-IN ANCHOR R-DCA-M12 GV	50
8209 2 16	DROP-IN ANCHOR R-DCA-M16 GV	25
8209 2 20	DROP-IN ANCHOR R-DCA-M20 GV	15

Technical Data

Thread length mm	recomm.max. tightening torque Nm
11	4,5
13	11
15	22
20	38
25	98
35	130

R-DCA drop-in anchor, A4 stainless steel

- Easy-to-place anchor with ETA approval, option 7 for concrete without cracks and part 6 for cracked concrete
- A4 stainless-steel internally threaded expansion anchor for mounting threaded rods or bolts
- Fire resistance class F120
- Quick mounting due the special cone geometry
- Attachment using hammer and setting tool
- Extra shallow setting depth for M6 × 25
- Special red plastic disc stabilises the cone during transport
- Ideal for the secure attachment of mechanical components, cable troughs, electrical platforms, drain covers, suspended ceilings, etc.
- Securing of equipment which needs to be removed and reattached



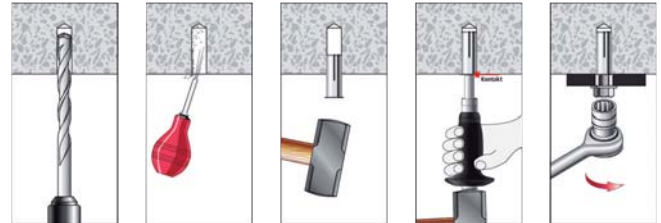
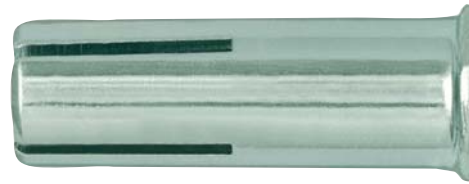
Article No.	Article Description	QTY
8209 3 6	DROP-IN ANCHOR R-DCA-M 6 A4	100
8209 3 8	DROP-IN ANCHOR R-DCA-M 8 A4	100
8209 3 10	DROP-IN ANCHOR R-DCA-M10 A4	50
8209 3 12	DROP-IN ANCHOR R-DCA-M12 A4	50
8209 3 16	DROP-IN ANCHOR R-DCA-M16 A4	25

Technical Data

Thread length mm	Recomm.max tightening torque Nm
11	4,5
13	11
15	22
20	38
25	98

R-DCL-K drop-in anchor, galvanised steel

- Easy-to-place anchor with ETA approval, option 7 for concrete without cracks and part 6 for cracked concrete
- Galvanised internally threaded expansion anchor for mounting threaded rods or bolts
- Fire resistance class F120
- Quick mounting due the special cone geometry
- Attachment using hammer and setting tool
- Extra shallow setting depth for M6 × 25
- Special red plastic disc stabilises the cone during transport
- Ideal for the secure attachment of mechanical components, cable troughs, electrical platforms, drain covers, suspended ceilings, etc.
- Securing of equipment which needs to be removed and reattached



Article No.	Article Description	QTY
8209 1 6	DROP-IN ANCHOR R-DCL-M 6 K GV	100
8209 1 8	DROP-IN ANCHOR R-DCL-M 8 K GV	100
8209 1 10	DROP-IN ANCHOR R-DCL-M10 K GV	50
8209 1 12	DROP-IN ANCHOR R-DCL-M12 K GV	50
8209 1 16	DROP-IN ANCHOR R-DCL-M16 K GV	25

Technical Data

Thread length mm	Recommended max. tightening torque Nm
11	4,5
13	11
15	22
20	38
25	98

Expansion tool R-DCA-ST for drop-in anchor

Article No.	Article Description	QTY
8213 6 2	EXPANSION TOOLR-DCA-ST M 6	1
8213 8 2	EXPANSION TOOLR-DCA-ST M 8	1
8213 10 2	EXPANSION TOOLR-DCA-ST M 10	1
8213 12 2	EXPANSION TOOLR-DCA-ST M 12	1
8213 16 2	EXPANSION TOOLR-DCA-ST M 16	1
8213 20 2	EXPANSION TOOLR-DCA-ST M 20	1



Drop-in anchor R-DCA/R-DCL, steel

Extract from the application conditions in the ETA-13/0584

Overall safety factor taken into account according to ETAG (γ_M und γ_F)

Loads and Characteristik values		M6	M8	M10	M12	M16	M20
Characteristic transverse load in cracked and uncracked concrete in all load directions							
C20/25 bis C50/60 (Screw / Threaded rod class ≥ 4.8)	FRk	1.52 kN	3.01 kN	4.57 kN	6.43 kN	13.31 kN	17.38 kN
Characteristic bending torque							
Characteristic load capacity (Screw 4.8)	M0Rk,S	6 Nm	15 Nm	30 Nm	52 Nm	133 Nm	260 Nm
Characteristic load capacity (Screw 5.8)	M0Rk,S	8 Nm	19 Nm	37 Nm	66 Nm	167 Nm	325 Nm
Characteristic load capacity (Screw 6.8)	M0Rk,S	9 Nm	23 Nm	45 Nm	79 Nm	200 Nm	390 Nm
Characteristic load capacity (Screw 8.8)	M0Rk,S	12 Nm	30 Nm	60 Nm	105 Nm	267 Nm	520 Nm
Axial spacing and edge clearances							
Anchoring depth	h_{ef}	25 mm	30 mm	40 mm	50 mm	65 mm	80 mm
Axial spacing	s_{min}	200 mm	200 mm	200 mm	200 mm	260 mm	320 mm
Edge clearance	c_{min}	150 mm	150 mm	150 mm	150 mm	195 mm	240 mm
Minimum component thickness	h_{min}	80 mm	80 mm	80 mm	100 mm	130 mm	160 mm
Mounting data							
Hole diameter	d_o	8 mm	10 mm	12 mm	15 mm	20 mm	25 mm
Through-hole in the mounted part	d_f	7 mm	9 mm	12 mm	14 mm	18 mm	22 mm
Drilled hole depth	h_1	27 mm	32 mm	42 mm	53 mm	70 mm	85 mm
Torque	T_{inst}	4,5 Nm	11 Nm	22 Nm	38 Nm	98 Nm	130 Nm

Drop-in anchor R-DCA-A4, stainless steel A4

Extract from the application conditions in the ETA-13/0584

Overall safety factor taken into account according to ETAG (γ_M und γ_F)

Loads and Characteristik		M6	M8	M10	M12	M16
Characteristic transverse load in cracked and uncracked concrete in all load directions						
C20/25 bis C50/60 (Screw / Threaded rod class A4-70)	FRk	1.00 kN	2.01 kN	3.20 kN	4.59 kN	8.27 kN
Characteristic bending torque						
Characteristic load capacity Screw / threaded rod class A4-70	M0Rk,S	11 Nm	26 Nm	52 Nm	92 Nm	233 Nm
Axial spacing and edge clearances						
Anchoring depth	h_{ef}	25 mm	30 mm	40 mm	50 mm	65 mm
Axial spacing	s_{min}	200 mm	200 mm	200 mm	200 mm	260 mm
Edge clearances	c_{min}	150 mm	150 mm	150 mm	150 mm	195 mm
Minimum component thickness	h_{min}	80 mm	80 mm	80 mm	100 mm	130 mm
Mounting data						
Hole diameter	d_o	8 mm	10 mm	12 mm	15 mm	20 mm
Through-hole in the mounted part	d_f	7 mm	9 mm	12 mm	14 mm	18 mm
Min. drilled hole depth	h_1	27 mm	32 mm	42 mm	53 mm	70 mm
Torque	T_{inst}	4.5 Nm	11 Nm	22 Nm	38 Nm	98 Nm

Coil Hammer Drill Bit with SDS-plus TRIAL **FÖRCH*******

- Innovative 3-edged drill head with depth stop
- Self-centring tip
- Self-sharpening and specially soldered carbide plate
- Temperature resistant up to +1100°C
- Fits into all hammer drills with SDS-plus chuck (licence Bosch, Hilti TE system)
- Permanently aggressive drilling behaviour
- Long service life and high drilling speed when drilling in concrete reinforcement, cuts costs
- Low-vibration, so easier on the joints



Your Advantage / Benefit

- The depth stop ensures precise and repeatable control of drill hole depth
- Does not catch when hitting reinforcing steel, so longer lifespan
- Circular holes thanks to centre point and the three cutting lips
- Does not drift when starting drilling
- More drill holes suitable for anchors, thereby saving time

Application

- Rapid and production-ready assembly of fastening systems with high demands for hole depth and repeat accuracy (inserting drop-in anchor)
- Installation of stadium seating, cable ducts, ventilation shafts etc.



Article No.	Article Description	QTY
8214 8 27	SDS COIL HAMMER DRILL 8X27 5*	1
8214 10 32	SDS COIL HAMMER DRILL 10X32 5*	1
8214 12 42	SDS COIL HAMMER DRILL 12X42 5*	1
8214 15 52	SDS COIL HAMMER DRILL 15X52 5*	1

(Ø × Total length mm)

Technical Data

Ø Drill bit mm	Ø Anchor mm	Borehole depth mm
8	6	27
10	8	32
12	10	42
15	12	52

Related Products

■ Drop-in anchors AGR 8210



AGR 8211



AGR 8212



■ Multi functional telescopic ladder Art.-No. 4986 50 200



■ "Alpha" clear safety glasses Art.-No. 5400 901 1



Impact Anchor E, steel

Abstract from the service conditions of the approval ETA-02/0020

Anchor capacity, transverse load without influence of axis and edge distances.

Total safety factor according to ETAG is considered (γ_M und γ_F)

Loads and characteristic values				Impact anchor E M				M 5 ¹⁾	M 6 ¹⁾	M 8 ¹⁾	M 8x40 M 10 M 12			M 16	M 20	
												Non-cracked concrete				
Admissible transverse load (screw 5.6)	C20/25	admissible N	[kN]	1,1	2,7	2,3	3,0	4,2	5,9	8,7	11,9					
	C25/30	admissibleN	[kN]	1,2	3,0	2,6	3,3	4,6	6,5	9,6	13,1					
	C30/37	admissible N	[kN]	1,4	3,1	2,7	3,4	4,9	6,8	10,0	13,7					
	C40/50	admissible N	[kN]	1,6	3,4	2,9	3,7	5,2	7,3	10,8	14,8					
	C50/60	admissible N	[kN]	1,8	3,6	3,1	3,9	5,5	7,7	11,4	15,5					
Admissible transverse load (screw 5.6) ≥	C20/25	admissible V	[kN]	1,5	2,1	3,3	3,9	4,1	9,0	16,8	26,2					
Admissible transverse load (screw 5.8/8.8) ≥	C20/25	admissible V	[kN]	2,0	2,9	3,3	3,9	4,1	10,6	18,0	28,6					
Admissible bending moment (screw 5.6)	zul. M	[Nm]	-	2,7	8,1	8,1	15,8	27,8	27,8	71,0						
Admissible bending moment (screw 5.8)	zul. M	[Nm]	-	3,7	10,9	10,9	21,1	37,1	37,1	94,9						
Admissible bending moment (screw 8.8)	zul. M	[Nm]	-	5,8	17,1	17,1	34,3	60,0	60,0	152,0						
Axis and edge distances																
Anchoring depth		h _{ef}	[mm]	25	30	30	40	40	50	65	80					
Distinctive axis distance		s _{cr}	[mm]	75	90	90	120	120	150	195	240					
Distinctive edge distance		c _{cr}	[mm]	37,5	45	45	60	60	75	97,5	120					
Minimum axis distance		s _{min}	[mm]	60	60	55	80	100	120	150	160					
Minimum edge distance		c _{min}	[mm]	95	95	95	95	135	165	200	260					
Minimum component thickness		h _{min}	[mm]	100	100	100	100	120	130	160	200					
Assembly data																
Drilling hole diameter		d _o	[mm]	8	8	10	10	12	15	20	25					
Clearance hole in the add-on part		d _f	[mm]	6	7	9	9	12	14	18	22					
Drilling hole depth		h ₁	[mm]	28	33	33	44	44	54	71	86					
Torque when anchoring		T _{inst}	[Nm]	3	4	8	8	15	35	60	120					

1) Application only for statical undetermined systems. Size M5 is not part of the ETA approval Z-21.12-1090, controls the anchoring of light-weight ceiling claddings and suspended ceilings according to DIN 18 168 for the sizes M5 to M12.

Impact Anchor E, Stainless Steel A4

Abstract from the service conditions of the approval ETA -03/0031

Anchor capacity, transverse load without influence of axis and edge distances.

Total safety factor according to ETAG is considered (γ_M und γ_F)

Loads and characteristic values				Impact anchor E A4				M 5 ¹⁾	M 6 ¹⁾	M 8 ¹⁾	M 8x40 M 10 M 12			M 16	M 20
Non-cracked concrete															
Admissible transverse load	C20/25	admissible N	[kN]	1,3	2,7	2,7	3,0	5,1	7,1	10,5	14,3				
	C25/30	admissible N	[kN]	1,5	3,0	3,0	3,3	5,5	7,7	11,5	15,7				
	C30/37	admissible N	[kN]	1,6	3,3	3,3	3,6	6,2	8,6	12,8	17,4				
	C40/50	admissible N	[kN]	1,9	3,9	3,9	4,2	7,2	10,0	14,8	20,2				
	C50/60	admissible N	[kN]	2,1	4,2	4,2	4,6	7,8	11,0	16,2	22,2				
Admissible transverse load	≥ C20/25	admissible V	[kN]	2,3	3,2	4,6	4,6	6,0	11,9	19,2	28,6				
Admissible bending moment			admissible M	[Nm]	-	5,0	11,9	11,9	23,8	42,1	106,7	207,9			
Axis and edge distances															
Anchoring depth		h _{ef}	[mm]	25	30	30	40	40	50	65	80				
Distinctive axis distance		s _{cr}	[mm]	75	90	90	120	120	150	195	240				
Distinctive edge distance		c _{cr}	[mm]	37,5	45	45	60	60	75	100	120				
Minimum axis distance		s _{min}	[mm]	60	60	60	80	100	120	150	160				
Minimum edge distance		c _{min}	[mm]	95	80	95	95	135	165	200	260				
Minimum component thickness		h _{min}	[mm]	100	100	100	100	130	140	160	250				
Assembly data															
Drilling hole diameter		d _o	[mm]	8	8	10	10	12	15	20	25				
Clearance hole in the add-on part		d _f	[mm]	6	7	9	9	12	14	18	22				
Drilling hole depth		h ₁	[mm]	28	33	33	44	44	54	71	86				
Torque when anchoring		T _{inst}	[Nm]	3	4	8	8	15	35	60	120				

1) Application only for statical undetermined systems. Size M5 is not part of the ETA approval Z-21.12-1090, controls the anchoring of light-weight ceiling claddings and suspended ceilings according to DIN 18 168 for the sizes M5 to M12.

Hollow ceiling anchor

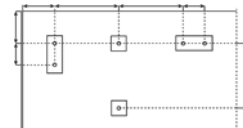
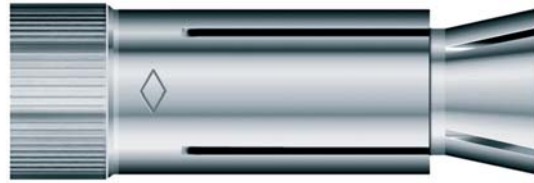
- 'Easy' hollow ceiling anchor with general building approval Z-21.1-1785
- Specifically for use in prestressed concrete hollow ceiling panels
- Simple and flexible in application
- Also approved where the expansion area is not within a hollow cavity
- For use with off-the-shelf screws or threaded rods
- Tested by VdS (VdS Schadenverhütung GmbH, Cologne), approved for mounting sprinkler systems (M8 – M12)
- Fire protection tested R30 – R120

Application examples:

- Suspended items in the heating, sanitary and ventilation sector, suspended ceilings, other attachments with threaded rods or screws

Notes:

- The screws must have threads long enough to expand the anchor securely
- Preferably, screws conforming to DIN 933 / DIN EN ISO 898 should be used
- The required screw length is derived from the „minimum screw length“ and the height of the component to be attached
- M6 screws must have a strength rating of at least 8.8, and M8 – M12 of at least 5.8



Article No.	Article Description	QTY
8258 6	HOLLOW CEILING ANCH.EASY M 6	50
8258 8	HOLLOW CEILING ANCH.EASY M 8	50
8258 10	HOLLOW CEILING ANCH.EASY M 10	50
8258 12	HOLLOW CEILING ANCH.EASY M 12	25

Technical Data

Art.-No.	Sleeve length (without cone) mm	min. screw length mm	min. pin length mm	Diameter drill hole mm	Through hole in the mounting part mm	Drill hole depth mm	Achoring torque Nm
8258 6	30	42	47	10	7	50	10
8258 8	35	47	53	12	9	55	20
8258 10	40	55	63	16	12	60	30
8258 12	45	61	71	18	14	70	40

Hollow ceiling anchor, steel

Extract from the application conditions in the Z-21.1-1785 approval

Permissible loads without the influence of axial spacings and edge distances

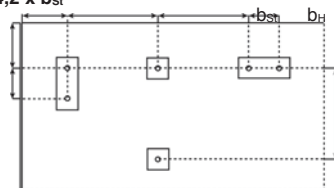
Overall safety factor taken into account according to ETAG 001 (γ_M und γ_F)

Loads and characteristic values Easy E			M6				M8				M10				M12			
			Prestressed concrete hollow ceiling panels ≥ C45/55															
Mirror thickness	d _u	[mm] ≥	25	30	40	50	25	30	40	50	25	30	40	50	25	30	40	50
Single anchor																		
Permissible load ¹⁾ (bei c ≥ c _{cr})	F ¹⁾	[kN]	0,7	0,9	2,0	2,9	0,7	0,9	2,0	3,6	0,9	1,2	3,0	3,6	1,0	1,2	3,0	4,3
Edge distance	c _{cr}	[mm]	150				150				150				150			
Permissible load ¹⁾ (bei c _{min})	F ¹⁾	[kN]	0,35	0,8	1,8	2,4	0,35	0,8	1,8	3,0	0,8	1,0	2,7	3,0	0,8	1,0	2,7	3,6
Minimum edge distance	c _{min}	[mm]	100				100				100				100			
Axial spacing	s _{cr}	[mm]	300				300				300				300			
Anchor pair ²⁾																		
Permissible load ¹⁾ (bei c ≥ c _{cr})	F ¹⁾	[kN]	0,7	1,4	2,6	3,9	0,7	1,4	2,6	4,8	1,1	2,0	4,8	4,8	1,2	2,0	4,8	5,7
Distinctive edge distance	s _{min}	[mm]	70	80	100	100	70	80	100	100	70	80	100	100	70	80	100	100
Edge distance	c _{cr}	[mm]	150				150				150				150			
Permissible load ¹⁾ (bei c _{min})	F ¹⁾	[kN]	0,35	1,25	2,35	3,2	0,35	1,25	2,35	4,0	0,9	1,8	4,3	4,3	1,0	1,8	4,3	4,8
Distinctive edge distance	s _{min}	[mm]	70	80	100	100	70	80	100	100	70	80	100	100	70	80	100	100
Minimum edge distance	c _{min}	[mm]	100				100				100				100			
Permissible bending moments																		
Threaded rods / screw, steel 5.8		[Nm]	-				10,7				21,4				37,4			
Threaded rods / screw, steel 8.8		[Nm]	4,4				17,1				34,2				59,8			
Assembly data																		
Sleeve length (without cone)	L	[mm]	30				35				40				45			
Minimum screw length	min l _s	[mm]	42 + t _{fix}				47 + t _{fix}				55 + t _{fix}				61 + t _{fix}			
Minimum pin length	min l _b	[mm]	47 + t _{fix}				53 + t _{fix}				63 + t _{fix}				71 + t _{fix}			
Requested steel strength of the screws / threaded rods			8.8				5.8				5.8				5.8			
Drilling hole diameter	d _o	[mm]	10				12				16				18			
Clearance hole in the add-on part	d _f	[mm]	7				9				12				14			
Drilling hole depth	h _o	[mm]	50				55				60				70			
Torque when anchoring	T _{inst}	[Nm]	10				20				30				40			

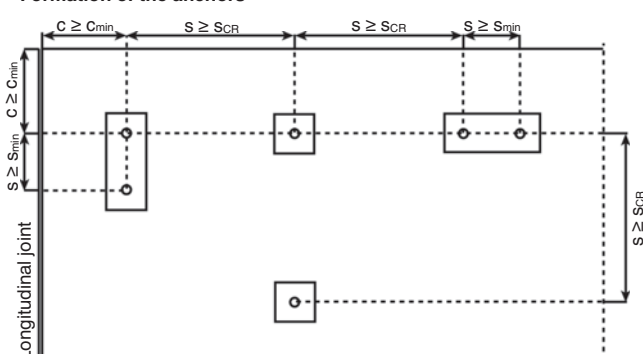
¹⁾ For edge distances $c_{min} < c \leq c_{cr}$, the recommended loads can be determined by linear interpolation.

²⁾ The permissible loads apply to the anchor pair. The permissible load for the most highly loaded anchor must not exceed the values specified for single anchors. For anchor pairs with axial spacings $s_{min} < s < s_{cr}$ the permissible load may be determined by linear interpolation, whereby for the limit $s = s_{cr}$, twice the permissible load for single anchors may be applied for the anchor pair with central load distribution.

Condition: $b_H \leq 4,2 \times b_{St}$

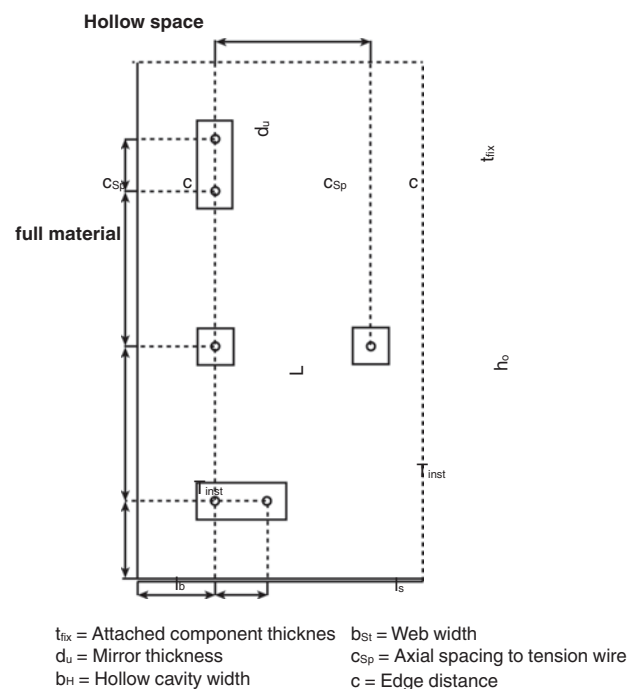


Formation of the anchors



Usage with threaded rod

Usage with screw



Drop-in Anchor ED-DW 15 Galvanized Steel

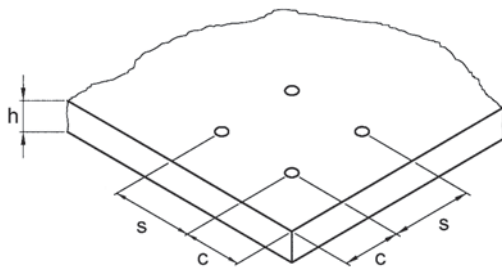
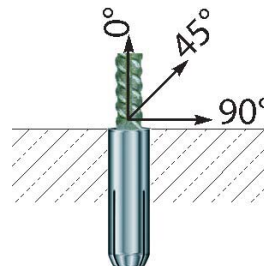
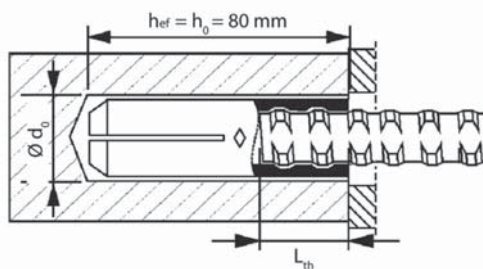
- Drop-in Anchor with DYWIDAG® internal thread 1) DW 15
- For subsequent attachment of anchor bars
- Safe installation due to thread unaffected by dirt
- After removal of the anchor rod, plug does not protrude from bore hole
- Suitable for concrete C12/15-C50/60 or pressure-resistant natural stone

Examples of use:

- Versatile anchors in formwork
- Inexpensive and quick mounting in in-situ concrete
- Fixing of formwork supports and temporary fall protection



Loads and characteristic values		Angle of inclination	0°	15°	30°	45°	60°	75°	90°
Non-cracked concrete									
Recomm. load	C12/15	Recomm.F [kN]	17,3	16,9	16,8	17,4	18,7	20,6	22,6
	>C25/30	Recomm.F [kN]	19,3	18,7	18,3	18,6	19,5	21,1	22,6



Technical Data

Spacing and edge distance

- Embedment
- Depth minimum spacing
- Minimum edge distance
- Minimum component thickness

Installation data

- Drill hole diameter
- Drill hole depth
- Thread length
- Rod/bolt DW 15 minimum insertion length

h_{ef}	h_{ef}	80
s_{min}	s_{min}	600
c_{min}	c_{min}	300
h_{min}	h_{min}	160

d_0	d_0	22
h_0	h_0	80
L_{th}	L_{th}	35
		28

Article No.	Article Description	QTY
8250 15	DROP-IN ANCHOR ED DW 15	25

1) DYWIDAG® internal thread (DYWIDAG® is a registered trademark of Walter Bau AG)

Expansion tool E-SW for ED-DW 15 hammer-in anchor

Article No.	Article Description	QTY
8250 151	EXPANSION TOOL FOR ED DW 15	1



Nail Anchor MND, Galvanized Steel

- Ideal for universal, rapid, rational and secure impact installation of laths, metal profiles, squared timber, wood constructions, chains, ropes, perforated tapes, wood wool - lightweight construction panels (for roof insulation with e.g. washer and insulation board disks metal Art. No. 8083 80) and other rail systems
- For the use in dry rooms
- Full metal design - Fire resistance class F 30-F 120
- Designed load in uncracked and cracked concrete C20/25 – C50/60 of 0.7 kN for multiple fixings
- Pre-spreads when plugging in - holding of workpiece not required
- Drilling diameter 6 mm and min. installation depth 30 mm



Article No.	Article Description	QTY
8256 6 50	NAIL ANCHOR MND 6/50 GALVAN.	100

Technical Data		*Permissible loads in kN
Anchor length	Effective length	Concrete*
mm	mm	
50	10	0.7

Nail Anchor MND with Washer, Galvanized Steel

- Ideal for universal, rapid, rational and secure impact installation of laths, metal profiles, squared timber, wood constructions, wire hangers, chains, ropes, perforated tapes, wood wool - lightweight construction panels (for roof insulation with insulation board disks metal Art. No. 8083 80) and other rail systems
- For the use in dry rooms
- Full metal design
 - Fire resistance class F 30-F 120
- Designed load in uncracked and cracked concrete C20/25 – C50/60 of 1.0 kN for multiple fixings
- Pre-spreads when plugging in - holding of workpiece not required
- Drilling diameter 6 mm and min. installation depth 32 mm
 - Large surface covering head with washer
 - High tear strength and clean covering



Article No.	Article Description	QTY
8257 6 45	NAIL ANCHOR MND 6/45 WASHER GA	100

Technical Data			*Permissible loads in kN
Anchor length	Effective length	Washer-Ø	Concrete*
mm	mm	mm	
45	5	16	1.0

Nail anchor N-K, galvanised steel

- European Technical Approval for multiple attachments in cracked concrete
- Quick and easy installation: Only needs to be hammered in
- Reduced anchoring depth of only 25 mm for less drilling effort
- Very small edge distances and axial spacings
- Permissible load up to 2.14 kN
- All metal design
- With Ø 13 mm nail head
- For use in dry interiors

Application:

- Ceiling suspensions, piping, panels, cable channels, etc.



8254 05



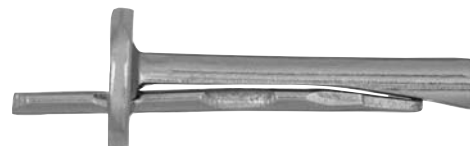
8254 55

Article No.	Article Description	QTY
8254 05	NAIL ANCHOR N-K 6 X 0-5/39	200
8254 35	NAIL ANCHOR N-K 6X30-35/69	200
8254 55	NAIL ANCHOR N-K 6X50-55/89	100

Technical Data		*zulässige Lasten in kN
Anchor length	Clamping thickness	Concrete
mm	mm	
39	5	2.4
69	35	2.4
89	55	2.4

Ceiling anch.R-GS, galvanised steel

- Galvanised steel ceiling anchor bolt with ETA approval, Part 6 for multiple fixing in concrete
- Ideal for universal, rapid, efficient, and safe mounting of slats, wooden beams, rails, wooden substructures, metal profiles, chains, ropes, perforated straps, wire hangers, extension nuts with threaded rods, fire partitions, air ducts, suspended ceilings etc.
- Fire resistance class F120
- Ceiling anchor bolt for push-through installation of suspended ceilings
- When the expanding wedge is driven in, the ceiling anchor bolt spreads against the wall of the drilled hole
- Rapid and easy impact installation reduces installation time



Article No.	Article Description	QTY
8241 40	CEIL.ANCHOR R-GS 6X 4.5/40	100
8241 65	CEIL.ANCHOR R-GS 6X 35 /65	100

Technical Data

Art.No.	Anchor length mm	Clamping thickness mm
8241 40	40	4.5
8241 65	65	35

Nail anchor N-M 6-25 M8/M10 glavanised steel

- Nail anchor N-M with stepped thread M8 and M10
- M8 and M10 threaded rods can be used with the aid of a dowel
- Anchoring depth 25 mm
- Load range: 0,71 kN - 2,14



Your Advantage / Benefit

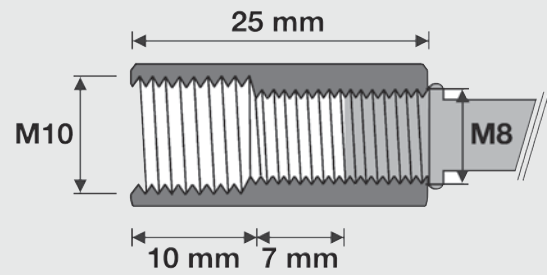
- European technical approval for multiple use in non-structural applications for cracked concrete
- Quick, easy assembly: just hammer in
- Reduced anchoring depth of only 25 mm mean less drilling
- Very short centre and edge distances
- Permitted load up to 2.14 kN
- Just one product for two applications: M8/M10 stepped

Application

- Suspended ceilings, pipelines, cladding, cable trays



Dimensions threaded socket N-M:



Working length:



Article No.	Article Description	QTY
8254 6 25	NAIL ANCHOR N-M 6-25/ M8/M10	100

Nail anchor N-M 6-25 M8/M10 glavanised steel

Art.-No. 8254 6 25

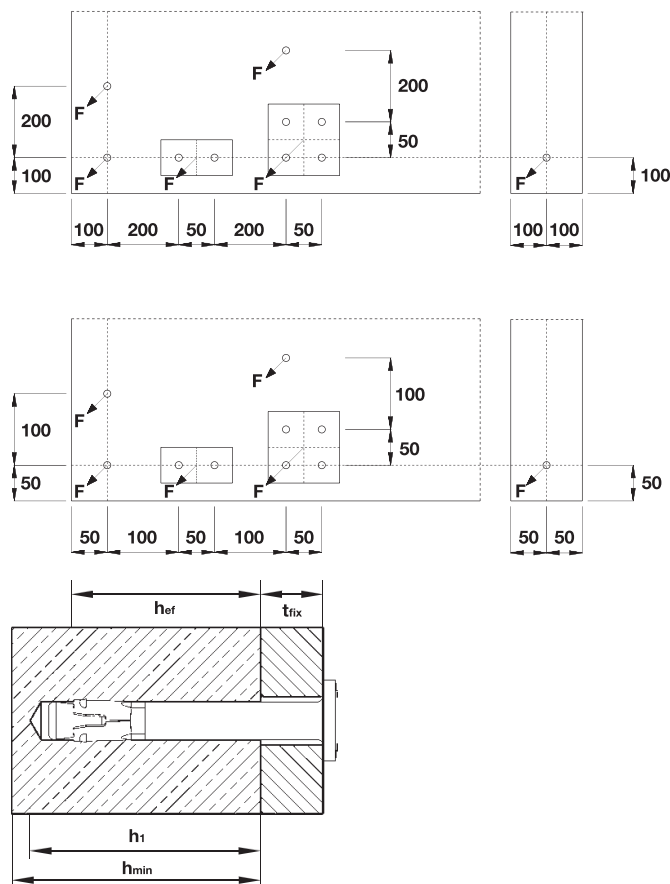
The permissible resistance, perm. F, applies to one fixing point.

A fixing point can be:

- Single anchor,
- Anchor pair with axial spacing $s > 50$ mm or
- Group of four with $s > 50$ mm

If the axial spacing of the anchors in a fixing point is greater than or equal to the associated axial spacing between the fixing points, the characteristic resistances shall apply for each individual anchor.

Image 1: Maximum load-bearing capacity



Technical Data

Loads and characteristic values

Anchoring depth_{ef}:	25 mm
Permissible load (Bild 1)	
- C12/15 cert. F:	1,43 kN ¹
- C20/25 – C50/60 cert. F:	2,14 kN ¹

Permissible load (Bild 2)

- C12/15 cert. F:	0,71 kN ¹
- C20/25 – C50/60 cert. F:	0,95 kN ¹

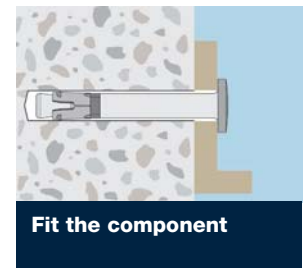
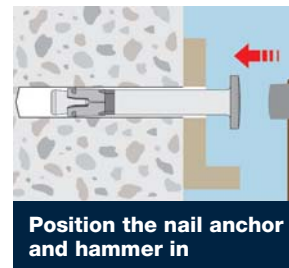
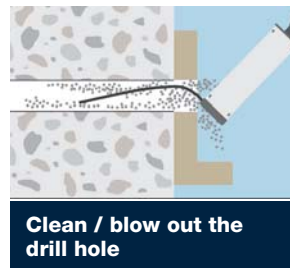
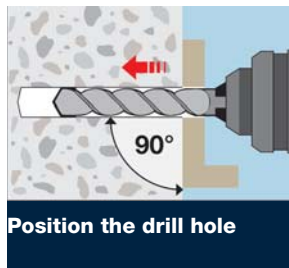
Permissible bending moment cert.M.: 7,3 Nm

Minimum component thickness_{min}: 80 mm

Mounting details

Drill hole diameter_ø:	6 mm
Through-hole in attachment part_f:	7 mm
Drill hole depth_l:	35 mm

¹ In the N-M Version, if there is shear force, verification of shear load with a Lever arm must be produced.



Bolt Anchor R-XPT, Galvanised Steel

- Bolt anchor R-XPT with ETA approval, option 7 suited for time-saving push-through installation in non-cracked concrete
- Marking of the setting depth for correct attachment: standard and reduced anchoring depth
- Cold forming of the plug for permanent dimensional stability and precision
- Optimal conical angle for controlled expansion
- Inexpensive push-through installation for the attachment of metal structures, metal profiles, brackets, railings, façades, windows, grates, pipelines, shelves, supports
- Suited for use in pressure-resistant natural stone (without approval)
- Two anchoring depths for increased flexibility
- Concrete quality: C20/25 – C50/60



Article No.	Article Description	QTY
8178 6 5	BOLT ANCHOR R-XPT ZN 6* 5/ 65	100
8178 6 25	BOLT ANCHOR R-XPT ZN 6* 25/ 85	100
8178 8 0	BOLT ANCHOR R-XPT ZN 8 0/ 60	100
8178 8 10	BOLT ANCHOR R-XPT ZN 8 10/ 75	100
8178 8 15	BOLT ANCHOR R-XPT ZN 8 15/ 80	100
8178 8 20	BOLT ANCHOR R-XPT ZN 8 20/ 85	100
8178 8 30	BOLT ANCHOR R-XPT ZN 8 30/ 95	100
8178 8 40	BOLT ANCHOR R-XPT ZN 8 40/105	100
8178 8 50	BOLT ANCHOR R-XPT ZN 8 50/115	100
8178 8 75	BOLT ANCHOR R-XPT ZN 8 75/140	100
8178 10 0	BOLT ANCHOR R-XPT ZN10 0/ 65	50
8178 10 10	BOLT ANCHOR R-XPT ZN10 10/ 80	50
8178 10 25	BOLT ANCHOR R-XPT ZN10 25/ 95	50
8178 10 45	BOLT ANCHOR R-XPT ZN10 45/115	50
8178 10 70	BOLT ANCHOR R-XPT ZN10 70/140	50
8178 10 110	BOLT ANCH. R-XPT ZN10 110/180	50
8178 12 0	BOLT ANCHOR R-XPT ZN12 0/ 80	50
8178 12 5	BOLT ANCHOR R-XPT ZN12 5/100	50
8178 12 30	BOLT ANCHOR R-XPT ZN12 30/125	50
8178 12 55	BOLT ANCHOR R-XPT ZN12 55/150	50
8178 12 65	BOLT ANCHOR R-XPT ZN12 65/160	50
8178 12 85	BOLT ANCHOR R-XPT ZN12 85/180	50
8178 12 105	BOLT ANCH. R-XPT ZN12 105/200	50
8178 12 125	BOLT ANCH. R-XPT ZN12 125/220	50
8178 12 185	BOLT ANCH. R-XPT ZN12 185/280	20
8178 16 0	BOLT ANCHOR R-XPT ZN16 0/100	25
8178 16 5	BOLT ANCHOR R-XPT ZN16 5/125	25
8178 16 30	BOLT ANCHOR R-XPT ZN16 30/150	25
8178 16 60	BOLT ANCHOR R-XPT ZN16 60/180	25
8178 16 80	BOLT ANCHOR R-XPT ZN16 80/200	25
8178 16 100	BOLT ANCH. R-XPT ZN16 100/220	25
8178 16 130	BOLT ANCH. R-XPT ZN16 130/250	25
8178 16 160	BOLT ANCH. R-XPT ZN16 160/280	15
8178 20 20	BOLT ANCHOR R-XPT ZN20 20/160	25
8178 20 60	BOLT ANCHOR R-XPT ZN20 60/200	10
8178 20 110	BOLT ANCH. R-XPT ZN20 110/250	10

Technical Data

Drill Ø mm	Anchor length mm	Clamp. thickn. S mm	Clamp. thickn. R mm
6*	65	5	25
6*	85	25	45
8	60	0	10
8	75	10	25
8	80	15	30
8	85	20	35
8	95	30	45
8	105	40	55
8	115	50	65
8	140	75	90
10	65	0	5
10	80	10	20
10	95	25	35
10	115	45	55
10	140	70	80
10	180	110	120
12	80	0	5
12	100	5	25
12	125	30	50
12	150	55	75
12	160	65	85
12	180	85	105
12	200	105	125
12	220	125	145
12	280	185	205
16	100	0	5
16	125	5	25
16	150	30	50
16	180	60	80
16	200	80	100
16	220	100	120
16	250	130	150
16	280	160	180
20	160	20	40
20	200	60	80
20	250	110	130

S = Standardised installation depth / R = Reduced installation depth

Bolt Anchor R-XPTD, Galvanised Steel

- Bolt anchor R-XPTDI with ETA approval, option 7 suited for time-saving push-through installation in non-cracked concrete, sturdy construction
- With extra large U-washer, DIN 9021, especially for timber construction
- Inexpensive push-through installation for the attachment of metal structures, metal profiles, baseplates, brackets, railings, fences, windows, grates, pipelines, machinery, timber structures, beams, stringers, supports
- Concrete quality: C20/25 – C50/60



Article No.	Article Description	QTY
8178 2 12 85	BOLT ANCH.R-XPTD GV12 85/180	50
8178 2 12 105	BOLT ANCH.R-XPTD GV12 105/200	50
8178 2 12 125	BOLT ANCH.R-XPTD GV12 125/220	50
8178 2 12 185	BOLT ANCH.R-XPTD GV12 185/280	20
8178 2 16 100	BOLT ANCH.R-XPTD GV16 100/220	25
8178 2 16 130	BOLT ANCH.R-XPTD GV16 130/250	20
8178 2 16 160	BOLT ANCH.R-XPTD GV16 160/280	15
8178 2 16 180	BOLT ANCH.R-XPTD GV16 180/300	10

Technical Data

Drilling Ø mm	Plug length mm	Clamp. thickn. S mm	Clamp. thickn. R mm
12	180	85	105
12	200	105	125
12	220	125	145
12	280	185	205
16	220	100	120
16	250	130	150
16	280	160	180
16	300	180	200

S = standard insertion depth / R = reduced insertion depth

Wedge Anchor M2-U, Galvanized Steel

- Wedge anchor M2-U with ETA approval, option 7 appropriate for time-saving push-through assembly in non-cracked concrete, heavy-duty type
- With extra large washer, DIN 9021 especially for woodwork
- Cost-efficient push-through assembly to fix metal constructions, metal profiles, base plates, consoles, handrails, facades, windows, fences, piping, machines, wooden constructions, beams, purlins, supports
- Concrete quality: C20/25 - C50/60



Mounting:



Article No.	Article Description	QTY
8165 1 12 90	WEDGE ANCHOR M2-U GAL 12/ 90	25
8165 1 12 105	WEDGE ANCHOR M2-U GAL 12/105	25
8165 1 12 125	WEDGE ANCHOR M2-U GAL 12/125	20
8165 1 12 145	WEDGE ANCHOR M2-U GAL 12/145	20
8165 1 12 165	WEDGE ANCHOR M2-U GAL 12/165	20
8165 1 12 205	WEDGE ANCHOR M2-U GAL 12/205	15
8165 1 12 265	WEDGE ANCHOR M2-U GAL 12/265	15
8165 1 16 105	WEDGE ANCHOR M2-U GAL 16/105	10
8165 1 16 145	WEDGE ANCHOR M2-U GAL 16/145	10
8165 1 16 185	WEDGE ANCHOR M2-U GAL 16/185	5
8165 1 16 215	WEDGE ANCHOR M2-U GAL 16/215	5

Technical Data

Drilling Ø mm	Anchor length mm	Minimum drilling hole depth mm
12	185	90
12	200	90
12	220	90
12	240	90
12	260	90
12	300	90
12	360	90
16	220	110
16	260	110
16	300	110
16	330	110

Bolt-anchors R-XPT, steel

Extract from the application conditions in the ETA-08/0339 approval

Overall safety factor taken into account according ETAG (γ_M und γ_F)

Loads and characteristics values	Bolt-anchors R-XPT			M8	M10	M12	M16	M20
Characteristic transverse load in uncracked concrete	C20/25	$N_{Rk,p}$	[kN]	12	12	25	40	40
	C30/37			1,1	1,37	1,16	1,17	1,30
	C40/50			1,21	1,74	1,33	1,34	1,59
	C50/60			1,32	1,20	1,49	1,50	1,89
Characteristics shear load capacity		$V_{Rk,s}$	[kN]	10,1	16,0	23,3	43,0	67,4
Characteristic bending torque		$M_{Rk,s}$	[Nm]	17	35	61	154	301
Axial spacing and edge clearances								
Effective anchoring depth	–	h_{ef}	[mm]	47	49	68	85	99
Axial spacing	–	$s_{cr,N}$	[mm]	141	147	204	255	297
Edge clearance	–	$c_{cr,N}$	[mm]	71	74	102	128	149
Minimum axial spacing	–	s_{min}	[mm]	50	55	75	90	140
Minimum edge clearance	–	c_{min}	[mm]	40	50	65	80	100
Minimum component thickness	–	h_{min}	[mm]	100	100	136	170	198
Axial spacing and edge clearances at reduced anchoring depth								
Effective anchoring depth	–	h_{ef}	[mm]	32	39	48	65	79
Axial spacing	–	s_{cr}	[mm]	96	177	144	195	237
Edge clearance	–	c_{cr}	[mm]	48	59	72	98	119
Minimum axial spacing	–	s_{min}	[mm]	45	55	100	100	125
Minimum edge clearance	–	c_{min}	[mm]	40	65	100	100	125
Minimum component thickness	–	h_{min}	[mm]	100	100	100	130	158
Mounting data								
Hole diameter	–	d_o	[mm]	8	10	12	16	20
Through-hole in the mounted part	–	d_f	[mm]	9	11	13	18	22
Min. drilled hole depth	–	h_o	[mm]	55/40 ¹⁾	59/49 ¹⁾	80/60 ¹⁾	100/80 ¹⁾	119/99 ¹⁾
Anchoring torque	–	T_{inst}	[Nm]	15	30	50	100	200

¹⁾ Reduced anchoring depth (note reduced loads)

Data for Bolt Anchor M2-U, galvanised steel

				M12	M16
Recommended tensile load in concrete ¹⁾	C20/25	N_{Emp}	[kN]	9.9	11.9
Recommended radial load	–	V_{Emp}	[kN]	8.4	15.7
Recommended bending torque	–	M_{EMP}	[Nm]	46.8	118.6
Nominal edge clearance	–	c	[mm]	102	120
Nominal axial spacing	–	s	[mm]	204	240
Minimum component thickness	–	h_{min}	[mm]	140	160
Effective anchoring depth	–	h_{ef}	[mm]	68	80
Spanner size	–	sw	[mm]	19	24
Anchoring torque	–	T_{inst}	[Nm]	50	100
Drilled hole depth	–	h_1	[mm]	90	110
Drilled hole Ø in construction material	–	d_o	[mm]	12	16
Hole Ø in mounted part	–	d_f	[mm]	14	18
Washer Ø	–	d_μ	[mm]	37	50
Thread length	–	l_G	[mm]	120	120
Outer Ø of dowell	–	d_{nom}	[mm]	12	16
Usable installation length	–	t_{fix}	[mm]	90 105 125 145 165 205 265	105 145 185 215

¹⁾ Reduced anchoring depth (note reduced loads)

Bolt anchor R-XPTII, A4

- Bolt anchor R-XPTII with ETA approval, option 7 suited for time-saving push-through installation in concrete without cracks
- Marking of the setting depth for correct attachment: Standard and reduced anchoring depth
- Cold forming of the dowel for permanent dimensional stability and precision
- Optimal conical angle for controlled expansion
- Inexpensive push-through installation for the attachment of metal structures, metal profiles, brackets, railings, façades, windows, grates, pipelines, shelves, supports
- Suited for use in pressure-resistant natural stone (without approval)
- Two anchoring depths for increased flexibility
- Concrete quality: C20/25 – C50/60



Article No.	Article Description	QTY
8178 1 8 10	BOLT ANCH.R-XPTII A4 8X10/ 75	100
8178 1 8 20	BOLT ANCH.R-XPTII A4 8X20/ 85	100
8178 1 8 30	BOLT ANCH.R-XPTII A4 8X30/ 95	100
8178 1 8 40	BOLT ANCH.R-XPTII A4 8X40/105	100
8178 1 8 50	BOLT ANCH.R-XPTII A4 8X50/115	100
8178 1 10 5	BOLT ANCH.R-XPTII A4 10X 5/ 65	50
8178 1 10 15	BOLT ANCH.R-XPTII A4 10X15/ 95	50
8178 1 10 20	BOLT ANCH.R-XPTII A4 10X20/ 80	50
8178 1 10 35	BOLT ANCH.R-XPTII A4 10X35/115	50
8178 1 10 50	BOLT ANCH.R-XPTII A4 10X50/130	50
8178 1 10 60	BOLT ANCH.R-XPTII A4 10X60/140	50
8178 1 12 0	BOLT ANCH.R-XPTII A4 12X 0/ 80	50
8178 1 12 5	BOLT ANCH.R-XPTII A4 12X 5/100	50
8178 1 12 30	BOLT ANCH.R-XPTII A4 12X30/125	50
8178 1 12 55	BOLT ANCH.R-XPTII A4 12X55/150	50
8178 1 16 5	BOLT ANCH.R-XPTII A4 16X 5/125	25
8178 1 16 20	BOLT ANCH.R-XPTII A4 16X20/140	25
8178 1 16 30	BOLT ANCH.R-XPTII A4 16X30/150	25
8178 1 16 60	BOLT ANCH.R-XPTII A4 16X60/180	25

Technical Data

Drill-Ø mm	Anchor length mm	Clamping thick- ness S mm	Clamping thickness R mm
8	75	10	25
8	85	20	35
8	95	30	45
8	105	40	55
8	115	50	65
10	65	0	5
10	95	15	35
10	80	0	20
10	115	35	55
10	130	50	70
10	140	60	80
12	80	0	5
12	100	5	25
12	125	30	50
12	150	55	75
16	125	5	25
16	140	20	40
16	150	30	50
16	180	60	80

S = Standard insertion depth / R = Reduced insertion depth

Bolt-anchor R-XPTII-A4, stainless steel A4

Extract from the application conditions in the ETA-12/0384 approval

Overall safety factor taken into account according to ETAG (γ_M and γ_F)

Loads and characteristic values				Bolt-anchor R-XPT	M8	M10	M12	M16
Characteristic transverse load in uncracked concrete								
	C20/25	$N_{Rk,p}$	[kN]		9,0	16,0	25,0	39,5
	C30/37				1,46	1,37	1,20	1,18
	C40/50				1,91	1,74	1,40	137
	C50/60				2,36	2,10	1,60	1,55
Characteristic shear load capacity								
		$V_{Rk,s}$	[kN]		11,7	18,5	24,6	45,4
Characteristic bending torque								
		$M_{Rk,s}$	[Nm]		22	45	72	180
Axial spacing and edge clearances								
Effective anchoring depth		h_{ef}	[mm]		47	59	68	85
Axial spacing		$s_{cr,N}$	[mm]		141	177	204	255
Edge clearance		$c_{cr,N}$	[mm]		71	89	102	128
Minimum axial spacing		s_{min}	[mm]		65	90	110	170
Minimum edge clearance		c_{min}	[mm]		50	60	85	90
Minimum component thickness		h_{min}	[mm]		100	120	140	170
Axial spacing and edge clearances at reduced anchoring depth								
Effective anchoring depth		h_{ef}	[mm]		32	39	48	65
Axial spacing		s_{cr}	[mm]		96	177	144	195
Edge clearance		c_{cr}	[mm]		48	59	72	98
Minimum axial spacing		s_{min}	[mm]		65	115	150	190
Minimum edge clearance		c_{min}	[mm]		50	80	100	120
Minimum component thickness		h_{min}	[mm]		100	100	100	130
Mounting data								
Hole diameter		d_o	[mm]		8	10	12	16
Through-hole in the mounted part		d_f	[mm]		9	11	13	18
Min. drilled hole depth		h_0	[mm]		55/40 ¹⁾	59/49 ¹⁾	80/60 ¹⁾	100/80 ¹⁾
Anchoring torque		T_{inst}	[Nm]		15	30	50	100

¹⁾ Reduced anchoring depth (note reduced loads))

Bolt Anchor R-HPTII, Zink / Aluminium Coating

- Bolt anchor R-HPTII with ETA approval , option 1 for concrete with and without cracks
- Approval for use when exposed to fire (R30 – R120)
- Suitable for push-through installation
- Concrete quality: C20/25 – C50/60



Mounting:



Article No.	Article Description	QTY
8225 8 0 15	BOLT ANCH.R-HPTII ZN 8/ 0-15	100
8225 8 15 30	BOLT ANCH.R-HPTII ZN 8/15-30	100
8225 8 35 50	BOLT ANCH.R-HPTII ZN 8/35-50	100
8225 8 50 65	BOLT ANCH.R-HPTII ZN 8/50-65	100
8225 8 75 90	BOLT ANCH.R-HPTII ZN 8/75-90	100
8225 10 0 5	BOLT ANCH.R-HPTII ZN 10/ 0- 5	50
8225 10 0 20	BOLT ANCH.R-HPTII ZN 10/ 0-20	50
8225 10 15 35	BOLT ANCH.R-HPTII ZN 10/15-35	50
8225 10 35 55	BOLT ANCH.R-HPTII ZN 10/35-55	50
8225 10 50 70	BOLT ANCH.R-HPTII ZN 10/50-70	50
8225 10 70 90	BOLT ANCH.R-HPTII ZN 10/70-90	50
8225 10 100 120	BOLT ANCH.R-HPTII ZN10/100-120	50
8225 12 0 5	BOLT ANCH.R-HPTII ZN 12/ 0- 5	50
8225 12 5 25	BOLT ANCH.R-HPTII ZN 12/ 5-25	50
8225 12 25 45	BOLT ANCH.R-HPTII ZN 12/25-45	50
8225 12 30 50	BOLT ANCH.R-HPTII ZN 12/30-50	50
8225 12 40 60	BOLT ANCH.R-HPTII ZN 12/40-60	50
8225 12 55 75	BOLT ANCH.R-HPTII ZN 12/55-75	50
8225 12 65 85	BOLT ANCH.R-HPTII ZN 12/65-85	50
8225 12 85 105	BOLT ANCH.R-HPTII ZN 12/85-105	50
8225 12 105 125	BOLT ANCH.R-HPTII ZN12/105-125	50
8225 12 125 145	BOLT ANCH.R-HPTII ZN12/125-145	50
8225 12 185 205	BOLT ANCH.R-HPTII ZN12/185-205	20
8225 16 0 10	BOLT ANCH.R-HPTII ZN 16/ 0-10	25
8225 16 20 40	BOLT ANCH.R-HPTII ZN 16/20-40	25
8225 16 30 50	BOLT ANCH.R-HPTII ZN 16/30-50	25
8225 16 60 80	BOLT ANCH.R-HPTII ZN 16/60-80	25
8225 16 80 100	BOLT ANCH.R-HPTII ZN 16/80-100	25
8225 16 100 120	BOLT ANCH.R-HPTII ZN16/100-120	25
8225 16 130 150	BOLT ANCH.R-HPTII ZN16/130-150	25
8225 16 160 180	BOLT ANCH.R-HPTII ZN16/160-180	15
8225 16 180 200	BOLT ANCH.R-HPTII ZN16/180-200	10
8225 20 0 5	BOLT ANCH.R-HPTII ZN 20/ 0- 5	25
8225 20 20 40	BOLT ANCH.R-HPTII ZN 20/20-40	25
8225 20 60 80	BOLT ANCH.R-HPTII ZN 20/60-80	10
8225 20 110 130	BOLT ANCH.R-HPTII ZN20/110-130	10
8225 20 160 180	BOLT ANCH.R-HPTII ZN20/160-180	10

Your Advantage / Benefit

- Steel anchor with zinc/aluminium coating with corrosion resistance lasting twice as long as with hot-dip galvanising
- Marking of the setting depths for correct attachment
- Two anchoring depths: Standard and reduced for greater flexibility
- Cold forming of the dowel for permanent dimensional stability and precision
- Optimal conical angle for controlled expansion

Application

- Supports, steel girders, railing attachments, wall boundaries, curtain façades, balustrades, barriers, handrails, shelves, elevators, bollards, etc.



Technische Daten

Drilling Ø mm	Anchor length mm	Clamp. thickn. S mm	Clamp. thickn. R mm
8	65	0	15
8	80	15	30
8	100	35	50
8	115	50	65
8	140	75	90
10	65	0	5
10	80	0	20
10	95	15	35
10	115	35	55
10	130	50	70
10	150	70	90
10	180	100	120
12	80	0	5
12	100	5	25
12	120	25	45
12	125	30	50
12	135	40	60
12	150	55	75
12	160	65	85
12	180	85	105
12	200	105	125
12	220	125	145
12	280	185	205
16	105	0	10
16	140	20	40
16	150	30	50
16	180	60	80
16	200	80	100
16	220	100	120
16	250	130	150
16	280	160	180
16	300	180	200
20	125	0	5
20	160	20	40
20	200	60	80
20	250	110	130
20	300	160	180

S = Standard insertion depth / R = Reduced insertion depth

Bolt-anchor R-HPTII-ZF, Steel**Extract from the application conditions in the ETA-12/0309 approval**Overall safety factor taken into account according to ETAG (γ_M and γ_F)

Loads and characteristic values				Bolt-anchors R-HPTII-ZF	M8	M10	M12	M16	M20
Characteristic transverse load in uncracked concrete									
	C20/25	$N_{Rk,p}$	[kN]		9,0	12,0	20,0	35,0	49,6
Characteristic transverse load in cracked concrete									
	C20/25	$N_{Rk,p}$	[kN]		5,0	9,0	12,0	20,0	30,0
Increasing factors for $N_{Rk,p}$ in cracked and uncracked concrete									
	C30/37				1,12	1,22	1,00	1,14	1,07
	C40/50				1,22	1,44	1,00	1,43	1,14
	C50/60				1,33	1,67	1,00	1,43	1,21
Characteristic shear load capacity		$V_{Rk,s}$	[kN]		10,1	16,0	23,3	43,0	67,4
Characteristic bending torque		$M_{Rk,s}$	[Nm]		19	38	67	167	328
Axial spacing and edge clearances									
Effective anchoring depth		h_{ef}	[mm]		47	49	68	85	99
Axial spacing		$s_{cr,N}$	[mm]		141	147	204	255	297
Edge clearance		$c_{cr,N}$	[mm]		71	74	102	128	149
Minimum axial spacing cracked / uncracked concrete		s_{min}	[mm]		50	55	75	90	140
Minimum edge clearance cracked / uncracked concrete		c_{min}	[mm]		40	50	65	80	100
Minimum component thickness		h_{min}	[mm]		100	100	136	170	198
Axial spacing and edge clearances at reduced anchoring depth									
Effective anchoring depth		h_{ef}	[mm]		32	39	48	65	80
Axial spacing		$s_{cr,N}$	[mm]		96	177	144	195	240
Edge clearance		$c_{cr,N}$	[mm]		48	59	72	98	120
Minimum axial spacing cracked / uncracked concrete		s_{min}	[mm]		50/55	75/75	150/150	190/190	300/300
Minimum edge clearance cracked / uncracked concrete		c_{min}	[mm]		40/45	50/60	80/100	110/125	120/200
Minimum component thickness		h_{min}	[mm]		100	100	100	130	160
Mounting data									
Hole diameter		d_o	[mm]		8	10	12	16	20
Through-hole in the mounted part		d_f	[mm]		9	11	13	18	22
Min. drilled hole depth		h_0	[mm]		55/40 ¹⁾	69/49 ¹⁾	80/60 ¹⁾	100/80 ¹⁾	119/100 ¹⁾
Anchoring torque		T_{inst}	[Nm]		10	20	40	100	180

Bolt anchor R-HPTII, A4 stainless steel

- Bolt anchor R-HPTII with ETA approval, option 1 for concrete with and without cracks
- Approval for use when exposed to fire (R30 – R120)
- Suitable for push-through installation
- Concrete quality: C20/25 – C50/60



Mounting:



Your Advantage / Benefit

- A4 stainless-steel anchor
- Marking of the setting depths for correct attachment
- Two anchoring depths: Standard and reduced for greater flexibility
- Cold forming of the dowel for permanent dimensional stability and precision
- Optimal conical angle for controlled expansion

Application

- Supports, steel girders, railing attachments, wall boundaries, curtain façades, balustrades, barriers, handrails, shelves, elevators, bollards, etc.



Article No.	Article Description	QTY
8226 8 0 10	BOLT ANCH.R-HPTII A4 8/ 0- 10	100
8226 8 10 25	BOLT ANCH.R-HPTII A4 8/10- 25	100
8226 8 20 35	BOLT ANCH.R-HPTII A4 8/20- 35	100
8226 8 30 45	BOLT ANCH.R-HPTII A4 8/30- 45	100
8226 8 40 55	BOLT ANCH.R-HPTII A4 8/40- 55	50
8226 8 50 65	BOLT ANCH.R-HPTII A4 8/50- 65	100
8226 10 0 5	BOLT ANCH.R-HPTII A4 10/ 0- 5	50
8226 10 0 20	BOLT ANCH.R-HPTII A4 10/ 0- 20	50
8226 10 15 35	BOLT ANCH.R-HPTII A4 10/15- 35	50
8226 10 35 55	BOLT ANCH.R-HPTII A4 10/35- 55	50
8226 10 50 70	BOLT ANCH.R-HPTII A4 10/50- 70	50
8226 10 60 80	BOLT ANCH.R-HPTII A4 10/60- 80	50
8226 12 0 5	BOLT ANCH.R-HPTII A4 12/ 0- 5	50
8226 12 5 25	BOLT ANCH.R-HPTII A4 12/ 5- 25	50
8226 12 30 50	BOLT ANCH.R-HPTII A4 12/30- 50	50
8226 12 55 75	BOLT ANCH.R-HPTII A4 12/55- 75	50
8226 12 85 105	BOLT ANCH.R-HPTII A4 12/85-105	50
8226 16 5 25	BOLT ANCH.R-HPTII A4 16/ 5- 25	25
8226 16 20 40	BOLT ANCH.R-HPTII A4 16/20- 40	25
8226 16 30 50	BOLT ANCH.R-HPTII A4 16/30- 50	25
8226 16 60 80	BOLT ANCH.R-HPTII A4 16/60- 80	25

Technical Data

Drill-Ø mm	Anchor length mm	Clamping thick- ness S mm	Clamping thick- ness R mm
8	60	0	10
8	75	10	25
8	85	20	35
8	95	30	45
8	105	40	55
8	115	50	65
10	65	0	5
10	80	0	20
10	95	15	35
10	115	35	55
10	130	50	70
10	140	60	80
12	80	0	5
12	100	5	25
12	125	30	50
12	150	55	75
12	180	85	105
16	125	5	25
16	140	20	40
16	150	30	50
16	180	60	80

S = Standard insertion depth / R = Reduced insertion depth

Bolt-anchors R-XPTII-A4, stainless steel A4

Extract from the application conditions in the ETA-12/00021 approval

Overall safety factor taken into account according to ETAG (γ_M and γ_F)

Loads and characteristic values				Bolt-anchors R-HPTII-A4	M8	M10	M12	M16
Characteristic transverse load in uncracked concrete								
	C20/25	$N_{Rk,p}$	[kN]		9,0	16,0	25,0	39,5
Increasing factors for $N_{Rk,p}$								
	C30/37				1,46	1,37	1,20	1,18
	C40/50				1,91	1,74	1,40	1,37
	C50/60				2,36	2,10	1,60	1,55
Characteristics shear load capacity				$V_{Rk,s}$	11,7	18,5	24,6	45,5
Characteristic bending torque				$M_{Rk,s}$	22	45	72	180
Axial spacing and edge clearances								
Effective anchoring depth		h_{ef}	[mm]		47	59	68	85
Axial spacing		$s_{cr,N}$	[mm]		141	177	204	255
Edge clearance		$c_{cr,N}$	[mm]		71	89	102	128
Minimum axial spacing cracked / uncracked concrete		s_{min}	[mm]		65	90	110	170
Minimum edge clearance cracked / uncracked concrete		c_{min}	[mm]		50	60	85	90
Minimum component thickness		h_{min}	[mm]		100	120	140	170
Axial spacing and edge clearances at reduced anchoring depth								
Effective anchoring depth		h_{ef}	[mm]		32	39	48	65
Axial spacing		$s_{cr,N}$	[mm]		96	177	144	195
Edge clearance		$c_{cr,N}$	[mm]		48	59	72	98
Minimum axial spacing cracked / uncracked concrete		s_{min}	[mm]		65	115	150	190
Minimum edge clearance cracked / uncracked concrete		c_{min}	[mm]		50	80	100	120
Minimum component thickness		h_{min}	[mm]		100	120	100	130
Mounting data								
Hole diameter		d_o	[mm]		8	10	12	16
Through-hole in the mounted part		d_f	[mm]		9	11	13	18
Min. drilled hole depth		h_0	[mm]		55/40 ¹⁾	69/49 ¹⁾	80/60 ¹⁾	100/80 ¹⁾
Anchoring torque		T_{inst}	[Nm]		15	30	50	100

¹⁾ Reduced anchoring depth (note reduced loads)

Wedge Anchor B, Zinc-Coated Steel

- Wedge anchor B with ETA approval, option 7 is appropriate for time-saving push-through assembly in non-cracked concrete as well as ceiling suspensions and similar anchorings
- Combines high bearing capacity with axial and edge distances
- Cost-efficient push-through assembly to fix metal constructions, metal profiles, base plates, consoles, handrails, facades, windows, fences, piping, machines, wooden constructions, beams, purlins, supports
- Load range: 2,9 kN - 37,1 kN
- Concrete quality: C20/25 - C50/60



Mounting:



Article No.	Article Description	QTY
8165 6 5	WEDGE ANCHOR B ZN 6/ 5*	100
8165 6 10	WEDGE ANCHOR B ZN 6/ 10*	100
8165 6 25	WEDGE ANCHOR B ZN 6/ 25	100
8165 6 40	WEDGE ANCHOR B ZN 6/ 40	100
8165 8 5	WEDGE ANCHOR B ZN 8/ 5*	100
8165 8 10 60	WEDGE ANCHOR B ZN 8/10-60*	100
8165 8 10	WEDGE ANCHOR B ZN 8/ 10	100
8165 8 15	WEDGE ANCHOR B ZN 8/ 15	100
8165 8 20	WEDGE ANCHOR B ZN 8/ 20	100
8165 8 30	WEDGE ANCHOR B ZN 8/ 30	100
8165 8 45	WEDGE ANCHOR B ZN 8/ 45	100
8165 8 55	WEDGE ANCHOR B ZN 8/ 55	100
8165 10 10 60	WEDGE ANCHOR B ZN 10/10-60*	50
8165 10 10	WEDGE ANCHOR B ZN 10/ 10	50
8165 10 15	WEDGE ANCHOR B ZN 10/ 15	50
8165 10 20	WEDGE ANCHOR B ZN 10/ 20	50
8165 10 45	WEDGE ANCHOR B ZN 10/ 45	50
8165 10 50	WEDGE ANCHOR B ZN 10/ 50	50
8165 10 70	WEDGE ANCHOR B ZN 10/ 70	50
8165 10 100	WEDGE ANCHOR B ZN 10/100	50
8165 10 140	WEDGE ANCHOR B ZN 10/140	25
8165 12 5	WEDGE ANCHOR B ZN 12/ 5*	25
8165 12 10	WEDGE ANCHOR B ZN 12/ 10*	25
8165 12 15	WEDGE ANCHOR B ZN 12/ 15	25
8165 12 20	WEDGE ANCHOR B ZN 12/ 20	25
8165 12 30	WEDGE ANCHOR B ZN 12/ 30	25
8165 12 50	WEDGE ANCHOR B GAL. 12/ 50	25
8165 12 65	WEDGE ANCHOR B ZN 12/ 65	25
8165 12 85	WEDGE ANCHOR B ZN 12/ 85	25
8165 12 105	WEDGE ANCHOR B ZN 12/105	25
8165 12 125	WEDGE ANCHOR B ZN 12/125	25
8165 12 145	WEDGE ANCHOR B ZN 12/145	20
8165 12 160	WEDGE ANCHOR B ZN 12/160	20
8165 12 190	WEDGE ANCHOR B ZN 12/190	20
8165 12 230	WEDGE ANCHOR B ZN 12/230	20
8165 12 260	WEDGE ANCHOR B ZN 12/260	20
8165 16 5	WEDGE ANCHOR B ZN 16/ 5*	20
8165 16 15	WEDGE ANCHOR B ZN 16/ 15*	20
8165 16 30	WEDGE ANCHOR B ZN 16/ 30	20
8165 16 60	WEDGE ANCHOR B ZN 16/ 60	20
8165 16 80	WEDGE ANCHOR B ZN 16/ 80	10
8165 16 100	WEDGE ANCHOR B ZN 16/100	10
8165 16 130	WEDGE ANCHOR B ZN 16/130	10
8165 16 165	WEDGE ANCHOR B ZN 16/165	10
8165 16 200	WEDGE ANCHOR B ZN 16/200	10
8165 20 35	WEDGE ANCHOR B ZN 20/ 35	10
8165 20 95	WEDGE ANCHOR B ZN 20/ 95	10

Technical Data

Art.-No	Drilling Ø mm	Anchor length mm	Clamp. thickn. S mm
8165 6 5*	6	40	0
8165 6 10	6	67	10
8165 6 25	6	82	25
8165 6 40	6	97	40
8165 8 5*	8	50	0
8165 8 10 60*	8	60	0
8165 8 10	8	75	10
8165 8 15	8	80	15
8165 8 20	8	85	20
8165 8 30	8	95	30
8165 8 45	8	110	45
8165 8 55	8	120	55
8165 10 10 60*	10	60	0
8165 10 10	10	85	10
8165 10 15	10	90	15
8165 10 20	10	95	20
8165 10 45	10	120	45
8165 10 50	10	125	50
8165 10 70	10	145	70
8165 10 100	10	175	100
8165 10 140	10	215	140
8165 12 5*	12	75	0
8165 12 10*	12	95	0
8165 12 15	12	110	15
8165 12 20	12	115	20
8165 12 30	12	125	30
8165 12 50	12	145	50
8165 12 65	12	160	65
8165 12 85	12	180	85
8165 12 105	12	200	105
8165 12 125	12	220	125
8165 12 145	12	240	145
8165 12 160	12	255	160
8165 12 190	12	285	190
8165 12 230	12	325	230
8165 12 260	12	355	260
8165 16 5*	16	90	0
8165 16 15*	16	115	0
8165 16 30	16	150	30
8165 16 60	16	180	60
8165 16 80	16	200	80
8165 16 100	16	220	100
8165 16 130	16	250	130
8165 16 165	16	285	165
8165 16 200	16	320	200
8165 20 35	20	180	35
8165 20 95	20	240	95

* not part of the approval

Wedge Anchor B, Steel

Extract from the application conditions in the ETA-01/0013 approval

Anchor capacities, transverse load without influence of axial and edge distances.

Total safety factor according to ETAG considered (γ_M und γ_F)

Loads and characteristic values			wedge anchor B		M 6	M 8	Non-cracked concrete			M 20
Admissible transverse load	C20/25	Approval N [kN]			3,0	4,0	5,3	9,9	13,9	19,9
	C25/30	Approval N [kN]			3,3	4,4	5,9	11,0	15,4	21,9
	C30/37	Approval N [kN]			3,6	4,8	6,5	12,1	16,9	24,2
	C40/50	Approval N [kN]			4,2	5,6	7,5	14,0	19,6	28,0
	C50/60	Approval N [kN]			4,6	6,2	8,2	15,4	21,5	30,8
Admissible transverse load	C20/25	Approval V [kN]			2,9	5,8	6,7	14,3	23,6	37,1
	≥ C25/30	Approval V [kN]			2,9	6,3	7,3	14,3	23,6	37,1
Admissible bending moment				Approval M[Nm]	5,1	13,1	25,7	44,6	99,9	195,0
Axis and edge distances										
Anchoring depth		h_{ef}	[mm]		40	44	48	65	82	100
Distinctive axis distance		s_{cr}	[mm]		120	132	144	195	246	300
Characteristic edge distance		c_{cr}	[mm]		60	66	72	98	123	150
Distinctive edge distance		s_{min}	[mm]		40	50	55	75	90	105
Minimum edge distance		c_{min}	[mm]		40	50	65	90	105	125
Minimum component thickness		h_{min}	[mm]		100	100	100	130	170	200
Axial and edge distances for reduced anchoring depth										
Anchoring depth, red.		h_{ef}	[mm]		24	35	42	48	64	79
Distinctive axis distance		s_{cr}	[mm]		120	132	144	195	246	300
Characteristic edge distance		c_{cr}	[mm]		60	66	72	98	123	150
Distinctive edge distance		s_{min}	[mm]		40	50	55	90	105	120
Minimum edge distance		c_{min}	[mm]		40	50	65	105	125	145
Minimum component thickness		h_{min}	[mm]		100	100	100	100	130	160
Assembly data										
Drilling hole diameter		d_o	[mm]		6	8	10	12	16	20
Clearance hole in the add-on part		d_f	[mm]		7	9	12	14	18	22
Drilling hole depth		h_1	[mm]		55/34 ¹⁾	65/55 ¹⁾	70/65 ¹⁾	90/70 ¹⁾	110/90 ¹⁾	130/110 ¹⁾
Torque when anchoring		T_{inst}	[Nm]		8	15	30	50	100	200
Wrench size		SW	[mm]		10	13	17	19	24	30

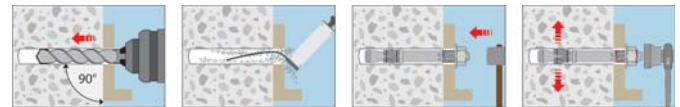
¹⁾ Reduced anchoring depth (note reduced loads)

Wedge Anchor B, Stainless Steel A4

- Wedge anchor B A4 with national DIBt approval (ETA, option 7), stainless steel type of the proven wedge anchor B which is approved for non-cracked concrete for the interior and exterior
- ETA-approval ETAG 001-part 6 for cracked and non-cracked concrete for multiple use and sizes M6/30 and M6/40
- Cost-efficient push-through assembly to fix metal constructions, metal profiles, base plates, consoles, handrails, facades, windows, fences, piping, machines, wooden constructions, beams, purlins, supports, etc. appropriate for concrete > B 15, compression-proof natural stone
- Load capacity: 1.5 kN - 9.5 kN
- Concrete quality: C20/25 - C50/60



Mounting



Article No.	Article Description	QTY
8166 6 5	WEDGE ANCHOR A4 B 6/ 5	100
8166 6 10	WEDGE ANCHOR A4 B 6/ 10	100
8166 6 40	WEDGE ANCHOR A4 B 6/ 40	100
8166 8 5	WEDGE ANCHOR A4 B 8/ 5	100
8166 8 10 60	WEDGE ANCHOR A4 B 8/ 10-60	100
8166 8 10	WEDGE ANCHOR A4 B 8/ 10	100
8166 8 15	WEDGE ANCHOR A4 B 8/ 15	100
8166 8 20	WEDGE ANCHOR A4 B 8/ 20	100
8166 8 30	WEDGE ANCHOR A4 B 8/ 30	100
8166 8 45	WEDGE ANCHOR A4 B 8/ 45	100
8166 8 55	WEDGE ANCHOR A4 B 8/ 55	100
8166 10 10 60	WEDGE ANCHOR A4 B 10/ 10-60	50
8166 10 10	WEDGE ANCHOR A4 B 10/ 10	50
8166 10 15	WEDGE ANCHOR A4 B 10/ 15	50
8166 10 20	WEDGE ANCHOR A4 B 10/ 20	50
8166 10 45	WEDGE ANCHOR A4 B 10/ 45	50
8166 10 50	WEDGE ANCHOR A4 B 10/ 50	50
8166 10 70	WEDGE ANCHOR A4 B 10/ 70	50
8166 10 100	WEDGE ANCHOR A4 B 10/100	50
8166 10 140	WEDGE ANCHOR A4 B 10/140	25
8166 12 5	WEDGE ANCHOR A4 B 12/ 5	25
8166 12 10	WEDGE ANCHOR A4 B 12/ 10	25
8166 12 15	WEDGE ANCHOR A4 B 12/ 15	25
8166 12 20	WEDGE ANCHOR A4 B 12/ 20	25
8166 12 30	WEDGE ANCHOR A4 B 12/ 30	25
8166 12 50	WEDGE ANCHOR A4 B 12/ 50	25
8166 12 65	WEDGE ANCHOR A4 B 12/ 65	25
8166 12 85	WEDGE ANCHOR A4 B 12/ 85	25
8166 12 105	WEDGE ANCHOR A4 B 12/105	25
8166 12 145	WEDGE ANCHOR A4 B 12/145	20
8166 16 15	WEDGE ANCHOR A4 B 16/ 15	20
8166 16 30	WEDGE ANCHOR A4 B 16/ 30	20
8166 16 60	WEDGE ANCHOR A4 B 16/ 60	20
8166 16 80	WEDGE ANCHOR A4 B 16/ 80	10
8166 16 100	WEDGE ANCHOR A4 B 16/100	10
8166 20 5	WEDGE ANCHOR A4 B 20/ 5	10
8166 20 35	WEDGE ANCHOR A4 B 20/ 35	10
8166 20 95	WEDGE ANCHOR A4 B 20/ 95	10

Technical Data

Art.-No.	Drilling Ø mm	Anchor length mm	Minimum drilling hole depth mm
8166 6 5*	6	40	35
8166 6 10	6	67	55
8166 6 40	6	97	55
8166 8 5*	8	50	45
8166 8 10 60*	8	60	50
8166 8 10	8	75	65
8166 8 15	8	80	65
8166 8 20	8	85	65
8166 8 30	8	95	65
8166 8 45	8	110	65
8166 8 55	8	120	65
8166 10 10 60*	10	60	50
8166 10 10	10	85	70
8166 10 15	10	90	70
8166 10 20	10	95	70
8166 10 45	10	120	70
8166 10 50	10	125	70
8166 10 70	10	145	70
8166 10 100	10	175	70
8166 10 140	10	215	70
8166 12 5*	12	75	65
8166 12 10*	12	95	80
8166 12 15	12	105	90
8166 12 20	12	110	90
8166 12 30	12	125	90
8166 12 50	12	145	90
8166 12 65	12	160	90
8166 12 85	12	180	90
8166 12 105	12	200	90
8166 12 125	12	220	90
8166 12 145	12	240	90
8166 16 15*	16	115	90
8166 16 30	16	150	110
8166 16 60	16	180	110
8166 16 80	16	200	110
8166 16 100	16	220	110
8166 20 5	20	150	130
8166 20 35	20	180	130
8166 20 95	20	240	130

* Not part of the approval

wedge anchor B, Edelstahl A4**Extract from the application conditions in the Z-21.1-1598 approval**

Anchor load-bearing capacities, shear loads without the influence of axial spacings and edge distances
Overall safety factor taken into account according to ETAG)

Loads and characteristic values			Heavy-duty anchors B A4	M 6	M 8	M 10	M 12	M 16
				Non-cracked concrete				
Admissible transverse load /Querlast	C20/25	Approval F	[kN]	1,5	2,8	4,0	5,7	8,4
	≥ C30/37	Approval F	[kN]	1,8	3,5	4,8	6,5	9,5
Admissible bending moment		zul. M	[Nm]	3,8	9,4	18,7	32,7	83,1
Axis and edge distances								
Anchoring depth		h_{ef}	[mm]	40	44	48	65	82
Center distance		a	[mm]	160	180	260	340	460
Edge distance		a_r	[mm]	80	90	130	170	320
Minimum component thickness		h_{min}	[mm]	150	150	200	220	250
Assembly data								
Drilling hole diameter		d_o	[mm]	6	8	10	12	16
Clearance hole in the add-on part		d_f	[mm]	7	9	12	14	18
Drilling hole depth		h_1	[mm]	60	65	70	90	110
Torque when anchoring		T_{inst}	[Nm]	6	15	30	50	100
Wrench size		SW	[mm]	10	13	17	19	24

Bolt anchor BZ, Galvanized Steel

- With European technical certification ETA-99 / 0010, option 1 for concrete with and without cracks (tensile and compression zones)
- Dowel for wide range of applications
- Bolt anchor BZ unites high permissible loads with low edge clearances and axial spacing
- Easy setting process: Drill hole, insert dowel, tighten, the expansion clip is expanded after the BZ bolt anchor is hammered in by tightening of the hexagon nut, immediately loadable, ideal for pressure distribution, minimum slippage
- Ideal for moderately heavy and heavy loads
- Force-controlled expansion with high safety reserves
- Tested by VdS (German Association of Damage Insurers), approved for the installation of sprinkler systems
- Approved for use under category C1 and C2 seismic impacts (M10 – M20, max. anchor length 210 mm)
- Fire protection tested R30 – R120
- Shock approval by the Office of Civil Defence, Bern

Application:

- Anchoring of moderately heavy to heavy loads in concrete: Supports, steel girders, consoles, doors, railings, façade substructures
- Load range: 2.4 kN – 96.8 kN
- Concrete quality: C20/25 – C50/60



Mounting



Article No.	Article Description	QTY
8169 8 30	BOLT ANCHOR BZ ZN 8/ 30	100
8169 8 50	BOLT ANCHOR BZ ZN 8/ 50	100
8169 12 160	BOLT ANCHOR BZ ZN 12/160	20
8169 16 80	BOLT ANCHOR BZ ZN 16/ 80	10
8169 20 100	BOLT ANCHOR BZ ZN 20/100	5

Technical Data

Drill Ø mm	Anchor length mm	Clamping Thickness S mm	Clamping Thickness R mm
8	95	30	41
8	115	50	61
12	255	160	0
16	200	80	100
20	235	100	0

Bolt-anchors BZ, galvanised steel

Extract from the application conditions in the ETA-99/0010 approval

Shear load capacities, shear load without influence of axial spacing and edge clearances.
Overall safety factor taken into account according to ETAt (γ_M and γ_F)

Loads and characteristic values			Bolt-anchor BZ, galvanised steel		M8	M10	M12	M16		
Admissible load					cracked concrete					
					C20/25	admissible N[kN]	2,0	3,6	4,8	9,9
					C25/30	admissible N[kN]	2,2	4,0	5,3	11,0
					C30/37	admissible N[kN]	2,4	4,4	5,8	12,1
					C40/50	admissible N[kN]	2,8	5,0	6,7	14,0
					C50/60	admissible N[kN]	3,1	5,5	7,4	15,4
admissible load					uncracked concrete					
					C20/25	admissible N[kN]	4,8	6,3	7,9	13,9
					C25/30	admissible N[kN]	5,3	7,1	8,8	15,4
					C30/37	admissible N[kN]	5,8	7,7	9,7	16,9
					C40/50	admissible N[kN]	6,7	9,0	11,2	19,6
					C50/60	admissible N[kN]	7,4	9,8	12,3	21,5
admissible shear load					cracked and uncracked concrete					
					C20/25	admissible N[kN]	8,6	12,6	15,0	22,4
					≥ C25/30	admissible N[kN]	8,6	12,6	16,4	24,5
admissible bending shape				admissible N[Nm]	13,1	26,9	46,9	119,4		
Axial spacing and edge clearances										
Anchoring depth			h_{ef}	[mm]	46	60	65	85		
Characteristics axial spacing			s_{cr}	[mm]	138	180	195	255		
Characteristics edge clearance			c_{Cr}	[mm]	69	90	97,5	127,5		
Minimum axial spacing / for edge clearance c					uncracked concrete					
					s_{min}/c	[mm]	40/60	45/70	60/100	60/100
Minimum edge clearance / for axial spacing s					c_{min}/s	[mm]	40/70	45/90	60/140	60/180
Minimum axial spacing / for edge clearance c					ungerissener Beton					
					s_{min}/c	[mm]	40/70	45/70	60/120	65/120
Minimum edge clearance / for axial spacing s					c_{min}/s	[mm]	40/80	50/100	75/150	80/150
Minimum component thickness					h_{min}	[mm]	100	120	130	170
Mounting data										
Hole diameter			d_o	[mm]	8	10	12	16		
Through-hole in the mounted part			d_f	[mm]	9	12	14	18		
Drill hole depth			h_1	[mm]	60	75	90	110		
Anchoring torque			T_{inst}	(Nm)	15	25	45	90		
Wrench size			SW	[mm]	13	17	19	24		

Bolt anchor BZ, Stainless Steel A4

- With European technical certification ETA-99 / 0010, option 1 for concrete with and without cracks (tensile and compression zones)
- Dowel for wide range of applications
- Bolt anchor BZ plus A4 unites high permissible loads with low edge clearances and axial spacing
- Easy setting process: Drill hole, insert dowel, tighten, the expansion clip is expanded after the BZ plus bolt anchor is hammered in by tightening the hexagon nut, immediately loadable, ideal for pressure distribution, minimum slippage
- Ideal for moderately heavy and heavy loads
- Force-controlled expansion with high safety reserves
- Tested by VdS (German Association of Damage Insurers), approved for the installation of sprinkler systems
- Approved for use under category C1 and C2 seismic impacts (M10 – M20, max. anchor length 210 mm)
- Fire protection tested R30 – R120
- Shock approval by the Office of Civil Defence, Bern

Application:

- Anchoring of moderately heavy to heavy loads in concrete: Supports, steel girders, consoles, doors, railings, façade substructures
- Load range: 2.4 kN – 70.6 kN
- Concrete quality: C20/25 – C50/60



Mounting:



Article No.	Article Description	QTY
8169 1 10 75	BOLT ANCH. BZ A4 10/ 75	50
8169 1 12 30	BOLT ANCH. BZ A4 12/ 30	25
8169 1 16 15	BOLT ANCH. BZ A4 16/ 15	20
8169 1 16 50	BOLT ANCH. BZ A4 16/ 50	20

Technical Data

Drill-Ø mm	Anchor length mm	Clamping thick- ness R mm
10	155	95
12	125	50
16	135	35
16	170	70

Bolt-anchor BZ, stainless steel A4

Extract from the application conditions in the ETA-99/0010 approval

Anchor resistance, shear load without influence of axial spacing and edge clearances.
Overall safety factor taken into account according to ETAG (γ_M and γ_F)

Loads and characteristic values			Bolt-anchor BZ, stainless steel A4				M8	M10	M12	M16
Admissible load			C20/25	admissible N[kN]			1,7	3,0	4,0	6,6
			C25/30	admissible N[kN]			1,8	3,3	4,4	7,3
			C30/37	admissible N[kN]			2,0	3,6	4,8	8,0
			C40/50	admissible N[kN]			2,3	4,2	5,6	9,3
			C50/60	admissible N[kN]			2,6	4,6	6,2	10,3
			cracked concrete							
Admissible load			C20/25	admissible N[kN]			4,0	5,3	6,6	9,9
			C25/30	admissible N[kN]			4,4	5,9	7,3	11,0
			C30/37	admissible N[kN]			4,8	6,4	8,1	12,1
			C40/50	admissible N[kN]			5,6	7,5	9,3	14,0
			C50/60	admissible N[kN]			6,2	8,2	10,3	15,4
			uncracked concrete							
Admissible shear load			C20/25	admissible N[kN]			6,1	9,5	14,0	20,4
			≥ C25/30	admissible N[kN]			6,1	19,5	14,0	23,4
Admissible bending shape				admissible N[Nm]			15,6	30,7	54,1	123,4
Axial spacing and edge clearances			cracked and uncracked concrete							
Anchoring depth			h_{ef}	[mm]			45	58	65	80
Characteristics axial spacing			s_{cr}	[mm]			135	174	195	240
Characteristics edge clearances			c_{cr}	[mm]			68	87	98	120
Minimum axial spacing / for edge clearance c			cracked concrete							
			s_{min}/c	[mm]			50/60	60/80	70/100	80/120
Minimum edge clearance / for axial spacing s			c_{min}/s	[mm]			50/75	60/100	70/100	80/120
Minimum axial spacing / for edge clearance c			uncracked concrete							
			s_{min}/c	[mm]			50/80	60/100	65/120	80/160
Minimum edge clearance / for axial spacing s			c_{min}/s	[mm]			50/115	60/155	70/170	100/210
Minimum component thickness			h_{min}	[mm]			100	120	130	160
Mounting data										
Hole diameter			d_o	[mm]			8	10	12	16
Through-hole in the mounted part			d_f	[mm]			9	12	14	18
Drilled hole depth			h_1	[mm]			60	75	90	105
Anchoring torque			T_{inst}	[Nm]			20	35	55	110
Wrench size			SW	[mm]			13	17	19	24

Wedge Anchor M2-U, Galvanized Steel

- Wedge anchor M2-U with ETA approval, option 7 appropriate for time-saving push-through assembly in non-cracked concrete, heavy-duty type
- With extra large washer, DIN 9021 especially for woodwork
- Cost-efficient push-through assembly to fix metal constructions, metal profiles, base plates, consoles, handrails, facades, windows, fences, piping, machines, wooden constructions, beams, purlins, supports
- Concrete quality: C20/25 - C50/60



Mounting:



Article No.	Article Description	QTY
8165 1 12 90	WEDGE ANCHOR M2-U GAL 12/ 90	25
8165 1 12 105	WEDGE ANCHOR M2-U GAL 12/105	25
8165 1 12 125	WEDGE ANCHOR M2-U GAL 12/125	20
8165 1 12 145	WEDGE ANCHOR M2-U GAL 12/145	20
8165 1 12 165	WEDGE ANCHOR M2-U GAL 12/165	20
8165 1 12 205	WEDGE ANCHOR M2-U GAL 12/205	15
8165 1 12 265	WEDGE ANCHOR M2-U GAL 12/265	15
8165 1 16 105	WEDGE ANCHOR M2-U GAL 16/105	10
8165 1 16 145	WEDGE ANCHOR M2-U GAL 16/145	10
8165 1 16 185	WEDGE ANCHOR M2-U GAL 16/185	5
8165 1 16 215	WEDGE ANCHOR M2-U GAL 16/215	5

Technical Data

Drilling Ø mm	Anchor length mm	Minimum drilling hole depth mm
12	185	90
12	200	90
12	220	90
12	240	90
12	260	90
12	300	90
12	360	90
16	220	110
16	260	110
16	300	110
16	330	110

Data bolt-anchor M2-U, galvanized steel

				M12	M16
Recomm.load concrete ¹⁾	C20/25	N _{Emp}	[kN]	9,9	11,9
Recomm. shear load		V _{Emp}	[kN]	8,4	15,7
Recomm. bending torque		M _{EMP}	[Nm]	46,8	118,6
Edge clearance nominal		c	[mm]	102	120
Axial spacing nominal		s	[mm]	204	240
Minimum component thickness		h _{min}	[mm]	140	160
Effective anchoring depth		h _{ef}	[mm]	68	80
Wrench size		sw	[mm]	19	24
Anchoring torque		T _{inst}	[Nm]	50	100
Drilled hole depth		h ₁	[mm]	90	110
Drill hole diameter in build.material		d _o	[mm]	12	16
Hole diameter in the mounted part		d _f	[mm]	14	18
U-disc		d _μ	[mm]	37	50
Thread length		l _G	[mm]	120	120
Outer Ø anchor		d _{nom}	[mm]	12	16
Usable mounting length		t _{fix}	[mm]	90 105 125 145 165 205 265	105 145 185 215

¹⁾ Reduced anchoring depth (note reduced loads)

Bolt anchor PTB-SS-ETA1-PRO, stainless steel A4

ETA 10/0230 ETAG 001, Part 2, option 1 Approval for single fixings

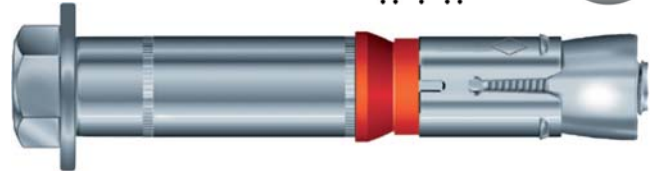
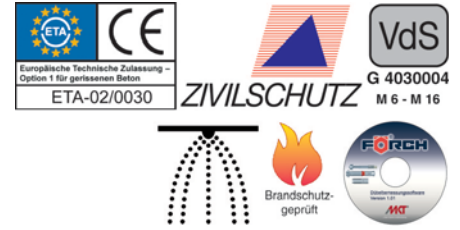
Loads and characteristic values			M8	M10	M12		M16	
					$h_{ef,1}$	$h_{ef,2}$	$h_{ef,1}$	$h_{ef,2}$
Admissible transverse load Option 1	cracked concrete							
	C20/25	Approval N [kN]	1,19	2,98	4,76	4,76	7,94	7,94
	C25/30	Approval N [kN]	1,30	3,26	5,22	5,22	8,69	8,69
	C30/37	Approval N [kN]	1,45	3,62	5,79	5,79	9,66	9,66
	C40/50	Approval N [kN]	1,68	4,21	6,73	6,73	11,22	11,22
	C50/60	Approval N [kN]	1,84	4,61	7,38	7,38	12,30	12,30
Admissible transverse load Option 1	Non-cracked concrete							
	C20/25	Approval N [kN]	3,57	5,71	7,14	9,52	9,52	14,29
	C20/30	Approval N [kN]	3,91	6,26	7,82	10,43	10,42	14,29
	C30/37	Approval N [kN]	4,34	6,95	8,69	11,59	11,59	17,38
	C40/50	Approval N [kN]	5,05	8,08	10,10	13,47	13,47	20,20
	C50/60	Approval N [kN]	5,53	8,85	11,07	14,75	14,75	22,13
Admissible transverse load (cracked concrete)								
	C20/25	Approval V [kN]	4,34	8,04	11,61	11,61	21,88	21,88
Admissible bending moment								
		Approval M [Nm]	10,27	20,54	36,16	36,16	91,96	91,96
Axis and edge distances								
Anchoring depth	h_{ef}	[mm]	40	60	60	80	80	100
Distinctive axis distance (concrete cone)	s_{cr}	[mm]	120	180	180	240	240	300
Characteristic edge distance (concrete cone)	c_{cr}	[mm]	60	90	90	120	120	150
Distinctive edge distance / for edge distance c	s_{min}	[mm]	50/90	55/90	60/100	60/100	70/130	70/130
Minimum edge distance /for centre distance s	c_{min}	[mm]	55/120	60/150	65/190	65/190	85/160	85/160
Minimum component thickness	h_{min}	[mm]	100	120	120	160	160	200
Assembly data								
Drilling hole diameter	d_o	[mm]	8	10	12	12	16	16
Clearance hole in the add-on part	d_f	[mm]	9	12	14	14	18	18
Drilling hole depth	h_1	[mm]	55	75	75	95	100	120
Torque when anchoring	T_{inst}	[mm]	25	45	70	70	120	120
Wrench size	SW	[mm]	13	17	19	19	24	24

Heavy-duty Anchor Type SZ-S

- Heavy-duty anchor type SZ-S with ETA approval, option 1, is a high performance push-through anchoring system with triple expanding special bushing which allows very high admissible loads at little axial and edge distances
- Plastic pressure ring ensures durable bracing of the fixing part against the substructure and avoids turning with the anchor during assembly
- Available in three types
- Shock-tested by the 'Bundesamt für Bevölkerungsschutz' at Bern

Application:

- Average to heavy anchoring in cracked concrete of steel supports, handrails, machines, scaffolds, consoles
- Load range: 2,0 kN - 31,3 kN
- Concrete quality: C20/25 - C50/60



Mounting



Article No.	Article Description	QTY
8176 10 0	H.-DUTY ANCH. TYPE SZ-S 10/ 0	100
8176 10 10	H.-DUTY ANCH. TYPE SZ-S 10/ 10	50
8176 10 30	H.-DUTY ANCH. TYPE SZ-S 10/ 30	50
8176 10 50	H.-DUTY ANCH. TYPE SZ-S 10/ 50	50
8176 12 0	H.-DUTY ANCH. TYPE SZ-S 12/ 0	50
8176 12 10	H.-DUTY ANCH. TYPE SZ-S 12/ 10	50
8176 12 30	H.-DUTY ANCH. TYPE SZ-S 12/ 30	50
8176 12 50	H.-DUTY ANCH. TYPE SZ-S 12/ 50	25
8176 15 0	H.-DUTY ANCH. TYPE SZ-S 15/ 0	25
8176 15 15	H.-DUTY ANCH. TYPE SZ-S 15/ 15	25
8176 15 25	H.-DUTY ANCH. TYPE SZ-S 15/ 25	25
8176 15 45	H.-DUTY ANCH. TYPE SZ-S 15/ 45	25
8176 15 95	H.-DUTY ANCH. TYPE SZ-S 15/ 95	25
8176 18 0	H.-DUTY ANCH. TYPE SZ-S 18/ 0	20
8176 18 10	H.-DUTY ANCH. TYPE SZ-S 18/ 10	20
8176 18 20	H.-DUTY ANCH. TYPE SZ-S 18/ 20	20
8176 18 40	H.-DUTY ANCH. TYPE SZ-S 18/ 40	20
8176 18 70	H.-DUTY ANCH. TYPE SZ-S 18/ 70	20
8176 24 0	H.-DUTY ANCH. TYPE SZ-S 24/ 0	10
8176 24 20	H.-DUTY ANCH. TYPE SZ-S 24/ 20	10
8176 24 50	H.-DUTY ANCH. TYPE SZ-S 24/ 50	10

Technical Data

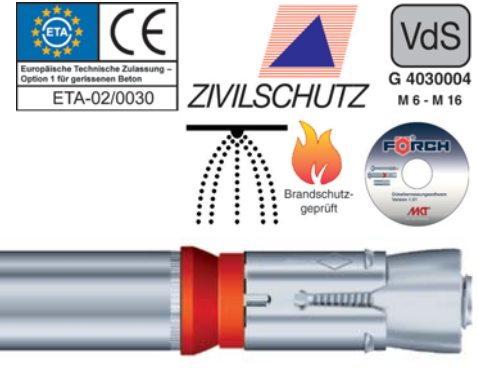
Drilling Ø mm	Anchor length mm	Minimum drilling hole depth mm
10	60	60
10	70	60
10	90	60
10	110	60
12	70	70
12	80	70
12	100	70
12	120	70
15	85	85
15	100	85
15	110	85
15	130	85
15	180	85
18	100	95
18	110	95
18	120	95
18	140	95
18	170	95
24	120	120
24	140	120
24	170	120

Heavy-duty Anchor Type SZ-B

- Heavy-duty anchor type SZ-B with ETA approval, option 1, is a high performance push-through anchoring system with triple expanding special bushing which allows very high admissible loads at little axial and edge distances
- Plastic pressure ring ensures durable bracing of the fixing part against the substructure and avoids turning with the anchor during assembly
- Available in three types
- Shock-tested by the 'Bundesamt für Bevölkerungsschutz' at Bern

Application:

- Average to heavy anchoring in cracked concrete of steel supports, handrails, machines, scaffolds, consoles
- Load range: 2,0 kN - 31,3 kN
- Concrete quality: C20/25 - C50/60



Mounting



Article No.	Article Description	QTY
8177 10 0	H.-DUTY ANCH. TYPE SZ-B 10/ 0	100
8177 10 10	H.-DUTY ANCH. TYPE SZ-B 10/ 10	50
8177 10 30	H.-DUTY ANCH. TYPE SZ-B 10/ 30	50
8177 10 50	H.-DUTY ANCH. TYPE SZ-B 10/ 50	50
8177 10 100	H.-DUTY ANCH. TYPE SZ-B 10/100	25
8177 12 0	H.-DUTY ANCH. TYPE SZ-B 12/ 0	50
8177 12 10	H.-DUTY ANCH. TYPE SZ-B 12/ 10	50
8177 12 30	H.-DUTY ANCH. TYPE SZ-B 12/ 30	50
8177 12 50	H.-DUTY ANCH. TYPE SZ-B 12/ 50	25
8177 12 100	H.-DUTY ANCH. TYPE SZ-B 12/100	25
8177 15 0	H.-DUTY ANCH. TYPE SZ-B 15/ 0	25
8177 15 15	H.-DUTY ANCH. TYPE SZ-B 15/ 15	25
8177 15 25	H.-DUTY ANCH. TYPE SZ-B 15/ 25	25
8177 15 45	H.-DUTY ANCH. TYPE SZ-B 15/ 45	25
8177 15 95	H.-DUTY ANCH. TYPE SZ-B 15/ 95	25
8177 18 0	H.-DUTY ANCH. TYPE SZ-B 18/ 0	20
8177 18 10	H.-DUTY ANCH. TYPE SZ-B 18/ 10	20
8177 18 20	H.-DUTY ANCH. TYPE SZ-B 18/ 20	20
8177 18 40	H.-DUTY ANCH. TYPE SZ-B 18/ 40	20
8177 18 70	H.-DUTY ANCH. TYPE SZ-B 18/ 70	20
8177 18 100	H.-DUTY ANCH. TYPE SZ-B 18/100	10
8177 24 0	H.-DUTY ANCH. TYPE SZ-B 24/ 0	10
8177 24 20	H.-DUTY ANCH. TYPE SZ-B 24/ 20	10
8177 24 50	H.-DUTY ANCH. TYPE SZ-B 24/ 50	10
8177 24 100	H.-DUTY ANCH. TYPE SZ-B 24/100	5

Technical Data

Drilling Ø mm	Anchor length mm	Minimum drilling hole depth mm
10	69	60
10	79	60
10	99	60
10	119	60
10	169	60
12	82	70
12	92	70
12	112	70
12	132	70
12	182	70
15	98	85
15	113	85
15	123	85
15	143	85
15	193	85
18	115	95
18	125	95
18	135	95
18	155	95
18	185	95
18	215	95
24	141	120
24	161	120
24	191	120
24	241	120

Heavy duty type SZ-S and type SZ-B

Extract from the application conditions in the ETA-02/0030 1598 approval

Anchor load-bearing capacities, shear loads without the influence of axial spacings and edge distances

Overall safety factor taken into account according to ETAG 001 (γ_M und γ_F)

Loads and characteristic values	Heacy-duty anchors SZ			SZ 10	SZ 12	SZ 15	SZ 18	SZ 24
				M 6	M 8	M 10	M 12	M 16
cracked concrete								
Admissible transverse load	C20/25	Approval N	[kN]	2.4	5.7	7.6	12.3	17.1
	C25/30	Approval N	[kN]	2.6	6.3	8.4	13.5	18.9
	C30/37	Approval N	[kN]	2.9	7.0	9.3	15.0	20.9
	C40/50	Approval N	[kN]	3.4	8.1	10.7	17.3	24.2
	C50/60	Approval N	[kN]	3.7	8.9	11.8	19.0	26.6
Non-cracket concrete								
Admissible transverse load	C20/25	Approval N	[kN]	7.6	9.5	14.3	17.2	24.0
	C25/30	Approval N	[kN]	7.6	10.5	15.7	18.9	26.4
	C30/37	Approval N	[kN]	7.6	11.6	17.4	21.0	29.3
	C40/50	Approval N	[kN]	7.6	13.4	20.1	24.2	33.8
	C50/60	Approval N	[kN]	7.6	13.8	21.9	26.6	37.2
cracket and Non-cracket concrete								
Admissible transverse load SZ-S	C20/25	Approval V	[kN]	10.3	15.9/17.1	20.5/27.4	24.5/34.3	34.3/48.0
	≥ C25/30	Approval V	[kN]	10.3	17.1	22.6/27.4	27.0/37.8	37.7/52.8
Admissible bending moment	C20/25	Approval V	[kN]	9.1	14.3	20.5/20.6	24.5/34.3	34.3/48.0
	≥ C25/30	Approval V	[kN]	9.1	14.3	20.6	27.0/36.0	37.7/52.0
Admissible bending moment	–	Approval M	[Nm]	6.9	17.1	34.3	60.0	152,0
Axis and edge distances								
Anchoring depth	–	h _{ef}	[mm]	50	60	71	80	100
Distinctive axis distance	–	s _{cr}	[mm]	150	180	213	240	300
Characteristic edge distance	–	c _{cr}	[mm]	75	90	107	120	150
Distinctive edge distance / for edge distance c	–	s _{min} /c	[mm]	50/80	60/100	70/120	80/160	100/180
Minimum edge distance / for edge distance s	–	c _{min} /s	[mm]	50/100	60/120	70/175	80/200	100/220
Minimum component thickness	–	h _{min}	[mm]	100	120	140	160	200
Assembly data								
Drilling hole diameter	–	d _o	[mm]	10	12	15	18	24
Clearance hole in the add-on part	–	d _f	[mm]	12	14	17	20	26
Drilling hole depth	–	h ₁	[mm]	65	80	95	105	130
Torque when anchoring	–	T _{inst}	[Nm]	15	30	50	80	160
Wrench size	–	SW	[mm]	10	13	17	19	24

Screw anchor with pressed-on washer, galvanised

- MMS-plus screw anchor for anchoring in cracked and uncracked concrete
- ETA permit 15/0784, Option 1
- Fire resistance class F120
- Suitable for the installation of sprinkler systems
- **M10 and M12** approved for use under seismic impact C1
- Hexagonal head with pressed-on washer and stamped head
- **Concrete thread:** Reduced core diameter and larger outer diameter for greater effective surface area
- **Functional highlights:** Larger outer diameter and stronger toothing for less wear
- Anchor-less approved fastening in concrete in interior areas
- Installation of railings, metal structures, pipes in the sanitary and ventilation fields, wood structures, beams, stringers, sills, etc.
- Wrench sizes Ø 6.0 = AF 8, Ø 7.5 = AF 10, Ø 10.0 = AF 13, Ø 12.0 = AF 15, Ø 14.0 = AF 21, Ø 16.0 = AF 21



Article No.	Article Description	QTY
8171 60 40	SCREW ANCH. HEX GV 6,0X 40	100
8171 60 50	SCREW ANCH. HEX GV 6,0X 50	100
8171 60 60	SCREW ANCH. HEX GV 6,0X 60	100
8171 60 70	SCREW ANCH. HEX GV 6,0X 70	100
8171 60 80	SCREW ANCH. HEX GV 6,0X 80	50
8171 75 35	SCREW ANCH. HEX GV 7,5X 35	100
8171 75 40	SCREW ANCH. HEX GV 7,5X 40	100
8171 75 50	SCREW ANCH. HEX GV 7,5X 50	50
8171 75 60	SCREW ANCH. HEX GV 7,5X 60	50
8171 75 70	SCREW ANCH. HEX GV 7,5X 70	50
8171 75 80	SCREW ANCH. HEX GV 7,5X 80	50
8171 75 100	SCREW ANCH. HEX GV 7,5X100	50
8171 75 120	SCREW ANCH. HEX GV 7,5X120	50
8171 75 140	SCREW ANCH. HEX GV 7,5X140	50
8171 100 60	SCREW ANCH. HEX GV 10,0X 60	25
8171 100 70	SCREW ANCH. HEX GV 10,0X 70	25
8171 100 80	SCREW ANCH. HEX GV 10,0X 80	25
8171 100 90	SCREW ANCH. HEX GV 10,0X 90	25
8171 100 100	SCREW ANCH. HEX GV 10,0X100	25
8171 100 120	SCREW ANCH. HEX GV 10,0X120	25
8171 100 140	SCREW ANCH. HEX GV 10,0X140	25
8171 100 160	SCREW ANCH. HEX GV 10,0X160	25
8171 120 80	SCREW ANCH. HEX GV 12,0X 80	25
8171 120 90	SCREW ANCH. HEX GV 12,0X 90	25
8171 120 100	SCREW ANCH. HEX GV 12,0X100	25
8171 120 120	SCREW ANCH. HEX GV 12,0X120	25
8171 120 140	SCREW ANCH. HEX GV 12,0X140	25
8171 120 160	SCREW ANCH. HEX GV 12,0X160	25

Technical Data					
Pilot hole Ø mm	Disk Ø mm	Clamping thickness mm	Anchoring depth mm	Larg.perm. tens.load of cracked concr. C 20/25 in kN	Larg.perm. tens.load of un-cracked concr.C 20/25 in kN
5	11	5	35 – 45	0.5 – 0.7	2.0 – 3.0
5	11	5 – 15	35 – 45	0.5 – 0.7	2.0 – 3.0
5	11	15 – 25	35 – 45	0.5 – 0.7	2.0 – 3.0
5	11	25 – 35	35 – 45	0.5 – 0.7	2.0 – 3.0
5	11	35 – 45	35 – 45	0.5 – 0.7	2.0 – 3.0
6	14	1	35 – 55	1.0 – 2.0	2.0 – 4.4
6	14	5	35 – 55	1.0 – 2.0	2.0 – 4.4
6	14	15	35 – 55	1.0 – 2.0	2.0 – 4.4
6	14	5 – 25	35 – 55	1.0 – 2.0	2.0 – 4.4
6	14	15 – 35	35 – 55	1.0 – 2.0	2.0 – 4.4
6	14	25 – 45	35 – 55	1.0 – 2.0	2.0 – 4.4
6	14	45 – 65	35 – 55	1.0 – 2.0	2.0 – 4.4
6	14	65 – 85	35 – 55	1.0 – 2.0	2.0 – 4.4
6	14	85 – 105	35 – 55	1.0 – 2.0	2.0 – 4.4
8	19	10	50 – 65	3.0 – 4.4	5.9 – 7.9
8	19	5 – 20	50 – 65	3.0 – 4.4	5.9 – 7.9
8	19	15 – 30	50 – 65	3.0 – 4.4	5.9 – 7.9
8	19	25 – 40	50 – 65	3.0 – 4.4	5.9 – 7.9
8	19	35 – 50	50 – 65	3.0 – 4.4	5.9 – 7.9
8	19	55 – 70	50 – 65	3.0 – 4.4	5.9 – 7.9
8	19	75 – 90	50 – 65	3.0 – 4.4	5.9 – 7.9
8	19	95 – 110	50 – 65	3.0 – 4.4	5.9 – 7.9
10	22	5	75 – 90	5.9 – 7.9	9.9 – 12.3
10	22	1 – 15	75 – 90	5.9 – 7.9	9.9 – 12.3
10	22	10 – 25	75 – 90	5.9 – 7.9	9.9 – 12.3
10	22	30 – 45	75 – 90	5.9 – 7.9	9.9 – 12.3
10	22	50 – 65	75 – 90	5.9 – 7.9	9.9 – 12.3
10	22	70 – 85	75 – 90	5.9 – 7.9	9.9 – 12.3

Test sleeve for screw anchor

- Measuring sleeve for checking the thread diameter for multiple use of Multi-Monti plus with Ø 10 – Ø 20 mm

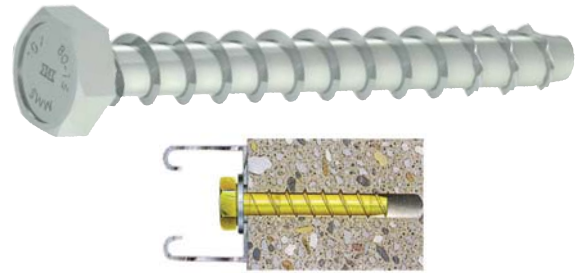
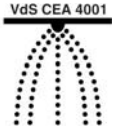


Article No.	Article Description	QTY
8171 10	TEST SLEEVE F.SCREW ANCHOR 10	1
8171 12	TEST SLEEVE F.SCREW ANCHOR 12	1
8171 16	TEST SLEEVE F.SCREW ANCHOR 16	1
8171 20	TEST SLEEVE F.SCREW ANCHOR 20	1

Technical Data	
Sleeve Ø mm	Sleeve length in mm
9.5	24
11.5	32
15.5	36
19.5	58

Screw Anchor, Blue Galvanized Steel

- With general technical approval number Z-21.1-1503 for anchoring in non-cracked concrete and for anchoring of light-weight ceiling claddings and suspended ceilings in concrete
- Screw anchor from Ø 10.0 x 70 on with general technical approval number Z-21.1-1549 or ETA approval ETA 05/0010 for anchoring in cracked and non-cracked concrete
- Wrench size Ø 7.5 = SW 13. Ø 10.0 = SW 16, Ø 12.0 = SW 18
- Fixture with technical approval without screw in concrete, in the interior
- Assembly of handrails, metal structures, pipings in the sanitary and ventilation field, wood structures, joists, purlins, sills, etc.
- Assembly of light-weight suspended ceilings and ceiling claddings
- High extract values at little setting depths
- Fire protection tested; fulfills fire resistance class F 120
- Fire protection tested in concrete, sand-lime bricks, solid bricks, clinker, natural stone and hollow block concrete
- From 12 x 200 on: is used in wooden construction to fix sills (incl. appropriate washer DIN 440)
- Art.-No. 8170 120 60: not part of the approval



Article No.	Article Description	QTY
8170 140 110	HEX. SCREW ANCH. GV 14.0X110	25
8170 140 130	HEX. SCREW ANCH. GV 14.0X130	25
8170 140 150	HEX. SCREW ANCH. GV 14.0X150	25
8170 160 130	HEX. SCREW ANCH. GV 16.0X130	10
8170 160 150	HEX. SCREW ANCH. GV 16.0X150	10

Technical Data			*Recommended loads in kN	
Drill-Ø mm	Anch.-depth mm	Clamping thickness mm	Tens.load in cracked concr. C20/25	Tens.load in uncrack.concr. C20/25
12	95	15	8,2	12,3
12	95	35	8,2	12,3
12	95	55	8,2	12,3
14	115	15	12,1	16,4
14	115	35	12,1	16,4

¹according to DIBT-approval Z-21.1-1503

* not part of the ETA-approval

Screw anchor with pressed-on washer DIN 440, gv

- MMS-plus screw anchor for anchoring in cracked and uncracked concrete
- ETA permit 15/0784, Option 1
- Fire resistance class F120
- Suitable for the installation of sprinkler systems
- Approved for use under seismic impact C1
- Hexagonal head with pressed-on DIN 440 washer and stamped head
- **Concrete thread:** Reduced core diameter and larger outer diameter for greater effective surface area
- **Functional highlights:** Larger outer diameter and stronger toothing for less wear
- Anchor-less approved fastening in concrete in interior areas
- Installation of wood structures, beams, stringers, sills, etc.

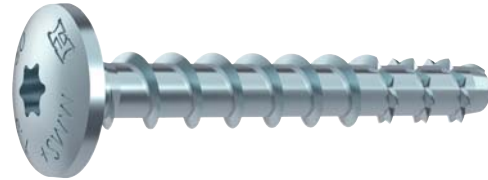


Article No.	Article Description	QTY
8171 120 180	SCREW ANCH.HEX GALV.12,0X180	25
8171 120 200	SCREW ANCH.HEX GALV.12,0X200	25
8171 120 240	SCREW ANCH.HEX GALV.12,0X240	25
8171 120 280	SCREW ANCH.HEX GALV.12,0X280	25
8171 120 320	SCREW ANCH.HEX GALV.12,0X320	25

Technical Data				Larg.perm. tens.load of cracked concr. C 20/25 in kN	Larg.perm. tens.load of un-cracked concr. C 20/25 in kN
Pilot hole Ø mm	Disk Ø mm	Clamping thickn. mm	Anchoring depth mm		
10	43,5	90 – 105	75 – 90	5,9 – 7,9	9,9 – 12,3
10	43,5	110 – 125	75 – 90	5,9 – 7,9	9,9 – 12,3
10	43,5	150 – 165	75 – 90	5,9 – 7,9	9,9 – 12,3
10	43,5	190 – 205	75 – 90	5,9 – 7,9	9,9 – 12,3
10	43,5	230 – 245	75 – 90	5,9 – 7,9	9,9 – 12,3

Rail anchor with flat round head, galvanised

- MMS-plus screw anchor for anchoring in cracked and uncracked concrete
- ETA permit 15/0784, Option 1
- Fire resistance class F120
- Suitable for the installation of sprinkler systems
- **Concrete thread:** Reduced core diameter and larger outer diameter for greater effective surface area
- **Functional highlights:** Larger outer diameter and stronger toothing for less wear
- Anchor-less approved fastening in concrete in interior areas
- Installation of railings, metal structures, pipes in the sanitary and ventilation fields

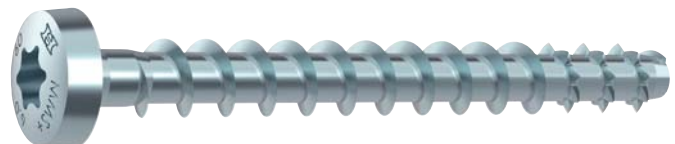


Technical Data					
Drill- Ø mm	Head- Ø mm	Clamping- thickness mm	Anchoring depth mm	Larg.perm. tens. load of cracked concrete C 20/25 in kN	Larg.perm. tens.load of uncracked concrete C 20/25 in kN
6	17	1	35	1,0	2,0
6	17	5	35	1,0	2,0
6	17	10	35	1,0	2,0
6	17	15	35	1,0	2,0

Article No.	Article Description	QTY
8171 2 75 35	RAIL ANCHOR RH GV 7.5X 35	100
8171 2 75 40	RAIL ANCHOR RH GV 7.5X 40	100
8171 2 75 45	RAIL ANCHOR RH GV 7.5X 45	100
8171 2 75 50	RAIL ANCHOR RH GV 7.5X 50	100

Screw anchor with pan head round head, galvanised

- MMS-plus screw anchor for anchoring in cracked and uncracked concrete
- ETA permit 15/0784, Option 1
- Fire resistance class F120
- Suitable for the installation of sprinkler systems
- Anchor-less approved fastening in concrete in interior areas
- **Drive: TX-30**



Technical Data					
Drill- Ø mm	Head- Ø mm	Clamping thickness mm	Anchoring- depth mm	Larg.perm. tens. load in cracked concrete C 20/25 in kN	Larg.perm. tens. load in uncracked concrete C 20/25 in kN
6	14,5	15	35	1,0	2,0
6	14,5	5 – 25	35 – 55	1,0 – 2,0	2,0 – 4,4

Article No.	Article Description	QTY
8171 4 75 50	RAIL ANCH.PANHEAD GV 7.5X 50	100
8171 4 75 60	RAIL ANCH.PANHEAD GV 7.5X 60	50

Inner thread anchor, combination thread M8/M10, GV

- MMS-plus screw anchor for anchoring in cracked and uncracked concrete
- ETA permit 15/0784, option 1
- Fire resistance class F120
- Suitable for the installation of sprinkler systems
- Combination thread M8 / M10 × 23
- Spanner size 13



Technical Data

Article No.	Article Description	QTY
8171 3 75 40	INNER THREAD ANCHOR GV 7.5X 40	40
8171 3 75 60	INNER THREAD ANCHOR GV 7.5X 60	40

Drill- Ø mm	Head Ø mm	Clamping thickness mm	Anchoring depth mm	Larg.perm. tens.load of cracked concrete C 20/25 in kN	Larg.perm. tens.load of uncracked concrete C 20/25 in kN
6	14,5	5	35	1,0	2,0
6	14,5	5 – 25	35	1,0	2,0

Stick anchor with connecting thread, galvanised

- MMS plus anchor for anchoring in cracked and uncracked concrete
- ETA permit 15/0784, Option 1
- Fire resistance class F120
- Suitable for the installation of sprinkler systems
- Anchor-less approved fastening in concrete in interior areas
- Stick anchor Ø 6,0: Connecting thread M6 × 5 mm
- Stick anchor Ø 7,5: Connecting thread M8 × 14 mm
- Stick anchor Ø 10,0: Connecting thread M10 × 11 mm



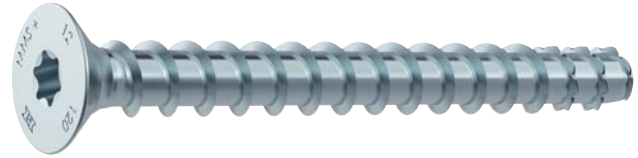
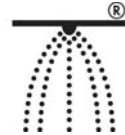
Technical Data

Article No.	Article Description	QTY
8171 5 60 55	STICK ANCH HEX GV 6,0X 55	100
8171 5 60 65	STICK ANCH HEX GV 6,0X 65	50
8171 5 75 60	STICK ANCH HEX GV 7,5X 60	50
8171 5 75 70	STICK ANCH HEX GV 7,5X 70	50
8171 5 75 80	STICK ANCH HEX GV 7,5X 80	50
8171 5 75 100	STICK ANCH HEX GV 7,5X100	50
8171 5 75 120	STICK ANCH HEX GV 7,5X120	50
8171 5 100 75	STICK ANCH HEX GV 10,0X 75	25
8171 5 100 85	STICK ANCH HEX GV 10,0X 85	25

Drill- Ø mm	Head- Ø mm	Clamping thickness mm	Achoring depth mm	Larg.perm. tens.load in cracked concrete C 20/25 in kN	Larg.perm. tens.load in uncracked concrete C 20/25 in kN
5	10	10 – 20	35 – 45	0,5 – 0,7	2,0 – 3,0
5	10	20 – 30	35 – 45	0,5 – 0,7	2,0 – 3,0
6	10	5 – 25	35 – 55	1,0 – 2,0	2,0 – 4,4
6	10	15 – 35	35 – 55	1,0 – 2,0	2,0 – 4,4
6	10	25 – 45	35 – 55	1,0 – 2,0	2,0 – 4,4
6	10	45 – 65	35 – 55	1,0 – 2,0	2,0 – 4,4
6	10	65 – 85	35 – 55	1,0 – 2,0	2,0 – 4,4
8	13	10 – 25	50 – 65	3,0 – 4,4	5,9 – 7,9
8	13	20 – 35	50 – 65	3,0 – 4,4	5,9 – 7,9

Countersunk head scr.anch. galvanised

- MMS plus screw anchor for anchoring in cracked and uncracked concrete
- ETA permit 15/0784, Option 1
- Fire resistance class F120
- Suitable for the installation of sprinkler systems
- **M10 and M12** approved for use under seismic impact C1
- **Concrete thread:** Reduced core diameter and larger outer diameter for greater effective surface area
- **Functional highlights:** Larger outer diameter and stronger toothing for less wear
- Anchor-less approved fastening in concrete in interior areas
- Flat, countersunk head, 90°, for flush mounting, e.g. hand rails, railings, metal structures, fire protection panels, wood structures, etc.
- Drive: Ø 6.0 mm TX 30
- Drive: Ø 7.5 mm TX 40
- Drive: Ø 10.0 mm TX 45
- Drive: Ø 12.0 mm TX 50



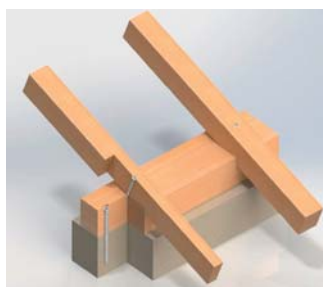
Technical Data

Article No.	Article Description	QTY
8171 6 60 40	COUNTERS.HEAD SCR GV 6,0X 40	100
8171 6 60 50	COUNTERS.HEAD SCR GV 6,0X 50	100
8171 6 60 60	COUNTERS.HEAD SCR GV 6,0X 60	100
8171 6 60 70	COUNTERS.HEAD SCR GV 6,0X 70	100
8171 6 60 80	COUNTERS.HEAD SCR GV 6,0X 80	50
8171 6 60 100	COUNTERS.HEAD SCR GV 6,0X100	50
8171 6 60 120	COUNTERS.HEAD SCR GV 6,0X120	50
8171 6 60 140	COUNTERS.HEAD SCR GV 6,0X140	50
8171 6 75 45	COUNTERS.HEAD SCR GV 7,5X 45	100
8171 6 75 50	COUNTERS.HEAD SCR GV 7,5X 50	100
8171 6 75 60	COUNTERS.HEAD SCR GV 7,5X 60	50
8171 6 75 70	COUNTERS.HEAD SCR GV 7,5X 70	50
8171 6 75 80	COUNTERS.HEAD SCR GV 7,5X 80	50
8171 6 75 100	COUNTERS.HEAD SCR GV 7,5X100	50
8171 6 75 120	COUNTERS.HEAD SCR GV 7,5X120	50
8171 6 75 140	COUNTERS.HEAD SCR GV 7,5X140	50
8171 6 75 160	COUNTERS.HEAD SCR GV 7,5X160	50
8171 6 100 60	COUNTERS.HEAD SCR GV 10,0X 60	25
8171 6 100 70	COUNTERS.HEAD SCR GV 10,0X 70	25
8171 6 100 80	COUNTERS.HEAD SCR GV 10,0X 80	25
8171 6 120 90	COUNTERS.HEAD SCR GV 12,0X 90	25
8171 6 120 100	COUNTERS.HEAD SCR GV 12,0X100	25
8171 6 120 120	COUNTERS.HEAD SCR GV 12,0X120	25

Drill- Ø mm	Head - Ø mm	Clam- ping- thick- ness mm	Ancho- ring depth mm	Larg.perm. tens.load in cracked concrete C 20/25 in kN	Larg.perm. tens.load in uncracked concrete C 20/25 in kN
5	11,5	5	35 - 45	0,5 - 0,7	2,0 - 3,0
5	11,5	5 - 15	35 - 45	0,5 - 0,7	2,0 - 3,0
5	11,5	15 - 25	35 - 45	0,5 - 0,7	2,0 - 3,0
5	11,5	25 - 35	35 - 45	0,5 - 0,7	2,0 - 3,0
5	11,5	35 - 45	35 - 45	0,5 - 0,7	2,0 - 3,0
5	11,5	55 - 65	35 - 45	0,5 - 0,7	2,0 - 3,0
5	11,5	75 - 85	35 - 45	0,5 - 0,7	2,0 - 3,0
5	11,5	95 - 100	35 - 45	0,5 - 0,7	2,0 - 3,0
6	15,5	10	35 - 55	1,0 - 2,0	2,0 - 4,4
6	15,5	15	35 - 55	1,0 - 2,0	2,0 - 4,4
6	15,5	5 - 25	35 - 55	1,0 - 2,0	2,0 - 4,4
6	15,5	15 - 35	35 - 55	1,0 - 2,0	2,0 - 4,4
6	15,5	25 - 45	35 - 55	1,0 - 2,0	2,0 - 4,4
6	15,5	45 - 65	35 - 55	1,0 - 2,0	2,0 - 4,4
6	15,5	65 - 85	35 - 55	1,0 - 2,0	2,0 - 4,4
6	15,5	85 - 105	35 - 55	1,0 - 2,0	2,0 - 4,4
6	15,5	105 - 125	35 - 55	1,0 - 2,0	2,0 - 4,4
8	19,5	10	50 - 65	3,0 - 4,4	5,9 - 7,9
8	19,5	5 - 20	50 - 65	3,0 - 4,4	5,9 - 7,9
8	19,5	15 - 30	50 - 65	3,0 - 4,4	5,9 - 7,9
10	24,0	5 - 15	75 - 90	5,9 - 7,9	9,9 - 12,3
10	24,0	10 - 25	75 - 90	5,9 - 7,9	9,9 - 12,3
10	24,0	30 - 45	75 - 90	5,9 - 7,9	9,9 - 12,3

Timber Connect screw anchor, galvanised

- Ideally suited to fastening timber components to concrete and solid brick walls
- Transmission of high tensile and shear forces without additional design effort
- Can be counterbored in the wood so that one product is suitable for various wood thicknesses
- Small hole diameter
- Simple mounting with suitable setting tool
- General building approval Z-21.1-1879
- TX 30 setting tool with bit drive
- TX 45 and TX 50 setting tools with 1/2" socket wrench drive



8171 8 30



8171 8 45, 8171 8 50

Article No.	Article Description	QTY
8171 8 75 100	SCREW ANCHOR TC-GV 7,5X100	50
8171 8 100 130	SCREW ANCHOR TC-GV 10,0X130	25
8171 8 120 160	SCREW ANCHOR TC-GV 12,0X160	25
8171 8 30	SETTING TOOL F.TIMER CONN.TX30	1
8171 8 45	SETTING TOOL F.TIMER CONN.TX45	1
8171 8 50	SETTING TOOL F.TIMER CONN.TX50	1

Technical Data			
Drill-Ø	Head-Ø	Clamping- thickn.	Drive
mm	mm	mm	TX
6	10,0	40 – 150	30
8	16,0	60 – 200	45
10	17,5	80 – 300	50

Screw Anchor, Stainless Steel A4

- ETA approval ETA 05/0011 for anchoring in cracked and uncracked concrete
- approved for fastening in concrete without dowels
- for installing railings, metal structures, piping and ventilation in sanitary and HVAC, wooden constructions, beams, purlins, sills, etc
- width across flats: Ø 7,5 = WAF 13, Ø 10,0 = WAF 16, Ø 12,0 = WAF 18
- high pull-out values at low setting depths



Article No..	Article Description	QTY
8170 1 75 65	HEX. SCREW ANCH. A4 7.5X50/ 65	50
8170 1 75 75	HEX. SCREW ANCH. A4 7.5X60/ 75	50
8170 1 100 85	HEX. SCREW ANCH. A4 10.0X70/85	25
8170 1 100 95	HEX. SCREW ANCH. A4 10.0X95	25
8170 1 120 100	HEX. SCR. ANCH. A4 12.0X100/120	25
8170 1 120 120	HEX. SCREW ANCH. A4 12.0X120	25

Technical Data		*Recommended loads in kN		
Drill- Ø	Anchor depth	Clamp.- thickn.	Tensile load in crack.concr. C20/25	Tensile load in uncr.concr. C20/25
mm	mm	mm		
6	40	10	0,5 ¹	2,0 ¹
6	65	10	1,8	2,6
8	75	10	3,7	4,9
8	75	20	3,7	4,9
10	90	10	4,9	6,5
10	90	30	4,9	6,5

¹ according to DIBT approval Z-21.1-1697

* not part of the ETA-approval

Screw anchors, countersunk head, stainl.steel A5

- With ETA approval 05 / 0011 for attachment in cracked and non-cracked concrete
- Stainless steel A5, Material No. 1.4571, functional ribs phosphated
- 90° flat countersunk head for flush mounting of, e.g., handrails, guardrails, metal structures, etc., in wet rooms or outside

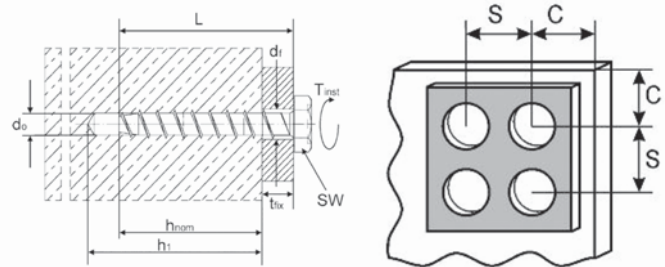


Article No.	Article Description	QTY
8170 7 75 75	SCR.ANCH.CH TX30 A5 7.5X75/ 10	50
8170 7 75 85	SCR.ANCH.CH TX30 A5 7.5X85/ 20	50
8170 7 75 95	SCR.ANCH.CH TX30 A5 7.5X95/ 30	50
8170 7 75 115	SCR.ANCH.CH TX30 A5 7.5X115/50	50

Technical Data		*Recommended loads in kN		
Pilot hole- Ø mm	Anch. depth mm	Clamp. thickn. mm	Tensile load in cracked concr. C20/25	Tensile load in ncrack.concr. C20/25
6	65	10	1.8	2.6
6	65	20	1.8	2.6
6	65	30	1.8	2.6
6	65	50	1.8	2.6

Permissible loads in concrete

- 1.1 Permissible maximum loads for a single anchor for fastening in cracked and non-cracked concrete according to ETA 05/0010 and ETA 05/0011.
(The whole approval document must be observed for the design.)



Anchor size		MMS-7,5		MMS-10		MMS-12		MMS-14	MMS-16
		A4	gvz	A4	gvz	A4	gvz	gvz	gvz
Approval document no. ETA 05/		0011	0010	0011	0010	0011	0010	0010	0010
Admissible transverse load "Nzul" from one single anchor without edge influence ¹⁾									
Cracked concrete C20/25 ³⁾	[kN]	1,8	2,0	3,7		4,9		8,2	12,1
Non-cracked concrete C20/25 ³⁾	[kN]	2,6	3,1	4,9		6,5		12,3	16,4
Permissible transverse force "Vzul" from one single anchor without edge influence ²⁾									
Cracked concrete +C20/25 ³⁾	[kN]	4,5	3,4 ⁵⁾	9,8 ⁵⁾	7,9 ⁵⁾	14,3	11,3 ⁵⁾	17,7 ⁵⁾	24,2 ⁵⁾
Non-cracked concrete C20/25 ³⁾	[kN]	6,0 ⁵⁾	3,4 ⁵⁾	9,8 ⁵⁾	7,9 ⁵⁾	16,2 ⁵⁾	11,3 ⁵⁾	17,7 ⁵⁾	24,2 ⁵⁾
Admissible bending moment*⁴⁾ "Mzul"									
	[Nm]	10,9	9,4	22,2	18,7	45,9	35	65,1	107,1
Component dimension and installation parameters									
Nominal hole diameter d_O	= [mm]	6,0		8,0		10,0		12,0	14,0
Drilling hole depth h₁	= [mm]	75	65	90	75	100	85	105	130
Total anchoring depth h_{nom}	≤ [mm]	65	55	75	65	90	75	95	115
Mathematical anchoring depth h_{ef}	= [mm]	40		47,5		54,5		71,5	87,5
Min. edge distance s_{min}	= [mm]	40		50		60		90	100
Min. centre distance c_{min}	= [mm]	40		50		60		90	100
Minimum component thickness h_{min}	= [mm]	105	100	130	115	140	125	150	180
Clearance hole in component to be connected d_f	= [mm]	9		12		14		16	18
Recomm. max. tightening torque ⁴⁾ T_{inst}	= [Nm]	20		40		55		90	110

1) This means $c \geq 1.5 \cdot h_{ef}$ and $s \geq 3 \cdot h_{ef}$

2) This means $c \geq 10 \cdot h_{ef}$

3) The concrete is prepared as normally reinforced. Correspondingly higher resistances are possible with higher concrete strengths

4) The tightening torque is not defined in the approval document; the observance of this specification is therefore not relevant for the approval

5) Steel failure is decisive factor *) The partial safety factors for the anchor resistances defined in the approval documents as well as a partial safety factor for the influence of $\gamma_G = 1.35$ have been taken into account. In the case of coups and combined loads, anchor gr also axial or edge effects, please note the requirements for the design procedure A in Appendix C of the ETAG or our design aid

Composite Anchor Rods, Galvanised Steel

- With European technical approval
- Steel quality / strength class 5.8
- For heavy-duty fixings in non-cracked indoor areas
- Normally supplied with external hex drive and setting tool



Article No.	Article Description	QTY
8167 8 110	COMPOS.ANCHOR RODS GV 8/110	10
8167 10 130	COMPOS.ANCHOR RODS GV 10/130	10
8167 10 170	COMPOS.ANCHOR RODS GV 10/170	10
8167 10 190	COMPOS.ANCHOR RODS GV 10/190	10
8167 12 160	COMPOS.ANCHOR RODS GV 12/160	10
8167 12 220	COMPOS.ANCHOR RODS GV 12/220	10
8167 12 300	COMPOS.ANCHOR RODS GV 12/300	10
8167 16 190	COMPOS.ANCHOR RODS GV 16/190	10
8167 16 260	COMPOS.ANCHOR RODS GV 16/260	10
8167 20 260	COMPOS.ANCHOR RODS GV 20/260	5
8167 24 300	COMPOS.ANCHOR RODS GV 24/300	2

Technical Data

Drilling Ø mm	Clamping thickness mm
10	20
12	28
12	68
12	88
14	35
14	95
14	175
18	46
18	116
24	67
28	62

Composite Anchor Rods, A4

- With European technical approval
- Strength class 70
- For heavy-duty fixings in non-cracked outdoor areas
- Normally supplied with external hex drive and setting tool



Article No.	Article Description	QTY
8168 8 110	COMPOS.ANCHOR RODS A4 8/110	10
8168 10 130	COMPOS.ANCHOR RODS A4 10/130	10
8168 12 160	COMPOS.ANCHOR RODS A4 12/160	10
8168 12 300	COMPOS.ANCHOR RODS A4 12/300	10
8168 16 190	COMPOS.ANCHOR RODS A4 16/190	10
8168 20 260	COMPOS.ANCHOR RODS A4 20/260	5
8168 24 300	COMPOS.ANCHOR RODS A4 24/300	2

Technical Data

Drilling Ø mm	Clamping thickness mm
10	20
12	28
14	35
14	175
18	46
24	67
28	62

Composite Anchor Cartridge R-CAS-V

- With European Technical Approval Option 7 in connection with composite anchor rods
- Styrene-free vinyl ester resin
- For heavy-duty fixings in non-cracked concrete
- Drilled hole must be cleaned thoroughly and free from grease
- Fix anchor rod by turning-knocking into the drilled hole
- Expansion-free anchoring in concrete
- Small edge distances and centre-to-centre distances
- Setting procedure also possible in old or damp concrete
- Suitable for fitting under water
- For fastening: Steel structures, supports, rails, baseplates and cover plates, high racks, brackets, railings, windows, crash barriers, scaffolding, sign gantries, guide barriers, machinery, fçades, soundproofing walls, etc.



Article No.	Article Description	QTY
8160 1 8	COMPOS.ANCHOR CART. R-CAS-V- 8	10
8160 1 10	COMPOS.ANCHOR CART. R-CAS-V-10	10
8160 1 12	COMPOS.ANCHOR CART. R-CAS-V-12	10
8160 1 16	COMPOS.ANCHOR CART. R-CAS-V-16	10
8160 1 20	COMPOS.ANCHOR CART. R-CAS-V-20	6
8160 1 24	COMPOS.ANCHOR CART. R-CAS-V-24	6

Technical Data

Drilling Ø mm	Drilled ole Depth mm	Composite anchor Rods Ø mm	Cleaning Brush Ø mm
10	85	8	12
12	95	10	14
14	115	12	16
18	130	16	20
24	175	20	26
28	215	24	30

Extract from the usage conditions of the approval ETA-10/0108

Total safety coefficient according to ETAG (γ_M and γ_F)

Loads and parameters	Composite Anchor R-CAS-V		M8	M10	M12	M16	M20	M24	M30
Characteristic load capacity in uncracked concrete									
	C20/25 NRk,p	[kN]	25.0	30.0	50.0	60.0	95.0	140.0	200.0
Increase factors for NRk,p	C30/37		1.04					1.0	
	C40/50		1.07					1.0	
	C50/60		1.09					1.0	
Characteristic load capacity steel 5.8	VRk,s	[kN]	9.0	14.0	21.0	39.0	61.0	88.0	140.0
Characteristic load capacity steel 8.8	VRk,s	[kN]	15.0	23.0	34.0	63.0	98.0	141.0	224.0
Characteristic load capacity steel 10.9	VRk,s	[kN]	18.0	29.0	42.0	78.0	122.0	176.0	280.0
Characteristic load capacity steel A4-70	VRk,s	[kN]	13.0	20.0	29.0	55.0	86.0	124.0	196.0
Characteristic bending torques steel 5.8	MRk,s	[Nm]	19.0	37.0	65.0	166.0	324.0	561.0	1.124.0
Characteristic bending torques steel 8.8	MRk,s	[Nm]	30.0	60.0	105.0	266.0	519.0	898.0	1.799.0
Characteristic bending torques steel 10.9	MRk,s	[Nm]	37.0	75.0	131.0	333.0	649.0	1,123.0	2.249.0
Characteristic bending torques steel A4-70	MRk,s	[Nm]	26.0	52.0	92.0	233.0	454.0	786.0	1.574.0
Axial spacing and edge clearance									
Effective anchoring depth	h_{ef}	[mm]	80	90	110	125	170	210	270
Minimal axial spacing	s_{min}	[mm]	40	45	55	62.5	85	105	135
Minimal edge clearance	c_{min}	[mm]	40	45	55	62.5	85	105	135
Minimum component thickness	h_{min}	[mm]	120	130	140	180	230	270	340
Mounting data									
Drilled hole diameter	d_o	[mm]	10	12	14	18	24	28	35
Through-hole in the mounted part	d_f	[mm]	9	12	14	18	22	26	32
Min. drilled hole depth	h_o	[mm]	85	95	115	130	175	215	275
Anchoring torque	T_{inst}	[mm]	10	20	40	80	120	180	300

Injection mortar FIT Express 345

High strength, fast setting 2-part mortar for expansion-free fastening of threaded rods and armoured irons down to -10 °C component temperature

- Can be worked down to -20 °C
- Styrene-free, hence odourless
- Side-by-Side cartridge containing 345 ml
- FÖRCH Fit fastens securely even with small edge distances and axial spacings
- Suitable for fastening high loads on concrete, solid and perforated brickwork and wood
- Can be used with perforated sleeves in perforated brickwork
- Suitable for dry and wet concrete, may also be applied in water-filled drill holes
- Waterproof
- High resistance to chemical action
- Can be used as a repair adhesive for concrete parts

Notes:

- Storage location must be cool, at least +5 °C, dry and dark
- Storage temperature: +5 °C to max. +35 °C
- Shelf life: see packaging



8150 345 1



8150P 345 1

Technical Data

Contents:	345 ml
Material base:	Vinylester
Cartridge system:	side-by-side
Required gun:	Art.-No. 8153 345
Reaction behaviour:	
Temperature:	-20 °C -15 °C -10 °C -5 °C 0 °C 5 °C 10 °C 15 °C 20 °C
Pot life:	90 min 75 min 60 min 50 min 25 min 10 min 6 min 3 min 1,5 min
Curing time:	24 hrs 16 hrs 10 hrs 5 hrs 150 min 80 min 60 min 45 min 35 min

Article No.	Article Description	QTY
8150 345 1	INJ.MORTAR FIT EXPRESS 345	e 12
8150P 345 1	HP(20)INJ.M.FIT EXPRESS 345	1

System Box Empty

- Dimensions LxWxH: 40 x 30 x 22 mm

Article No.	Article Description	QTY
9027 403022	SYSTEM BOX - SMALL PARTS	1



Injection mortar FIT Z-MB7 SF

- Styrene-free injection mortar with ETA approval 15 / 0584 Option 7 for non-cracked concrete with anchor rods in the sizes
- M8 to M24 in galvanized steel and stainless steel
- ETA approval 15 / 0586 for brickwork with FIT Z-MB7 perforated sleeves and commercially available threaded rods in the
- sizes M8 to M16
- Tested for indoor and outdoor applications
- Styrene-free polyester resin, odourless without additives or solvents
- Safe for the environment and processors
- Minimum axial spacing and edge distances at the highest characteristic loads

Note:

- Storage temperature: +5 °C to +25 °C (dry and dark place)
- Shelf life: see packaging



8150 300 3

8150 345 3

8150 410 3



8150P 300 3, 8150P 345 3, 8150P410 3

Technical Data

Art.-No.	Cartridge system	Required Dispensers	Ambient-temperature °C	Processing time min	Hardening time min
8150 300 3	Standard silicone gun	6010 0001	-5 to 0	90	360
8150 345 3	Side-by-Side	8153 345	0 to +5	45	180
8150 410 3	Coaxial system	8153 410	+5 to +10	25	120
			+10 to +20	15	80
			+20 to +30	6	45
			+30 to +35	4	25
			+35	2	20

Article No.	Article Description	QTY
8150 300 3	INJ.MORT.FIT EASY Z-MB7 300SF	e 12
8150 345 3	INJ.MORTART FIT Z-MB7 345SF	e 12
8150 410 3	INJ.MORTART FIT Z-MB7 410SF	e 12
8150P 300 3	HP(20)INJ.EASY FIT Z-MB7 300SF	1
8150P 345 3	HP(20)INJ.FIT Z-MB7 345SF	1
8150P 410 3	HP(20)INJ.FIT Z-MB7 410SF	1

Injection Mortar FIT Z-B SF

- Styrene-free injection mortar with ETA-approval Option 7 for non-cracked concrete
- Licensed in connection with threaded rods, zinc-plated from class 5.8 as well as threaded rods made of stainless steel A4 M8-M24 or composite anchor rods AGR 8161/ 8162
- Tested for interior and exterior use
- Side by Side cartridge with a contents of 345 ml
- Styrene-free vinyl premium resin, odor-free
- Suitable for dry and wet concrete
- Minimum axial and edge distances at highest loads up to 367 kN



Technical Data

Ambient temperature	Processing time	Cure time for dry concrete	Cure time for wet concrete
≥ -10 °C	90 min	24 hrs	48 hrs
≥ -5 °C	90 min	14 hrs	48 hrs
≥ 0 °C	45 min	7 hrs	14 hrs
≥ +5 °C	25 min	2 hrs	4 hrs
≥ +10 °C	15 min	80 min	160 min
≥ +20 °C	6 min	45 min	90 min
≥ +30 °C	4 min	25 min	50 min
≥ +35 °C	2 min	20 min	40 min
≥ +40 °C	1.5 min	15 min	30 min

Article No.	Article Description	QTY
8150 345 5	INJECTION MORTAR FIT Z-B 345SF	e 12
8150P 345 5	HP(20)INJECT.MORTAR Z-B 345SF	1
8150 300 5	INJECT.MORT.FIT EASY Z-B 300SF	e 12
8150P 300 5	HP(20)INJ.MO.FIT EASY Z-B300SF	1

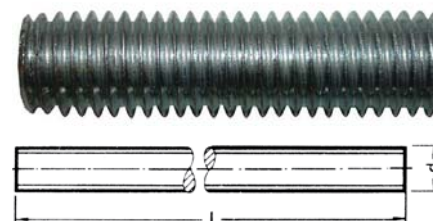
*not part of the ETA approval 13/0912

Threaded Rods DIN 976 8.8, Galvanised, 1m

- Strength class 8.8
- Length 1 m
- Galvanised steel

Article No.	Dimension	QTY
1824 8	M 8	1 f
1824 10	M 10	1 g
1824 12	M 12	1 w
1824 16	M 16	1 z
1824 20	M 20	1 ü
1824 24	M 24	1 ü

(d thread.-Ø mm)

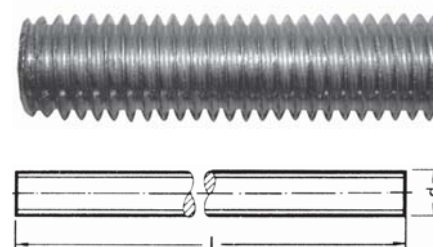


Threaded Rods DIN 976, Stainless Steel A4

- Length: 1 m
- Stainless steel A4

Article No.	Dimension	QTY
1826 8	M 8	1
1826 10	M 10	1
1826 12	M 12	1
1826 16	M 16	1
1826 20	M 20	1
1826 24	M 24	5

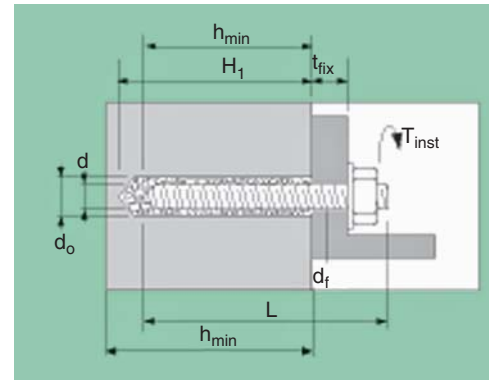
(d thread.-Ø mm)



Installation parameters for threaded rods in concrete

LEGEND

H_1	= Drilling hole depth - Hole depth
t_{fix}	= Max. fixing thickness
L	= Stud length
d	= Stud diameter
d_o	= Drilling hole diameter - Hole diameter - Stud diameter
T_{inst}	= Tightening torque
h_{min}	= Base material thickness
d_f	= Clearance hole in the fixture
h_{ef}	= Anchoring depth - Effective anchorage depth
c_{min}	= Edge distance
s_{min}	= Min. spacing



Installation parameters for threaded rods in concrete

	M8	M10	M12	M16	M20	M24	M27	M30
Drilling hole diameter d_o mm	10	12	14	18	24	28	32	35
effective Mindestanchoring depth h_{ef} min. mm	60	60	70	80	90	96	108	120
effective Maximalanchoring depth h_{ef} max. mm	160	200	240	320	400	480	540	600
Through hole of the adjacent construction d_f mm	≤ 9	≤ 12	≤ 14	≤ 18	≤ 22	≤ 26	≤ 30	≤ 33
Tightening torque T_{inst} Nm	10	20	40	80	120	160	180	200
Max. fixing thickness t_{fix} max. mm	< 1.500	< 1.500	< 1.500	< 1.500	< 1.500	< 1.500	< 1.500	< 1.500
Minimal thickness of the concrete slab h_{min} mm	$h_{ef} + 30 \text{ mm}, \geq 100 \text{ mm}$							
Min. centre distance s_{min} mm	40	50	60	80	100	120	135	150
Min. edge distance c_{min} mm	40	50	60	80	100	120	135	150

Average consumption of mortar per fixing for a hole filling of 2/3 of its volume

Solid subsurface

Threaded rod	Drilling hole diameter x Drilling hole depth $d_o \times h_1$ mm	approx. amount 345 ml	Fixings 300 ml
M8	10 x 60	109	95
M10	12 x 60	76	66
M12	14 x 70	48	41
M16	18 x 80	25	22
M20	24 x 90	12	11
M24	28 x 96	8	7
M27	32 x 108	5	5
M30	35 x 120	4	3

Hollow subsurface

Threaded rod	Nylon filter bushing mm	approx. amount 345 ml	Fixings 300 ml
M6	10 x 45	97	84
M8	12 x 50	61	53
	12 x 60	51	44
	12 x 80	38	33
	15 x 85	23	20
	15 x 100	20	17
	15 x 130	15	13
M10	15 x 85	23	20
	15 x 100	20	17
	15 x 130	15	1
M12	20 x 85	13	11

Filter Bushings FIT Z-B Type SH

- Filter bushing made of nylon for hollow materials
- DIBT (Center of Competence in Civil Engineering) certificated. Part of the Masonry Approvals FIT Z-M and FIT Z-B



Article No.	Article Description	QTY
8158 13 100 1	FILTER BUSHING SH 13/100	10
8158 15 100 1	FILTER BUSHING SH 15/100	10

Technical Data

Drill hole Ø mm	for tie bars	hollow underground 345 ml
16	M10	20
16	M10 – M12	105

Filter Bushing FIT Z-MB7

- Filter bushing made of nylon for hollow materials



Article No.	Article Description	QTY
8158 10 45	FIT-FILTER BUSH. PLASTIC 10X45	10
8158 12 50	FIT-FILTER BUSH. PLASTIC 12X50	10
8158 12 60	FIT-FILTER BUSH. PLASTIC 12X60	10
8158 12 80	FIT-FILTER BUSH. PLASTIC 12X80	10
8158 15 85	FIT-FILTER BUSH. PLASTIC15X 85	10
8158 15 100	FIT-FILTER BUSH. PLASTIC15X100	10
8158 15 130	FIT-FILTER BUSH. PLASTIC15X130	10
8158 20 85	FIT-FILTER BUSH. PLASTIC20X 85	10

Technical Data

Ø Drill hole mm	Ø Anchor- rods	Drill hole- depth mm
10*	M6*	50
12*	M8*	55
12*	M8*	65
12	M8	85
16	M10	90
16*	M10*	105
16	M10	135
20	M12 – M16	90

*Not part of the ETA-approval

Perforated Sleeve FIT Metal

- To fix tie bars and threaded bars in hollow building material



Article No.	Article Description	QTY
8158 95 1000	FIT PERF. SLEE. METAL 9.5X1000	1
8158 125 1000	FIT PERF. SL. METAL 12.5X1000	1
8158 185 1000	FIT PERF. SL. METAL 18.5X1000	1

Technical Data

Drilling Ø in mm	Internal Ø in mm	External Ø in mm
12	9,5	11
16	12,5	14
22	18,5	20

Internal Thread Sleeves FIT

- Yellow galvanized steel
- To be used in perforated sleeves or in solid material
- For demountable metric screwings



Article No.	Article Description	QTY
8159 6 48	FIT INT. THREAD SLEEVE M 6X48	10
8159 8 80	FIT INT. THR. SLEEVE GAL M8X80	10
8159 10 80	FIT IN. THR. SLEEVE GAL M10X80	10
8159 12 80	FIT INT. THR. SL. YEL. M12X80	10

Technical Data

Drilling Ø in mm	External Ø in mm	minimum drilling hole depth
10	8	50
14	10	90
16	14	90
18	16	90

Cleaning Brush FIT-ZB

- Wire scratch brush for cleaning drill holes

Article No.	Article Description	QTY
8153 10	CLEANING BRUSH 10MM	1
8153 12	CLEANING BRUSH 12MM	1
8153 14	CLEANING BRUSH 14MM	1
8153 18	CLEANING BRUSH 18MM	1
8153 24	CLEANING BRUSH 24MM	1



Blow-out Pump

- Air outlet can be pivoted 360°

Article No.	Article Description	QTY
8163 2	BLOW-OUT PUMP 310MM	1



FIT Mixing Nozzles / Extension Tubes

Article No.	Article Description	QTY
8153 6	FIT MIXING NOZZLES	12
8153 7	FIT EXTENSION TUBES	12



8153 6

8153 7

Cartridge Applicator Gun FIT



8153 345



Side by side system



6010 0310



Standard silicone gun



8153 410



Coaxial system

Article No.	Article Description	QTY
8153 345	FIT CARTR. APPL. GUN 235+345ML	1
6010 0001	HAND-PRESSURE GUN F.CART.310ML	1
8153 410	FIT-INJECTION GUN COAX 410ML	1

Cartridge Applicator Gun FIT



Article No.	Article Description	QTY
8153 345	FIT CARTR. APPL. GUN 235+345ML	1
6010 0001	HAND-PRESSURE GUN F.CART.310ML	1
8153 410	FIT-INJECTION GUN COAX 410ML	1

Mortar Injection Set, **VAROBOXX**

- Assortment in VAROBOXX 2

Contents:

Article No.	Article Description	Quantity
8150 345 5	INJECTION MORTAR FIT Z-B 345SF	2
8153 1	FIT MIXING NOZZLE FOR FIT Z-M	4
8153 24	REINIGUNGSBÜRSTE 24MM	1
8153 345	FIT CARTR. APPL. GUN 235+345ML	1
8153 410	FIT-AUSPRESSPISTOLE COAX 410ML	1
8163 2	BLOW-OUT PUMP 310MM	1
9003 2	VAROBOXX SIZE:2 EMPTY	1
9004 0 1	COVER INLAY VAROBOXX	1



Article No.	Article Description	QTY
9003 8150	VAROBOXX MORTAR INJECTION SET	1

Anchor Rods / Perforated Sleeves, **VAROBOXX**

- Product assortment in VAROBOXX 1
- Perforated sleeves made from nylon for hollow materials
- Anchor rods approved in accordance with general building inspection approval Z-21.3-1953 and Z-21.3-1977 in M8 and M10 dimensions for FIT Z-B and FIT Z-M

Contents:

Article No.	Article Description	Quantity
8157 8 110	ANCHOR RODS TYPE C M8X110 GV	20
8157 10 130	ANCHOR RODS TYPE C M10X130 GV	10
8157 10 130 1	ANCHOR RODS TYPE C M10X130 A4	20
8158 13 100 1	FILTER BUSHING SH 13/100	10
8158 15 100 1	FILTER BUSHING SH 15/100	10
8158 20 85	FIT-FILTER BUSH. PLASTIC20X 85	10
8159 8 80	FIT INT. THR. SLEEVE GAL M8X80	10
8159 10 80	FIT IN. THR. SLEEVE GAL M10X80	10
8161 8 110	COMP. ANCH. ROD GAL 8/110	20
9003 1	VAROBOXX SIZE:1 EMPTY	1
9004 0 1	COVER INLAY VAROBOXX	1
9004 1 8	DEEP DRAWN INS.8COMP.VAROBOXX1	1

Article No.	Article Description	QTY
9003 8157	VAROBOXX ANCH.R./PERFOR.SLEEVE.	1



Cleaning Brush FIT-ZB

- Wire scratch brush for cleaning drill holes

Article No.	Article Description	QTY
8153 10	CLEANING BRUSH 10MM	1
8153 12	CLEANING BRUSH 12MM	1
8153 14	CLEANING BRUSH 14MM	1
8153 18	CLEANING BRUSH 18MM	1
8153 24	CLEANING BRUSH 24MM	1



Blow-out Pump

- Air outlet can be pivoted 360°

Article No.	Article Description	QTY
8163 2	BLOW-OUT PUMP 310MM	1



FIT Mixing Nozzles / Extension Tubes

Article No.	Article Description	QTY
8153 6	FIT MIXING NOZZLES	12
8153 7	FIT EXTENSION TUBES	12



Injection Mortar VMZ 345

- Styrene-free injection mortar with ETA (European Technical Approval) Option 1 for cracked and uncracked concrete; minimum strength class: C 20/25 and maximum strength class: C 50/60
- Approved in connection with anchor rod VMZ made of galvanized steel or with anchor rod VMZ made of stainless steel (A4) with the sizes M8-M24
- Can be used for medium and heavy load range. High load bearing capacities, small edge and axial distances (see approval)
- Styrene-free medium polyester resin, odourless. Tested for fire resistance.
- Side-by-Side cartridge with 345ml contents
- Suitable for wet and dry concrete. From dowel size M12, it can also be used for water filled drill holes.

Application:

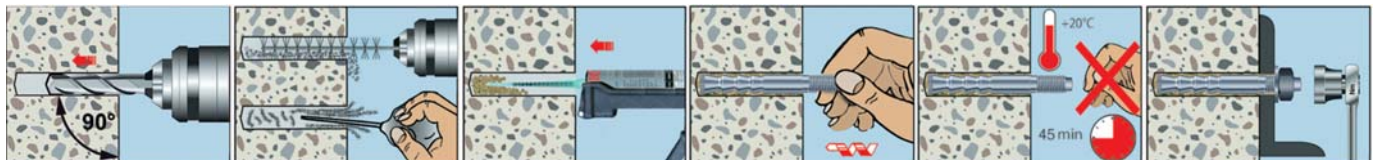
Anchoring of heavy loads in cracked and uncracked concrete such as steel girders, steel supports, railings (also on bridges), brackets and facades. The stainless steel version A4 may be used in damp rooms and outdoors.

Technical Data							
Temperature in drill hole	+40°C	+30°C	+20°C	+10°C	+5°C	0°C	-5°C
Applicat. temp. min	1.4	4	6	12	20	45	90
Hardening time min Dry concrete	15	25	45	80	120	180	360

Article No.	Article Description	QTY
8180 345	INJECTION MORTAR VMZ 345	e 12



Instruction:



Create drilled hole

Clean drilled hole.

Fill the composite mortar starting from base of drilled hole.

Press in anchoring element up to bottom of drilled hole while turning slightly.

Comply with hardening time of composite mortar

Mount component.

Anchor Rod VMZ, Galvanized

- Galvanized steel
- Approved for the use with Injection Mortar VMZ
- Suitable for components in closed rooms with the exception of damp rooms



Article No.	Article Description	QTY
8180 8 65	ANCHOR ROD VMZ GALV.8-15/65	10
8180 8 80	ANCHOR ROD VMZ GALV.8-15/80	10
8180 8 95	ANCHOR ROD VMZ GALV.8-30/95	10
8180 8 110	ANCHOR ROD VMZ GALV.8-45/110	10
8180 10 85	ANCHOR ROD VMZ GALV.10-10/85	10
8180 10 95	ANCHOR ROD VMZ GALV.10-20/95	10
8180 10 105	ANCHOR ROD VMZ GALV.10-30/105	10
8180 10 135	ANCHOR ROD VMZ GALV.10-60/135	10
8180 10 175	ANCHOR ROD VMZ GALV.10-100/175	10
8180 10 110	ANCHOR ROD VMZ GALV.10-20/110	10
8180 12 115	ANCHOR ROD VMZ GALV.12-25/115	10
8180 12 110	ANCHOR ROD VMZ GALV.12-10/110	10
8180 12 125	ANCHOR ROD VMZ GALV.12-25/125	10
8180 12 150	ANCHOR ROD VMZ GALV.12-50/150	10
8180 12 200	ANCHOR ROD VMZ GALV.12-100/200	10
8180 12 225	ANCHOR ROD VMZ GALV.12-125/225	10
8180 12 265	ANCHOR ROD VMZ GALV.12-165/265	10
8180 12 140	ANCHOR ROD VMZ GALV.12-25/140	10
8180 12 145	ANCHOR ROD VMZ GALV.12-25/145	10
8180 12 180	ANCHOR ROD VMZ GALV.12-60/180	10
8180 12 220	ANCHOR ROD VMZ GALV.12-100/220	10
8180 12 155	ANCHOR ROD VMZ GALV.12-25/155	10
8180 12 170	ANCHOR ROD VMZ GALV.12-25/170	10
8180 16 145	ANCHOR ROD VMZ GALV.16-30/145	10
8180 16 160	ANCHOR ROD VMZ GALV.16-30/160	10
8180 16 180	ANCHOR ROD VMZ GALV.16-30/180	10
8180 16 210	ANCHOR ROD VMZ GALV.16-60/210	10
8180 16 250	ANCHOR ROD VMZ GALV.16-100/250	10
8180 16 315	ANCHOR ROD VMZ GALV.16-165/315	10
8180 16 200	ANCHOR ROD VMZ GALV.16-30/200	10
8180 20 175	ANCHOR ROD VMZ GALV.20-30/175	5
8180 20 225	ANCHOR ROD VMZ GALV.20-20/225LG	5
8180 20 230	ANCHOR ROD VMZ GALV.20-25/230	5
8180 20 255	ANCHOR ROD VMZ GALV.20-50/255	5
8180 20 305	ANCHOR ROD VMZ GALV.20-100/305	5
8180 20 275	ANCHOR ROD VMZ GALV.20-50/275	5

Technical Data				
Effective anchor depth mm	Drill nominal Ø mm	Hole Ø Connection construction	Tightening torque Nm	Tensile capacity of cracked concrete kN
40	10	9	10	4.3
50	10	9	10	6.1
50	10	9	10	6.1
50	10	9	10	6.1
60	12	12	15	8
60	12	12	15	8
60	12	12	15	8
60	12	12	15	8
60	12	12	15	8
75	12	12	15	11.1
70	14	14	25	10
80	14	14	25	12.3
80	14	14	25	12.3
80	14	14	25	12.3
80	14	14	25	12.3
80	14	14	25	12.3
80	14	14	25	12.3
95	14	14	25	15.9
100	14	14	30	17.1
100	14	14	30	17.1
100	14	14	30	17.1
110	14	14	30	19.8
125	14	14	30	24
90	18	18	50	14.6
105	18	18	50	18.4
125	18	18	50	24
125	18	18	50	24
125	18	18	50	24
125	18	18	50	24
145	18	18	50	30
115	22	22	80	21.1
170	24	24	80	38
170	24	24	80	38
170	24	24	80	38
170	24	24	80	38
190	24	24	80	44.9

(Dowel-Ø/ clamping strength in mm/ dowel length in mm)

Anchor Rod VMZ, Stainless Steel A4

- **Stainless steel A4**
- Approved for the use with Injection Mortar VMZ
- Suitable for damp rooms and outdoors, also in industrial atmosphere and areas close to the sea



Article No.	Article Description	QTY
8180 8 65 1	ANCHOR ROD VMZ A4 8-15/65	10
8180 8 80 1	ANCHOR ROD VMZ A4 8-15/80	10
8180 8 95 1	ANCHOR ROD VMZ A4 8-30/95	10
8180 8 110 1	ANCHOR ROD VMZ A4 8-45/110	10
8180 10 85 1	ANCHOR ROD VMZ A4 10-10/85	10
8180 10 95 1	ANCHOR ROD VMZ A4 10-20/95	10
8180 10 105 1	ANCHOR ROD VMZ A4 10-30/105	10
8180 10 135 1	ANCHOR ROD VMZ A4 10-60/135	10
8180 10 175 1	ANCHOR ROD VMZ A4 10-100/175	10
8180 10 110 1	ANCHOR ROD VMZ A4 10-20/110	10
8180 10 130 1	ANCHOR ROD VMZ A4 10-40/130	10
8180 12 115 1	ANCHOR ROD VMZ A4 12-25/115	10
8180 12 130 1	ANCHOR ROD VMZ A4 12-40/130	10
8180 12 110 1	ANCHOR ROD VMZ A4 12-10/110	10
8180 12 125 1	ANCHOR ROD VMZ A4 12-25/125	10
8180 12 150 1	ANCHOR ROD VMZ A4 12-50/150	10
8180 12 200 1	ANCHOR ROD VMZ A4 12-100/200	10
8180 12 225 1	ANCHOR ROD VMZ A4 12-125/225	10
8180 12 265 1	ANCHOR ROD VMZ A4 12-165/265	10
8180 12 140 1	ANCHOR ROD VMZ A4 12-25/140	10
8180 12 145 1	ANCHOR ROD VMZ A4 12-25/145	10
8180 12 180 1	ANCHOR ROD VMZ A4 12-60/180	10
8180 12 220 1	ANCHOR ROD VMZ A4 12-100/220	10
8180 12 155 1	ANCHOR ROD VMZ A4 12-25/155	10
8180 12 170 1	ANCHOR ROD VMZ A4 12-25/170	10
8180 16 145 1	ANCHOR ROD VMZ A4 16-30/145	10
8180 16 160 1	ANCHOR ROD VMZ A4 16-45/160	10
8180 16 175 1	ANCHOR ROD VMZ A4 16-60/175	10
8180 16 160 1 1	ANCHOR ROD VMZ A4 16-30/160	10
8180 16 180 1	ANCHOR ROD VMZ A4 16-30/180	10
8180 16 210 1	ANCHOR ROD VMZ A4 16-60/210	10
8180 16 250 1	ANCHOR ROD VMZ A4 16-100/250	10
8180 16 315 1	ANCHOR ROD VMZ A4 16-165/315	10
8180 16 200 1	ANCHOR ROD VMZ A4 16-30/200	10
8180 20 175 1	ANCHOR ROD VMZ A4 20-30/175	5
8180 20 225 1	ANCHOR ROD VMZ A4 20-20/225LG	5
8180 20 230 1	ANCHOR ROD VMZ A4 20-25/230	5
8180 20 255 1	ANCHOR ROD VMZ A4 20-50/255	5
8180 20 305 1	ANCHOR ROD VMZ A4 20-100/305	5
8180 20 275 1	ANCHOR ROD VMZ A4 20-50/275	5

Technical Data				
Effective anchor depth mm	Drill nominal Ø mm	Hole Ø Connection construction	Tightening torque Nm	Tensile capacity of cracked concrete kN
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50	10	9	10	6.1
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60	12	12	15	8
60	12	12	15	8
60	12	12	15	8
60	12	12	15	8
75	12	12	15	11.1
75	12	12	15	11.1
70	14	14	25	10
70	14	14	25	10
80	14	14	25	12.3
80	14	14	25	12.3
80	14	14	25	12.3
80	14	14	25	12.3
80	14	14	25	12.3
80	14	14	25	12.3
95	14	14	25	15.9
100	14	14	30	17.1
100	14	14	30	17.1
100	14	14	30	17.1
110	14	14	30	19.8
125	14	14	30	24
90	18	18	50	14.6
90	18	18	50	14.6
90	18	18	50	14.6
105	18	18	50	18.4
125	18	18	50	24
125	18	18	50	24
125	18	18	50	24
125	18	18	50	24
145	18	18	50	30
115	22	22	80	21.1
170	24	24	80	38
170	24	24	80	38
170	24	24	80	38
170	24	24	80	38
190	24	24	80	44.9

(Dowel-Ø/ clamping strength in mm/ dowel length in mm)