



Formwork anchoring

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Anchor rod & accessories

The anchor rod A-FS (cold-rolled thread) is weldable and bendable. It is mainly used in the building industry for anchoring and bracing formwork.

Item no.	Type	A	B	Load capacity	Breaking load	Weight
		mm	mm	KN	KN	kg/m
14600	A 15 FS	15.0	17	80	165	1.48
14601	A 20 FS	20.0	23	140	285	2.56



The anchor rod A-FS can be cut to length and deburred at the ends.

Item no.	Type
Fixed length supplement (length 6.20 m)	
14603	A 15 FS
14604	A 20 FS

The anchor rod A-FA (hot-rolled thread) is conditionally weldable and bendable. It is mainly used in the building industry for anchoring and bracing formwork.

Item no.	Type	A	B	Load capacity	Breaking load	Weight
		mm	mm	KN	KN	kg/m
14606	A 15 FA	15.0	17	90	195	1.44
14607	A 20 FA	20.0	23	160	345	2.56
14608	A 26 FA	26.5	31	280	606	4.48



The anchor rod A-FA can be cut to length and deburred at the ends.

Item no.	Type
Fixed length supplement (length 6.20 m)	
14609	A 15 FA
14610	A 20 FA
14605	A 26 FA

Removal tool

Item no.	Type
Fixed length supplement (length 6.20 m)	
14621	Tie rod extractor for formwork anchors A15 and 20 FS
14620	Tie rod extractor for formwork anchor A15 and 20 FA



*On request, the anchor rod is also available in galvanized form and in stainless steel.



Anchor rod & accessories

Nuts and packing plates

The combined packing plate is available in „square“ (maximum angle of inclination 11°) and „round“ (maximum angle of inclination 5°). The components are galvanized.

Item no.	Type	Load capacity	A	B	Item	Weight
		kn	mm	mm	per PU	kg/item
14613	KAP 15.0 square	90	120	120	25	1.26
146131	KAP 15.0 round	90	120		25	1.26
14614	KAP 20.0 round	160	130		25	1.80

KAP 15,0

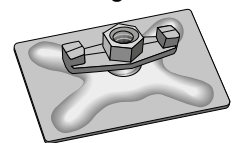


KAP 20,0 round



Combined square packing plate (maximum angle of inclination 5°, load capacity 90 kN). The components are galvanized.

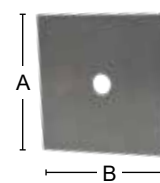
Item no.	Type	A	B	Item	Weight
		mm	mm	per PU	kg/item
14615	KOP 15.0	120	120	25	1.35



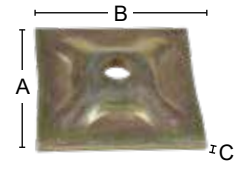
Solid plate/packing plate

Item no.	Type	A	B	C	Drill	Item	Weight
		mm	mm	mm	mm	per PU	kg/item
14616	UP 15.0	120	120	10	20	25	1.05
14622	VP 20.0	120	120	20	24	5	2.15
14623	VP 26.5	120	150	30	31	5	3.99

Solid plate VP



Packing plate UP



2-winged wing nut and 3-winged flange nut (galvanized)

Item no.	Type	Dimensions	Load capacity	Item	Weight
			kn	per PU	kg/item
14631	FM 15.0 2-winged		90	100	0.32
14632	FM 20.0 2-winged		160	50	0.45
14633	FM 26.5 2-winged		260	25	0.90
14634	FM 15.0 3-winged	Ø 95 mm	90	25	0.66
14635	FM 15.0 3-winged	Ø 100 mm	90	25	0.70
14636	FM 20.0 3-winged	Ø 130 mm	160	20	1.54

FM 2-winged



FM 3-winged



Hexagon nut and collar nut

Item no.	Type	Length	Load capacity	Item	Weight
		mm	kn	per PU	kg/m
14624	Hexagon nut SKM 15/30	30	60	100	0.13
14625	Hexagon nut SKM 15/50	50	90	100	0.12
146252	Hexagon nut SKM 15/70	70	90	100	0.30
14626	Hexagon nut SKM 20/60	60	160	50	0.34
14627	Hexagon nut SKM 26/80	80	300	50	0.74
127201	Collar nut BM 15/35 galvanized	35	60	100	0.14

Hexagon nut



Collar nut



Connecting coupling with built-in stop pin

Item no.	Type	Length	Load capacity	Item	Weight
		mm	kn	per PU	kg/m
14628	SK 15/105 VM	100	90	100	0.43
14629	SK 20/110 VM	110	160	50	0.63
14630	SK 26/150 VM	159	300	50	1.36

Connecting coupling



Anchor rod & accessories

Adjustable triangular bracing: The ideal solution when straight bracing is not possible, e.g. for abutments.



Advantages

- sustainable as anchor rods are recoverable
- no additional welding work
- stepless angle adjustment
- simple application
- inexpensive solution
- perfect connection with plastic pipes

Technical data

- Permissible pulling force 64 kN
- For anchor rods Ø 15 mm
- Dimension (L x W x H)
approx. 140 x 140 x 80 mm
base plate 114 x 105 x 80 mm
- Weight: approx. 3.0 kg

Spacer tubes

The **plastic pipe** is used for anchoring formwork. The standard length is 2.00 m. The pipes can be cut to length with a conventional plastic saw blade.

Item no.	Type	Inner Ø	Outer Ø	m	m	Weight
		mm	mm	per bundle	per pal	kg/m
11415	KR 22/26	22	26	100	3,600	0.21
11416	KR 26/32	26	32	50	1,800	0.29
11417	KR 32/38	32	38	30	1,260	0.41
11419	Special dimensions					



The **plastic end piece** is pushed onto the ends of the plastic pipe KR 22/26. The hole is closed with the plastic end piece plug.

Item no.	Type	For pipe	Item	Weight
		mm	per PU	kg/item
11320	ME 26	22/26	500	1.0



The **plastic end piece plug** is hammered into the plastic end piece.

Item no.	Type	For pipe	Item	Weight
		mm	per PU	kg/item
11321	KSME 26	22/26	2,500	0.36



The **sealing plug** is pushed into the plastic pipe for sealing.

Item no.	Type	For pipe	Item	Weight
		mm	per PU	kg/item
11430	DS 22	22/26	2,500	0.32
11431	DS 26	26/30	1,000	0.50



The **plastic coupling** is used to connect fibre concrete or plastic pipes.

Item no.	Type	For pipe Ø	Item	Weight
		mm	per bag	kg/m
11412	KK 22	22	250	0.44
11414	KK 26	26	250	0.70



Spacer tubes

The **fibre concrete spacer tube** is used as a sheathing tube for the anchor rod. It does not bend during tensioning – pulling out the anchor rod is therefore always possible. The ends of the tube are not sawn in the factory. The length of the tube is approx. 1.25 m. The tubes can easily be cut to length with a diamond saw blade.

Item no.	Type	Inner-Ø	Outer-Ø	Walling	m	Weight
		mm	mm	mm	per pal	kg/m
12404	FB-D 22/40	22	40	9	750	1.90
12405	FB-D 22/46	22	46	12	600	3.20
12406	FB-D 26/46	26	46	10	625	2.80
12407	FB-D 32/52	32	52	10	500	4.00
12408	FB-D 40/60	40	60	10	350	5.70



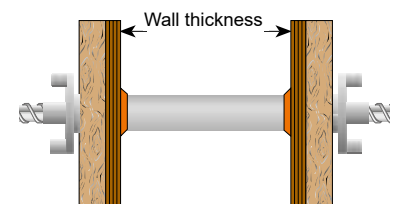
The **fibre concrete spacer tubes** can be cut to a fixed length in the factory. When determining the length, the sealing cap must be selected in advance. There is a wide range of standard lengths for the FB pipe 22/40.

Item no.	Type
12409	other dimensions
12410	Cutting allowances 22/40
12411	Cutting allowances 22/46
12412	Cutting allowances 26/46
12398	Cutting allowances 32/52
12399	Cutting allowances 40/60



The **fibre concrete spacer** are cut to a fixed length in the factory. Advantages: Quick assembly, dust-free and no waste.

Item no.	Type	Cut length	Item	Item	Weight
		cm	Carton	per pal.	kg/item
12413	FB-D 22/40 F	10	150	2,700	19.00
12414	FB-D 22/40 F	15	120	2,160	28.50
12415	FB-D 22/40 F	18	120	2,160	34.20
12416	FB-D 22/40 F	20	120	2,160	38.00
12417	FB-D 22/40 F	22	75	1,350	41.80
12418	FB-D 22/40 F	23	75	1,350	43.70
12419	FB-D 22/40 F	24	75	1,350	45.60
12420	FB-D 22/40 F	25	75	1,350	47.50
12421	FB-D 22/40 F	28	75	1,350	53.20
12422	FB-D 22/40 F	30	75	1,350	57.00
12423	FB-D 22/40 F	35	60	1,080	66.50
12424	FB-D 22/40 F	36,5	60	1,080	69.35
12425	FB-D 22/40 F	40	60	1,080	76.00
12426	FB-D 22/40 F	45	-	1,000	85.50
12427	FB-D 22/40 F	50	-	1,000	95.00
12428	Special lengths				



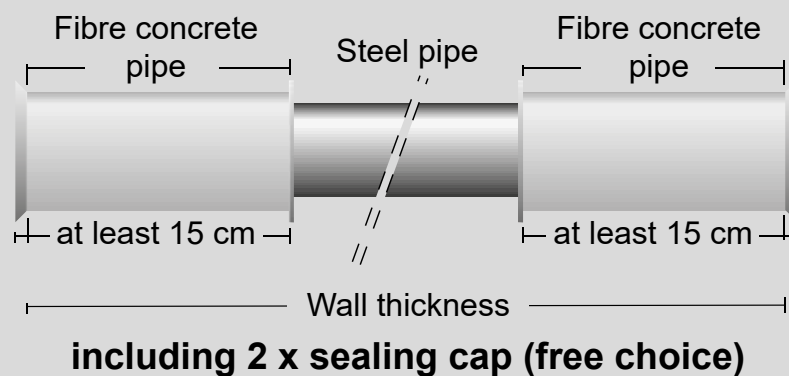
Spacer tubes

The **steel pipe** is used for long anchorages. In combination with the plastic coupling and the fibre concrete spacer tube at the ends of the steel pipe, any length can be produced. The standard length of the steel pipe is 6.00 m.

Item no.	Type	Inner-Ø	Outer-Ø	m	Weight
		mm	mm	per bundle	kg/m
14400	STR 22	22	24	54	0.57
14402	STR 26	26	29	54	0.88



Combi spacer tube



Clamping point – sealing cap

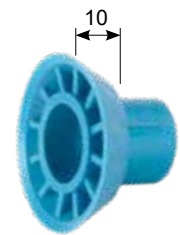
Sealing cap with 1 mm depression: The circumferential lip seals the cap to the formwork. This prevents the concrete from bleeding at the clamping point.

Item no.	Type	for pipe-Ø	Item	Weight
		mm	Bag	kg/bag
11400	DK 22	22	250	0.20



Sealing cap with 10 mm depression: In the version with a sealing cap (soft), the plastic is soft. This allows the cap to adapt optimally to the formwork. The sealing cap also adapts well to sloping anchors. It prevents the concrete from bleeding at the clamping point.

Item no.	Type	L	for pipe-Ø	Item	Weight
		mm	mm	Bag	kg/bag
11420	DK 22/10	10	22	500	0.60
11404	DK 22/10 W (soft)	10	22	500	0.61
11405	DK 26/10	10	26	500	0.80
11406	DK 32/10	10	32	500	0.84



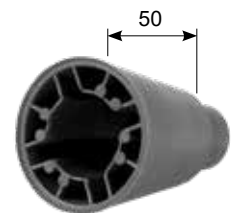
Sealing cap with 10 mm and 50 mm depression including mounted foam rubber seal

Item no.	Type	L	for pipe-Ø	Item	Weight
		mm	mm	Bag	kg/bag
114201	DK 22/10 with sealing ring	10	22	500	0.60
114071	DK 22/50 with sealing ring	50	22	500	2.40
114051	DK 26/10 with sealing ring	10	26	500	0.80
113984	DK 26/50 with sealing ring	59	26	500	3.00



Sealing cap with 50 mm depression

Item no.	Type	L	for pipe-Ø	Item	Weight
		mm	mm	Bag	kg/bag
11407	DK 22/50	50	22	500	2.40
113983	DK 26/50	50	26	500	3.00



The foam rubber seal is self-adhesive on one side and is glued onto the sealing cap. The seal prevents the concrete from „bleeding“ around the sealing cap. This results in a perfect concrete surface in the area of the clamping point.

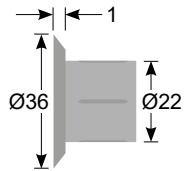
Item no.	Type	for pipe-Ø	Item	Weight
		mm	Bag	kg/bag
113989	Foam rubber seal for DK 22/10 and DK 22/50	22	500	2.40
113988	Foam rubber seal for DK 26/10	26	500	3.00
114007	Foam rubber seal for DK 26/50	26	500	3.00



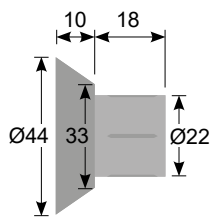
Clamping point – sealing cap

Technical specifications and dimensions

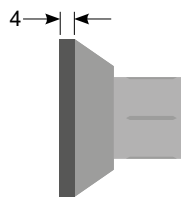
DK 22



DK 22/10 w (blue/soft) DK 22/10 (black/hard)



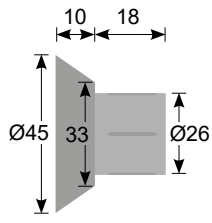
DK 22/10 M (black/hard) with foam rubber seal



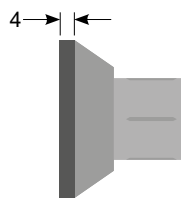
Optional Foam rubber seal inside



DK 26/10 (black/hard)



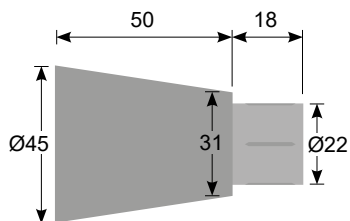
DK 26/10 M (black/hard) with foam rubber seal



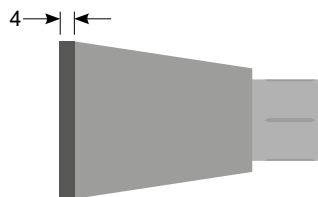
Optional Foam rubber seal inside



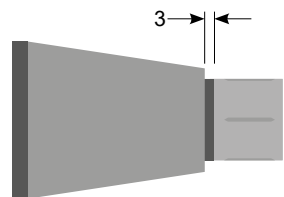
DK 22/50



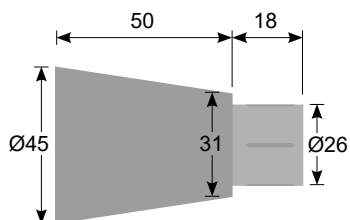
DK 22/50 M (black/hard) with foam rubber seal



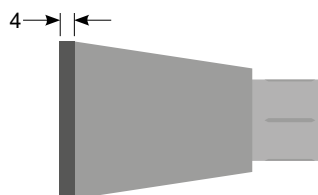
Optional Foam rubber seal inside



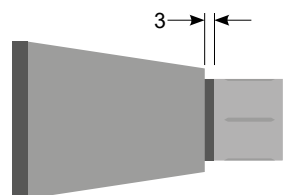
DK 26/50



DK 26/50 M (black/hard) with foam rubber seal



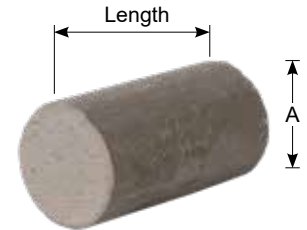
Optional Foam rubber seal inside



Clamping point – sealing plug and sealing cones

The **fibre concrete plug FB-S** is glued into the fibre concrete pipe on both sides in combination with the impact plug QST / KST and the KarPox adhesive. In this way, the clamping point is sealed. When glued to a depth of 5 cm, the clamping point is safely sealed watertight and F180.

Item no.	Type	Ø (A)	Length	Item	Weight
		mm	mm	Bag	kg/bag
12433	FB-S 22/20	20	20	1000	1.3
12429	FB-S 22/50	20	50	1000	3.25
12434	FB-S 26/20	24	20	500	2.6
12430	FB-S 26/50	24	50	500	5.1
12431	FB-S 32/50	30	50	250	8.8
12432	FB-S 40/50	38	50	250	15.0
12437	FB-S	Special dimensions			



The **sealing cone VK-DK** is glued into the pointed hole of the sealing cap with the KarPox adhesive. Then the hole is sealed watertight. The surface of the sealing cone is smooth. The standard colour is concrete grey. It is suitable for use in exposed concrete. On request, the cones can also be produced in other colours.

Exposed concrete sealing cones for 10 mm depression

Item no.	Type	Item	Weight
		Carton	kg (per 100 item)
12699	VK-DK 22/10/50	240	3.8
12731	VK-DK 26/10/50	240	3.8

Sealing cone VK-DK 22/10/50



Exposed concrete sealing cones for 50 mm depression

Item no.	Type	Item	Weight
		Carton	kg (per 100 item)
12676	Verschlusskonus VK-DK 22/50	200	6.0
12678	Verschlusskonus VK-DK 26/50	200	6.0

Sealing cone VK-DK 22/50



We can also produce sealing cones for clamping points of other manufacturers.
Contact us!

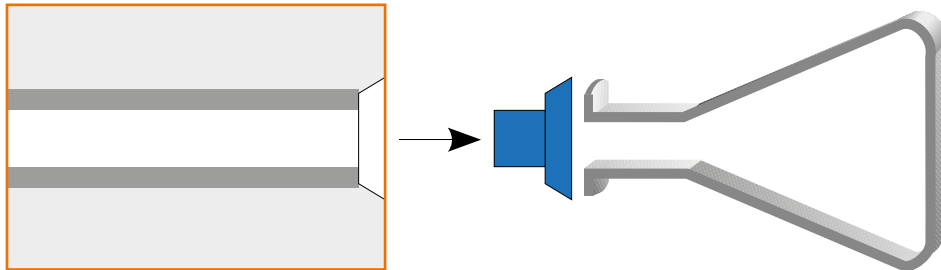
Colour range of our sealing cones



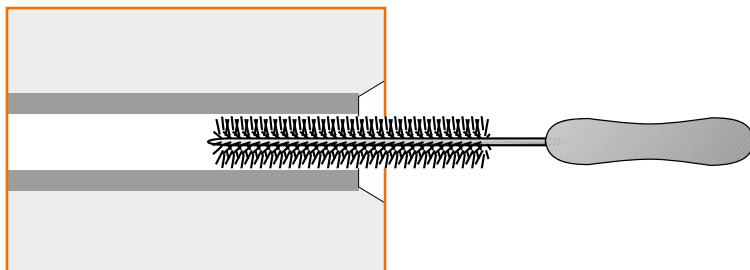
Clamping point – sealing plug and sealing cones

Assembly instructions for products on pages 14-15:

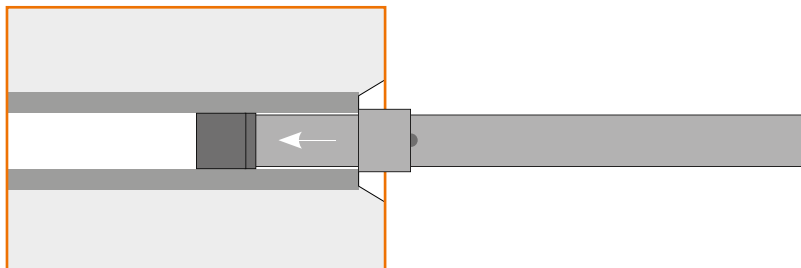
1. Pull out DK 22/10w with the pulling tool.



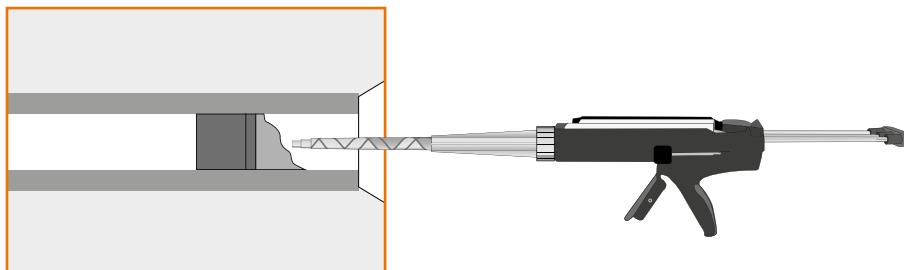
2. Clean the inside of the pipe with a wire brush.



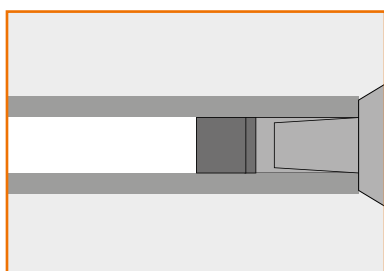
3. Drive the QST impact plug into the pipe with the chuck.



4. Pour the adhesive (mixed concrete grey) into the hole.



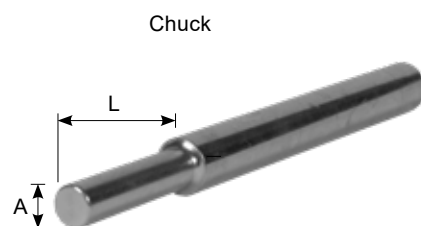
5. Press the VK-DK 22/10-50 into the adhesive by turning it.



Clamping point – assembly tool and sealing material

Use the **chuck** to drive the stop plugs into the fibre concrete pipe. The stop guarantees the exact impact depth.

Item no.	Type	L	A
		mm	mm
15401	Chuck SD 22/50	50	20
15402	Chuck SD 22/40	40	20
15403	Chuck SD 26/50	50	24
15404	Chuck SD 26/40	40	24



The **pulling tool** is a removal tool for the sealing caps. It is inserted through the cap into the hole. The two angled ends are placed behind the cap. The cap can now be pulled out. The holes to be glued are brushed and cleaned with the **wire brush**.

Item no.	Type
15400	Pulling tool for sealing cap DK
13605	Wire brush Ø22



The **expansive mortar** is used for sealing clamping points and for mortaring hollow wall joints. It has a very high adhesive force. The mortar does not shrink, but retains its volume when setting. It does not tear off during hardening. It is pressed into the holes or joints by means of **mortar presses**. The fine-grained nature ensures that the surface can be smoothed off. The mortar can also be conveyed and applied with a suitable pump.

Item no.	Type	Grain size	Item	Weight	Weight
		mm	per pal.	kg/bag	kg/pal.
13610	Expansive mortar	0-0.4	40	25.0	1,000

Item no.	Type	Weight
		kg
13613	Hand press	1.4
13614	Compressed air press	2.0
13615	Whisk	0.4
13616	Filling tube with nozzle (spare part)	0.5
13669	Mortar filling funnel	0.5

Further information on expansive mortar is available here:



Note: Approx. 25 kg (1 bag) + 4-5 litres of water yield 14-15 litres of mortar (0,015m³)

Hand press



Compressed air press



Whisk



Filling tube with nozzle



Filling funnel



Clamping point – assembly tool and sealing material

The KarPox adhesive is used for bonding plugs and cones at clamping points and for bonding a wide variety of components such as steel/concrete, concrete/concrete, etc. The mixing ratio is 1:1, colour: concrete grey. The hardener and the adhesive are mixed in combination with the mixing tube. The mixing tube is screwed onto the front of the KarPox 2K Duo double cartridge. After use, the **mixing tube** remains on the cartridge. The adhesive hardens in it. The next time it is used, the old mixing tube is unscrewed and replaced by a new one. This way there is only a small loss. The adhesive has a very high adhesive strength and a compressive strength of approx. 80N/mm². The adhesive is ready for use when it comes out of the front of the mixing tube. Processable up to > 5 ° C. Shelf life: approx. 1 year.

Item no.	Type	Item per PU	Weight kg/bag
13609	KarPox double cartridge 2K Duo (content: 2 x 310 ml)	5	0.9
13607	Mixing tube 2K	10	0.1

KarPox double cartridge 2K Duo



Item no.	Type	Item per PU	Weight kg/bag
13602	Device case 2K complete with: 1 x manual pressure press 2K Duo 3 x KarPox double cartridge 2K Duo 10 x mixing tube 2K 1 x wire brush 1 x compressed air pump	1	7.0
13603	Device case 2K Duo (without content)	1	1.0
13604	Manual pressure press 2 K Duo	1	2.0
13617	Air pressure press 2K Duo	1	3.1
13628	Battery press 2K Duo	1	0.5
13605	Wire brush	1	1.0
13606	Compressed air pump Ø 65 mm	1	0.24

Device case



Manual pressure press



Battery press



Wire brush



Compressed air pump



The Pox adhesive is used for bonding plugs and cones at clamping points and for bonding a wide variety of components such as steel/concrete, concrete/concrete, etc. The mixing ratio is 1:1, colour: concrete grey. In combination with the hardener, the adhesive is ready for use. The adhesive has a very high adhesive strength and a compressive strength of approx. 80N/mm². Processable up to > 5 ° C. Shelf life: approx. 1 year.

Item no.	Type	Cans per carton	Weight kg/cans
13600	Pox adhesive	4	1.5
13601	Pox-hardener	4	1.5



Clamping points – fire resistance class F180

Test report

Materialprüfungsanstalt
Universität Stuttgart
Postfach 801140 • 70511 Stuttgart

MPA Materialprüfungsanstalt
STUTTGART Universität Stuttgart



Prüfungsbericht

Berichts-Nr.: 903 2880 000/Bg
Auftraggeber: QUICK Bauprodukte GmbH
Westendamm 3
D-58239 Schwerte

Auftrags-Nr. (Kunde): Auftrag 3615 / 2016-10896 vom 10.11.2016
Auftrags-Nr. (MPA): 903 2880 000
Prüfgegenstand: **Brandprüfung an drei Betonwandausschnitten mit integrierten Spannstellen (sog. Mauerstärken)**

Prüfspezifikation mit Ausgabedatum: in Anlehnung an DIN EN 1363-1:2012 und DIN 4102-8:2003

Eingangsdatum der Prüfgegenstände: 08.12.2016
Datum der Prüfungen: 20.02. und 03.03.2017
Datum des Berichts: 15.03.2017
Seite 1 von 5 Textseiten
Beilagen: 18
Anlagen: 0
Gesamtseitenzahl: 23
Anzahl der Ausfertigungen: 1 Original
1 Zweitausfertigung

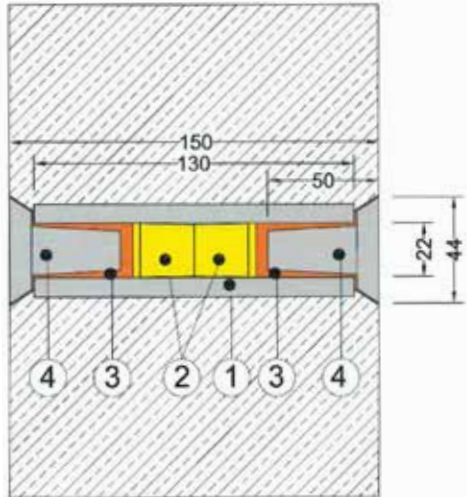
Die Prüfergebnisse beziehen sich ausschließlich auf die Prüfgegenstände.

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Tested systems:

Clamping point: sealing with two VK-DK 22/10/50



Pos. 1

1 piece of fibre concrete spacer tube FB-D 22/40
(item no. 12404)
Outer Ø 40 mm, inner Ø 22 mm, length 130 mm

Pos. 2

2 pieces of stop plugs QST 22
(item no. 11408)

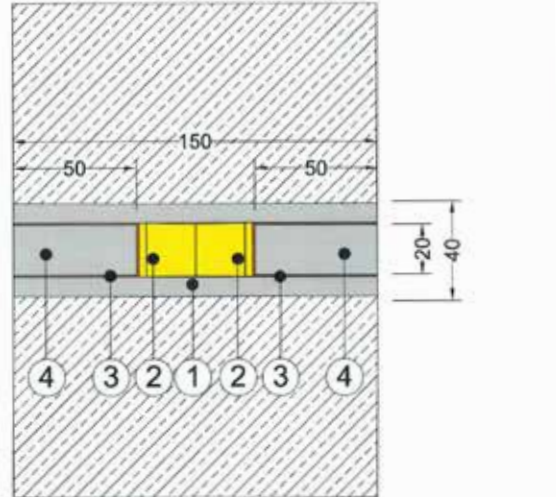
Pos. 3

KarPox adhesive and hardener
Two-component adhesive
(item no. 13609)

Pos. 4

2 pieces of fibre concrete sealing cone VK-DK 22/10/50
(item no. 12699)

Clamping point: sealing with two FB-S 22/50



Pos. 1

1 piece of fibre concrete spacer tube FB-D 22/40
(item no. 12404)
Outer Ø 40 mm, inner Ø 22 mm, length 130 mm

Pos. 2

2 pieces of stop plugs QST 22
(item no. 11408)

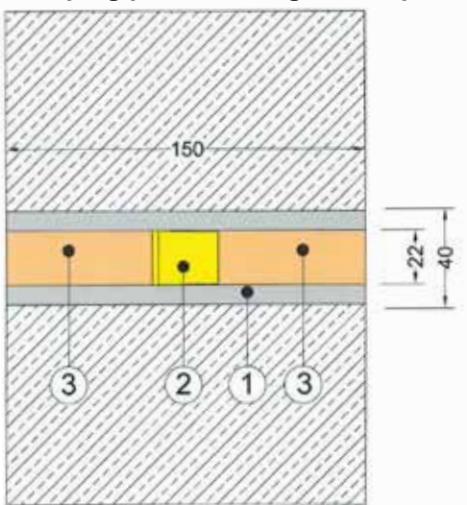
Pos. 3

KarPox adhesive and hardener
Two-component adhesive
(item no. 13609)

Pos. 4

2 pieces of sealing plugs FB-S 22/50 (item no. 12429)
Ø 20 mm, length = 50 mm

Clamping point: sealing with expansive mortar



Pos. 1

1 piece of fibre concrete spacer tube FB-D 22/40
(item no. 12404)
Outer Ø 40 mm, inner Ø 22 mm, length 130 mm

Pos. 2

2 pieces of stop plugs QST 22
(item no. 11408)

Pos. 3

Expansive mortar EM 0-0.4 E1
(item no. 13610)

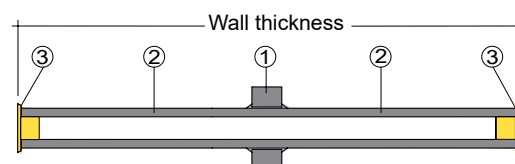
Note: Please find more information in the report on the classification of the fire behaviour of our fibre concrete products.

Waterproof clamping points (for anchor rod 15.0)

The **WS 22/80 DK 22 clamping point** consists of a fibre concrete pipe (FB) with a water barrier made of FB glued to the centre. The glued-on water barrier has an outer diameter of 80 mm. Optionally, this can also be supplied in Ø 100 mm. The sealing caps are not supplied pre-assembled. In combination with the impact plug QST 22 and by gluing the FB pipes with an FB plug, the clamping point is sealed watertight.

Item no.	Type	Wall thickness
		cm
14757	Clamping point WS 22/80 DK 22*	20
14740	Clamping point WS 22/80 DK 22*	25
14741	Clamping point WS 22/80 DK 22*	30
14742	Clamping point WS 22/80 DK 22*	35
14743	Clamping point WS 22/80 DK 22*	40
14744	Clamping point WS 22/80 DK 22*	45
14745	Clamping point WS 22/80 DK 22*	50
14746	Clamping point WS 22/80 DK 22*	55
14747	Clamping point WS 22/80 DK 22*	60

*Test report on watertightness is available.



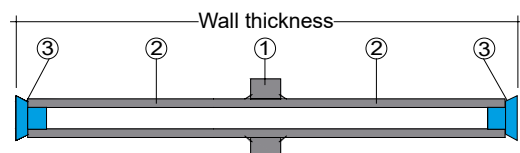
- ① WS-22/80
- ② FB-D 22/40
- ③ DK 22



The **WS 22/80 DK 22/10 W clamping point** consists of a fibre concrete pipe (FB) with a water barrier made of FB glued to the centre. The glued-on water barrier has an outer diameter of 80 mm. Optionally, it can also be supplied in Ø 100 mm. The sealing caps apply 10 mm on both sides and are not supplied pre-assembled. In combination with the impact plug QST 22 and by gluing the FB pipes with a sealing cone VK-DK-22/10-50, the clamping point is sealed watertight.

Item no.	Type	Wall thickness	FB-D length
		cm	cm
14759	Clamping point WS 22/80 DK 22/10 W*	20	18
14760	Clamping point WS 22/80 DK 22/10 W*	25	23
14761	Clamping point WS 22/80 DK 22/10 W*	30	28
14762	Clamping point WS 22/80 DK 22/10 W*	35	33
14763	Clamping point WS 22/80 DK 22/10 W*	40	38
14764	Clamping point WS 22/80 DK 22/10 W*	45	43
14765	Clamping point WS 22/80 DK 22/10 W*	50	48
14766	Clamping point WS 22/80 DK 22/10 W*	55	53
14767	Clamping point WS 22/80 DK 22/10 W*	60	58

*Test report on watertightness is available.



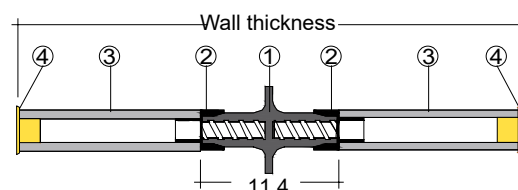
- ① WS-22/80
- ② FB-D 22/40
- ③ DK 22/10W



Waterproof clamping points (for anchor rod 15.0)

The **WSG 15 DK 22 clamping point** consists of two fibre concrete pipes (FB), two sealing caps DK 22, two plastic coupling pieces and a water barrier WSG 15. The water barrier has an outer diameter of 65 mm. All components are supplied unassembled. In combination with the impact plug QST 22 and by gluing the FB pipes with a FB-S plug, the clamping point is sealed watertight.

Item no.	Type	Wall thickness	2x FB-D length
		cm	cm
14720	Clamping point WSG 15 DK 22*	25	6.8
14721	Clamping point WSG 15 DK 22*	30	9.3
14722	Clamping point WSG 15 DK 22*	35	11.8
14723	Clamping point WSG 15 DK 22*	40	14.3
14724	Clamping point WSG 15 DK 22*	45	16.8
14725	Clamping point WSG 15 DK 22*	50	19.3
14726	Clamping point WSG 15 DK 22*	55	21.8
14727	Clamping point WSG 15 DK 22*	60	24.3
14733	Clamping point WSG 15 DK 22*	65	26.8
14734	Clamping point WSG 15 DK 22*	70	29.3
147341	Clamping point WSG 15 DK 22*	75	31.8
14735	Clamping point WSG 15 DK 22*	80	34.3
14737	Clamping point WSG 15 DK 22*	90	39.3
14728	Clamping point WSG 15 DK 22*	100	44.3
14738	Clamping point WSG 15 DK 22*	110	49.3
14729	Clamping point WSG 15 DK 22*	120	54.3
14730	Clamping point WSG 15 DK 22*	130	59.3
14731	Clamping point WSG 15 DK 22*	140	64.3
14732	Clamping point WSG 15 DK 22*	150	69.3



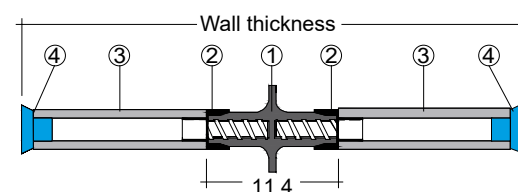
- ① WSG 15,0
- ② KM 22
- ③ FB-D 22/40
- ④ DK 22



*Test report on watertightness is available.

The **WSG 15 DK 22/10 W clamping point** consists of two fibre concrete pipes (FB), two sealing caps DK 22/10 W, two plastic coupling pieces and a water barrier WSG 15. The water barrier has an outer diameter of 65 mm. All components are supplied unassembled. In combination with the impact plug QST 22 and by gluing the FB pipes with a FB-S plug or VK-DK 22/10-50, the clamping point is sealed watertight.

Item no.	Type	Wall thickness	2x FB-D length
		cm	cm
14700	Clamping point WSG 15 DK 22/10 W*	25.0	5.8
14701	Clamping point WSG 15 DK 22/10 W*	30.0	8.3
14702	Clamping point WSG 15 DK 22/10 W*	35.0	10.8
14703	Clamping point WSG 15 DK 22/10 W*	40.0	13.3
14704	Clamping point WSG 15 DK 22/10 W*	45.9	15.8
14705	Clamping point WSG 15 DK 22/10 W*	50.0	18.3
14706	Clamping point WSG 15 DK 22/10 W*	55.0	20.8
14707	Clamping point WSG 15 DK 22/10 W*	60.0	23.3
14708	Clamping point WSG 15 DK 22/10 W*	65.0	25.8
14709	Clamping point WSG 15 DK 22/10 W*	70.0	28.3
14717	Clamping point WSG 15 DK 22/10 W*	75.0	30.8
14718	Clamping point WSG 15 DK 22/10 W*	80.0	33.3
14710	Clamping point WSG 15 DK 22/10 W*	90.0	38.3
14711	Clamping point WSG 15 DK 22/10 W*	100.0	43.3
14712	Clamping point WSG 15 DK 22/10 W*	110.0	48.3
14713	Clamping point WSG 15 DK 22/10 W*	120.0	53.3
14714	Clamping point WSG 15 DK 22/10 W*	130.0	58.3
14715	Clamping point WSG 15 DK 22/10 W*	140.0	63.3
14716	Clamping point WSG 15 DK 22/10 W*	150.0	68.3



- ① WSG 15,0
- ② KM 22
- ③ FB-D 22/40
- ④ DK 22/10 W



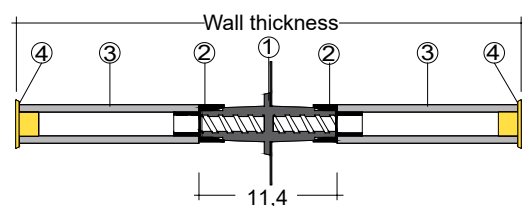
*Test report on watertightness is available.

Waterproof clamping points (for anchor rod 15.0)

The **WSS 15 DK 22 clamping point** consists of two fibre concrete pipes (FB), two sealing caps DK 22, two plastic coupling pieces and a water barrier WSS 15. The water barrier measures 120 x 120 mm. All components are supplied unassembled. In combination with the impact plug QST 22 and by gluing the FB pipes with a FB-S plug, the clamping point is sealed watertight.

Item no.	Type	Wall thickness	2x FB-D length
14800	Clamping point WSS 15 DK 22*	25.0 cm	6.8 cm
14801	Clamping point WSS 15 DK 22*	30.0 cm	9.3 cm
14802	Clamping point WSS 15 DK 22*	35.0 cm	11.8 cm
14803	Clamping point WSS 15 DK 22*	40.0 cm	14.3 cm
14804	Clamping point WSS 15 DK 22*	45.0 cm	16.8 cm
14805	Clamping point WSS 15 DK 22*	50.0 cm	19.3 cm
14806	Clamping point WSS 15 DK 22*	55.0 cm	21.8 cm
14807	Clamping point WSS 15 DK 22*	60.0 cm	24.3 cm
12808	Clamping point WSS 15 DK 22*	65.0 cm	26.8 cm
12809	Clamping point WSS 15 DK 22*	70.0 cm	29.3 cm
12810	Clamping point WSS 15 DK 22*	75.0 cm	31.8 cm
12811	Clamping point WSS 15 DK 22*	80.0 cm	34.3 cm
12812	Clamping point WSS 15 DK 22*	90.0 cm	39.3 cm
12813	Clamping point WSS 15 DK 22*	100.0 cm	44.3 cm
12814	Clamping point WSS 15 DK 22*	110.0 cm	49.3 cm
12815	Clamping point WSS 15 DK 22*	120.0 cm	54.3 cm
12816	Clamping point WSS 15 DK 22*	130.0 cm	59.3 cm
12817	Clamping point WSS 15 DK 22*	140.0 cm	64.3 cm
12818	Clamping point WSS 15 DK 22*	150.0 cm	69.3 cm

*Test report on watertightness is available.



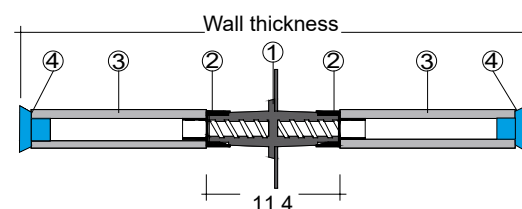
- ① WSS 15,0
- ② KM 22
- ③ FB-D 22/40
- ④ DK 22



The **WSS 15 DK 22/10 W clamping point** consists of two fibre concrete pipes (FB), two sealing caps DK 22/10w, two plastic coupling pieces and a water barrier WSS 15. The water barrier measures 120 x 120 mm. All components are supplied unassembled. In combination with the impact plug QST 22 and by gluing the FB pipes with a FB-S plug or VK-DK 22/10-50, the clamping point is sealed watertight.

Item no.	Type	Wall thickness	2x FB-D length
14820	Clamping point WSS 15 DK 22/10 W*	25.0 cm	5.8 cm
14821	Clamping point WSS 15 DK 22/10 W*	30.0 cm	8.3 cm
14822	Clamping point WSS 15 DK 22/10 W*	35.0 cm	10.8 cm
14823	Clamping point WSS 15 DK 22/10 W*	40.0 cm	13.3 cm
14824	Clamping point WSS 15 DK 22/10 W*	45.0 cm	15.8 cm
14825	Clamping point WSS 15 DK 22/10 W*	50.0 cm	18.3 cm
14826	Clamping point WSS 15 DK 22/10 W*	55.0 cm	20.8 cm
14827	Clamping point WSS 15 DK 22/10 W*	60.0 cm	23.3 cm
14828	Clamping point WSS 15 DK 22/10 W*	65.0 cm	25.8 cm
14829	Clamping point WSS 15 DK 22/10 W*	70.0 cm	28.3 cm
14830	Clamping point WSS 15 DK 22/10 W*	75.0 cm	30.8 cm
14831	Clamping point WSS 15 DK 22/10 W*	80.0 cm	33.3 cm
14832	Clamping point WSS 15 DK 22/10 W*	90.0 cm	38.3 cm
14854	Clamping point WSS 15 DK 22/10 W*	100.0 cm	43.3 cm
14855	Clamping point WSS 15 DK 22/10 W*	110.0 cm	48.3 cm
14856	Clamping point WSS 15 DK 22/10 W*	120.0 cm	53.3 cm
14857	Clamping point WSS 15 DK 22/10 W*	130.0 cm	58.3 cm
14858	Clamping point WSS 15 DK 22/10 W*	140.0 cm	63.3 cm
14859	Clamping point WSS 15 DK 22/10 W*	150.0 cm	68.3 cm

*Test report on watertightness is available.



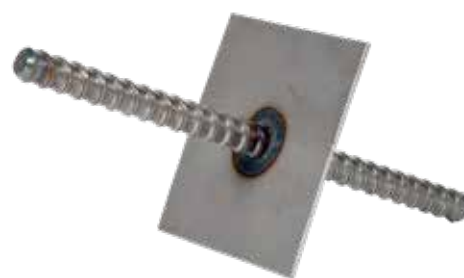
- ① WSS 15,0
- ② KM 22
- ③ FB-D 22/40
- ④ DK 22/10W



Waterproof clamping points (for anchor rod 15.0)

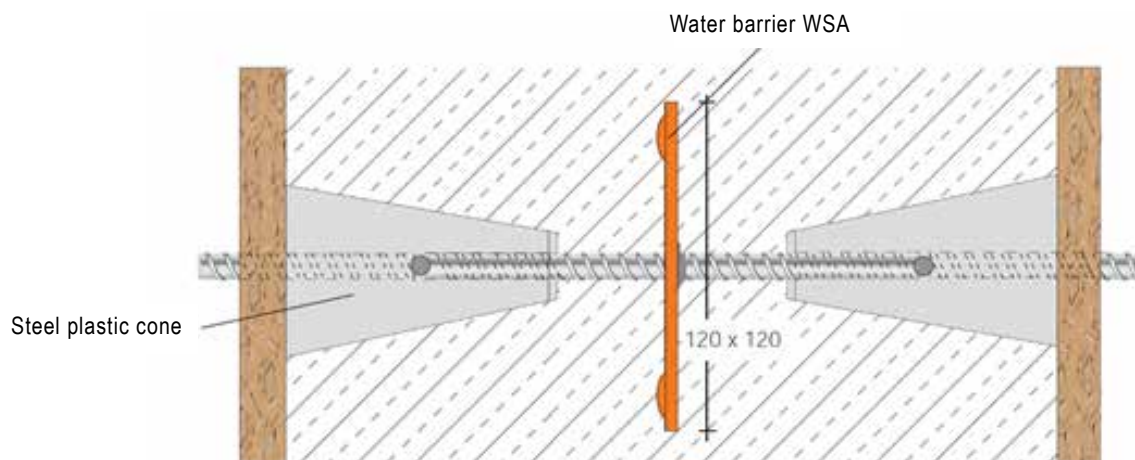
The **WSA A15FS clamping point** consists of an anchor rod 15 FS and a centrally welded water barrier, measuring 120 x 120 mm. The anchor rods are made to length in the factory. In combination with two screwed-on steel plastic cones STKK 15/5, the desired wall thickness is obtained. The conical holes can be glued with sealing cones (VK STKK 15/50). In this way, the clamping point is sealed watertight.

Item no.	Type	Wall thickness	Anchor rod length**
14780	Clamping point WSA A15FS*	25.0 cm	14.5 cm
14781	Clamping point WSA A15FS*	30.0 cm	14.5 cm
14782	Clamping point WSA A15FS*	35.0 cm	24.5 cm
14783	Clamping point WSA A15FS*	40.0 cm	29.5 cm
14784	Clamping point WSA A15FS*	45.0 cm	34.5 cm
14785	Clamping point WSA A15FS*	50.0 cm	39.5 cm
14786	Clamping point WSA A15FS*	55.0 cm	44.5 cm
14787	Clamping point WSA A15FS*	60.0 cm	49.5 cm
14789	Clamping point WSA A15FS*	65.0 cm	54.5 cm
14790	Clamping point WSA A15FS*	70.0 cm	59.5 cm
14791	Clamping point WSA A15FS*	75.0 cm	64.5 cm
14792	Clamping point WSA A15FS*	80.0 cm	69.5 cm
14793	Clamping point WSA A15FS*	90.0 cm	79.5 cm
14794	Clamping point WSA A15FS*	100.0 cm	89.5 cm
14795	Clamping point WSA A15FS*	110.0 cm	99.5 cm
14796	Clamping point WSA A15FS*	120.0 cm	109.5 cm
14797	Clamping point WSA A15FS*	130.0 cm	119.5 cm
14798	Clamping point WSA A15FS*	140.0 cm	129.5 cm
14799	Clamping point WSA A15FS*	150.0 cm	139.5 cm



In combination with 2 pieces STKK 15/5 the indicated anchor rod length is obtained.

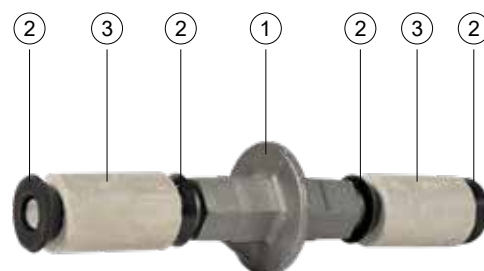
*Test report on watertightness is available.



Waterproof clamping points (for anchor rod 20.0)

The **WSG 20 DK 26/10 clamping point** consists of two fibre concrete pipes (FB), four sealing caps DK 26/10 and a water barrier WSG 20. The water barrier has an outer diameter of 80 mm. All components are supplied unassembled. In combination with the impact plug KST 26 and by gluing the FB pipes with a FB-S plug, the clamping point is sealed watertight.

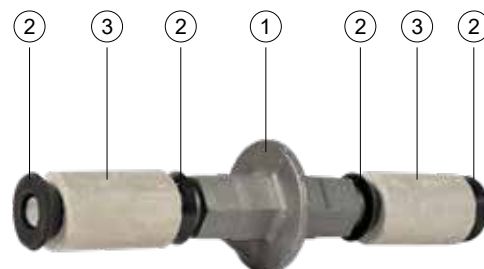
Item no.	Type	Wall thickness	2x FB-D length
14860	Clamping point WSG 20 DK 26/10	30.0 cm	5.7 cm
14861	Clamping point WSG 20 DK 26/10	35.0 cm	8.2 cm
14862	Clamping point WSG 20 DK 26/10	40.0 cm	10.7 cm
14863	Clamping point WSG 20 DK 26/10	45.0 cm	13.2 cm
14864	Clamping point WSG 20 DK 26/10	50.0 cm	15.7 cm
14865	Clamping point WSG 20 DK 26/10	55.0 cm	18.2 cm
14866	Clamping point WSG 20 DK 26/10	60.0 cm	20.7 cm
14867	Clamping point WSG 20 DK 26/10	65.0 cm	23.2 cm
14868	Clamping point WSG 20 DK 26/10	70.0 cm	25.7 cm
14869	Clamping point WSG 20 DK 26/10	75.0 cm	28.2 cm
14870	Clamping point WSG 20 DK 26/10	80.0 cm	30.7 cm
14871	Clamping point WSG 20 DK 26/10	90.0 cm	35.7 cm
14872	Clamping point WSG 20 DK 26/10	100.0 cm	40.7 cm
14873	Clamping point WSG 20 DK 26/10	110.0 cm	45.7 cm
14874	Clamping point WSG 20 DK 26/10	120.0 cm	50.7 cm
14875	Clamping point WSG 20 DK 26/10	130.0 cm	55.7 cm
14876	Clamping point WSG 20 DK 26/10	140.0 cm	60.7 cm
14877	Clamping point WSG 20 DK 26/10	150.0 cm	65.7 cm



- ① WSG 20,0
- ② DK 26/10
- ③ FB-D 26/46

The **WSS 20 DK 26/10 clamping point** consists of two fibre concrete pipes (FB), four sealing caps DK 26/10 and a water barrier WSS 20. The water barrier measures **120 x 120 mm**. All components are supplied unassembled. In combination with the plastic plug KST 26 and by gluing the FB pipes with a FB-S plug, the clamping point is sealed watertight.

Item no.	Type	Wall thickness	2x FB-D length
14880	Clamping point WSS 20 DK 26/10	30.0 cm	6.7 cm
14881	Clamping point WSS 20 DK 26/10	35.0 cm	8.2 cm
14882	Clamping point WSS 20 DK 26/10	40.0 cm	10.7 cm
14883	Clamping point WSS 20 DK 26/10	45.0 cm	13.2 cm
14884	Clamping point WSS 20 DK 26/10	50.0 cm	15.7 cm
14885	Clamping point WSS 20 DK 26/10	55.0 cm	18.2 cm
14886	Clamping point WSS 20 DK 26/10	60.0 cm	20.7 cm
14887	Clamping point WSS 20 DK 26/10	65.0 cm	23.2 cm
14888	Clamping point WSS 20 DK 26/10	70.0 cm	25.7 cm
14889	Clamping point WSS 20 DK 26/10	75.0 cm	28.2 cm
14890	Clamping point WSS 20 DK 26/10	80.0 cm	30.7 cm
14891	Clamping point WSS 20 DK 26/10	90.0 cm	35.7 cm
14892	Clamping point WSS 20 DK 26/10	100.0 cm	40.7 cm
14893	Clamping point WSS 20 DK 26/10	110.0 cm	45.7 cm
14894	Clamping point WSS 20 DK 26/10	120.0 cm	50.7 cm
14895	Clamping point WSS 20 DK 26/10	130.0 cm	55.7 cm
14896	Clamping point WSS 20 DK 26/10	140.0 cm	60.7 cm
14897	Clamping point WSS 20 DK 26/10	150.0 cm	65.7 cm

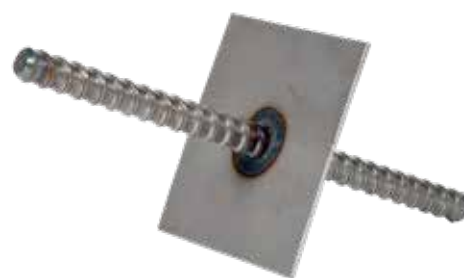


- ① WSG 20,0 (120 x 120 mm)
- ② DK 26/10
- ③ FB-D 26/46

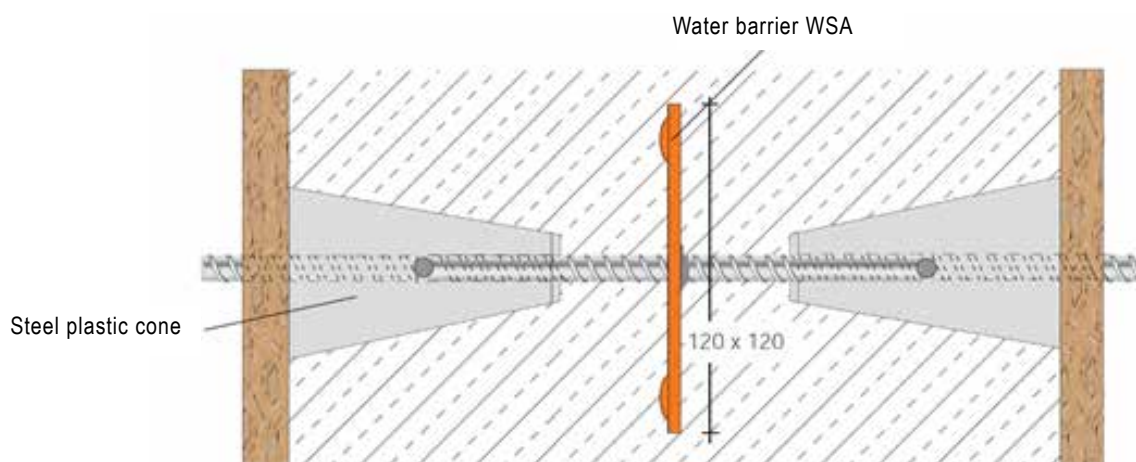
Waterproof clamping points (for anchor rod 20.0)

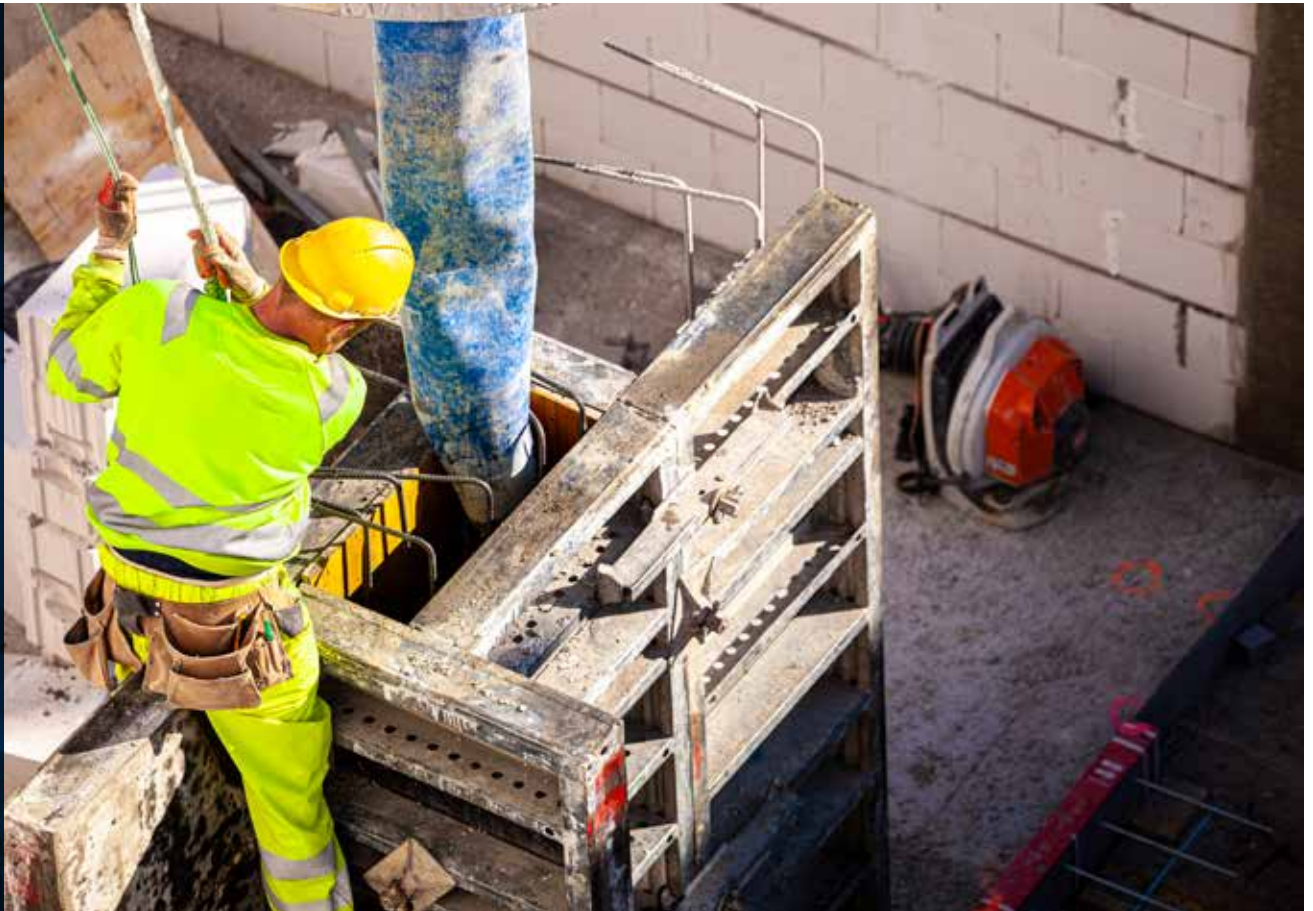
The **WSA A20FS clamping point** consists of an anchor rod 20 FS and a centrally welded water barrier, measuring 120 x 120 mm. The anchor rods are made to length in the factory. In combination with two screwed-on steel plastic cones STKK 20/5, the desired wall thickness is obtained. The conical holes can be glued with sealing cones. In this way, the clamping point is sealed watertight.

Item no.	Type	Wall thickness	Anchor rod length**
14833	Clamping point WSA A20FS	30.0 cm	17.0 cm
14834	Clamping point WSA A20FS	35.0 cm	22.0 cm
14835	Clamping point WSA A20FS	40.0 cm	27.0 cm
14836	Clamping point WSA A20FS	45.0 cm	32.0 cm
14837	Clamping point WSA A20FS	50.0 cm	37.0 cm
14838	Clamping point WSA A20FS	55.0 cm	42.0 cm
14839	Clamping point WSA A20FS	60.0 cm	47.0 cm
14840	Clamping point WSA A20FS	65.0 cm	52.0 cm
14841	Clamping point WSA A20FS	70.0 cm	57.0 cm
14842	Clamping point WSA A20FS	75.0 cm	62.0 cm
14843	Clamping point WSA A20FS	80.0 cm	67.0 cm
14844	Clamping point WSA A20FS	90.0 cm	77.0 cm
14845	Clamping point WSA A20FS	100.0 cm	87.0 cm
14846	Clamping point WSA A20FS	110.0 cm	97.0 cm
14847	Clamping point WSA A20FS	120.0 cm	107.0 cm
14848	Clamping point WSA A20FS	130.0 cm	117.0 cm
14849	Clamping point WSA A20FS	140.0 cm	127.0 cm
14850	Clamping point WSA A20FS	150.0 cm	137.0 cm



When using STKK 20/5 the indicated anchor rod length is used.





Waterproof clamping points (accessories)

Water barrier WSA // 120 x 120 welded on anchor rod

Item no.	Type	A	B	Weight
		mm	mm	kg/item
14646	Water barrier WSA 15,0	120	120	0.3
14647	Water barrier WSA 20,0	120	120	0.3
14648	Water barrier WSA 26,5	120	120	0.3



Water barrier WS // made of fibre concrete, asbestos-free for bonding

Item no.	Type	Inner-Ø	Outer-Ø	Item	Weight
		mm	mm	/ bag	kg/bag
12400	Water barrier WS 22/80	42	80	150	0.16
12401	Water barrier WS 22/100	42	100	100	0.34



Water barrier WSG // cast

Item no.	Type	C	L	A	Item	Weight
		mm	mm	mm	/ bag	kg/bag
14649	Water barrier WSG 15,0	65	110	26	50	0.58
14650	Water barrier WSG 20,0	80	160	31	20	1.35



Water barrier WSS // 120 x 120 mm welded on connection coupling

Item no.	Type	C	L	A	Item	Weight
		mm	mm	mm	/bag	kg/bag
14655	Water barrier WSS 15,0	120 x 120	110	26	50	0.76
14656	Water barrier WSS 20,0	120 x 120	110	31	25	1.55



The coupling piece KM serves as a connecting piece between the cast water barrier (WSG 15.0 or WSS 15.0) and the fibre concrete pipe with an inner diameter of 22 mm. Dimensions: Inner Ø 22, Outer Ø 26 mm.

Item no.	Type	Ø1	Ø2	L	Item	Weight
		mm	mm	mm	/ bag	kg/bag
14653	coupling piece KM 22	22	26	40	250	0.36



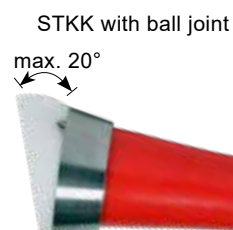
Waterproof clamping points (accessories)

The **steel plastic cone STKK** is a recoverable cone that can be used several times. It is mainly used in combination with the water barrier WSA.

Item no.	Type	SW	A	B	C	D	Item	Weight
		mm	mm	mm	mm	mm	/bag	kg/bag
14664	STKK 15/5	27	50	100	40	40	50	0.55
14669	STKK 15/5 K with ball joint	27	50	100	40	40	50	0.55
14665	STKK 20/5	32	65	125	42	42	25	0.80
14666	STKK 26/5	46	70	135	57	57	25	1.71

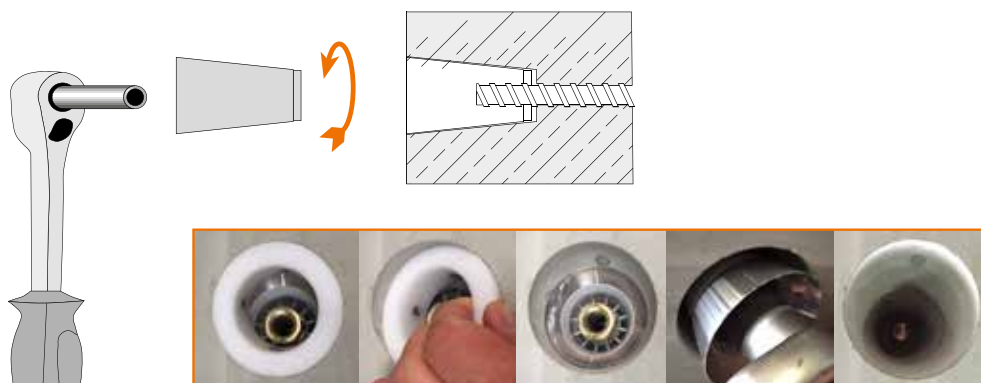


STKK



STKK with ball joint

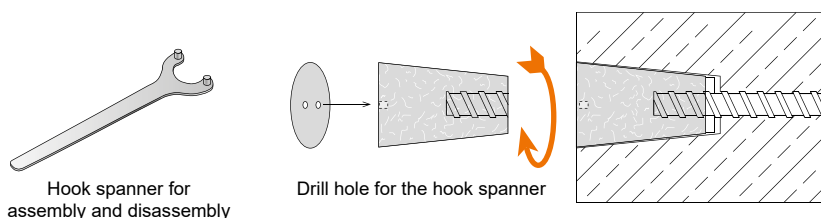
Removal of the steel plastic cone STKK



The **sealing cone VK-STKK** is used to seal the cone holes in the concrete. Dimensions Ø 58 on Ø 48 mm, length = 50 mm. The **hook spanner** is needed to screw in the VK-STKK 15/50 lg with internal thread.

Item no.	Type	Ø	Length	Item	Weight
		mm	mm	/carton	kg/bag
12697	VK-STKK 15/50	58/48	50	220	0.2
12698	VK-STKK 20/50	69/58	50	150	0.45
12696	VK-STKK 26/50	101/85	50	100	0.8
126971	VK-STKK 15/90 (with internal thread)	58/38	90	100	0.3
12690	Hook spanner	/	200	1	0.1

Example: installation of the FB sealing cone VK-STKK 15/90 with internal thread DW 15.0

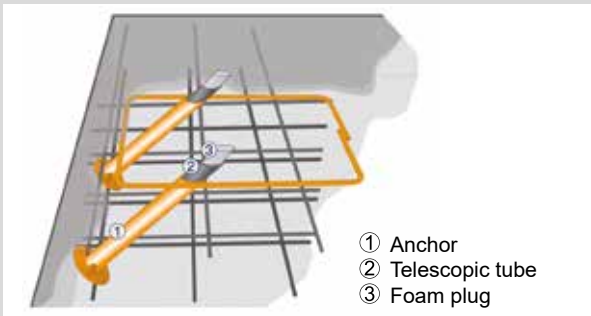


Anchoring for one-sided formwork



Anchoring for one-sided formwork

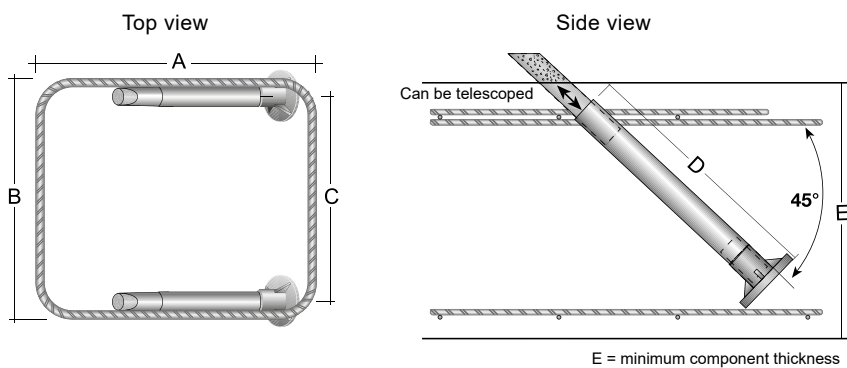
One-sided anchoring, double and single anchoring: It couldn't be easier to anchor!



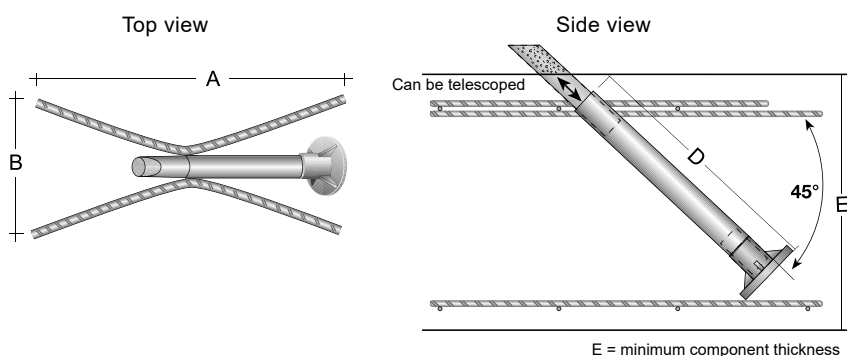
The **single anchor** and the **double anchor** are used for anchoring one-sided formwork. The double anchor is supplied pre-assembled as an element. A quick assembly is therefore guaranteed. Please refer to the technical data sheet for dimensions and load capacities.

DA double anchor

Item no.	Type	A	B	C	D	E	Item /PU	Weight kg/bag
		mm	mm	mm	mm	mm		
14637	DA 15	400	350	300	250	250	85	2.5
14638	DA 20	400	353	300	300	300	75	3.2
14639	DA 26	400	360	300	350	350	65	6.5



Item no.	Type	A	B	C	D	E	Item /PU	Weight kg/bag
		mm	mm	mm	mm	mm		
14683	EA 15	400	200		250	250	170	1.1
14684	EA 20	440	220		300	300	150	1.6
14685	EA 26	450	250		350	350	130	2.4



Anchoring for one-sided formwork

General notes on the carrying capacity!

Failure always occurs in the area of the threaded anchor steel! The cast parts of the double anchor are designed so that they do not fail. The total carrying capacity essentially depends on the degree of reinforcement. On request, we can provide you with a chargeable individual static verification for your component.

Material characteristics:

Material plastic pipe = PVC (polyvinyl chloride)

Building material class according to DIN 4102-1 class B; B1: hardly inflammable building material

Material of the cast anchor = EN-GJMW-400-5 (GTW-40-05).

The carrying capacity of the cast anchor complies with DIN 18216.

Breaking load of a cast anchor 15 > 195 kN x 2 cast anchor > 390 kN

Load capacity of a cast anchor 15 > 90 kN x 2 cast anchor > 180 kN

Breaking load of a cast anchor 20 > 345 kN x 2 cast anchor > 690 kN

Load capacity of a cast anchor 20 > 160 kN x 2 cast anchor > 320 kN

Breaking load of a cast anchor 26 > 606 kN x 2 cast anchors > 1,212 kN

Load capacity of a cast anchor 26 > 280 kN x 2 cast anchors > 560 kN

Installation instructions for double and single anchors



1. Align and tie the anchor.



2. Adjust the plastic pipe to height OK concrete.



3. After concreting, pull out the foam plug.



4. Screw in the anchor rods until the stop.



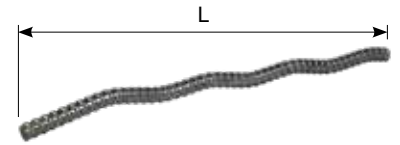
5. Anchor the formwork.

Anchoring for one-sided formwork

Anchorage / double-loop anchorages in use for the bracing of one-sided wall formwork, formwork uplift protection and anchoring of climbing formwork

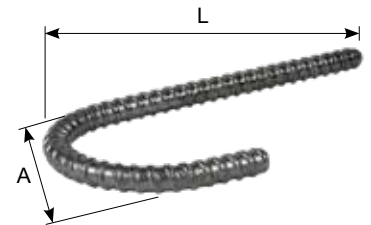
WA waved anchor

Item no.	Type	L	Item	Weight
		mm	PU	kg/Item
14695	WA 15/550	550	40	0.79
14696	WA 20/700	700	40	1.79
14677	WA 26/800	800	40	3.58



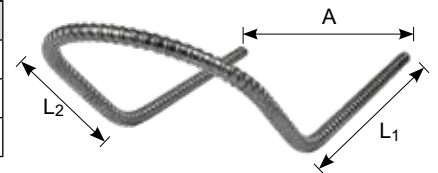
HA hook anchor

Item no.	Type	A	L	Item	Weight
		mm	mm	PU	kg/Item
14680	HA 15/450	120	450	40	1.0
14681	HA 20/600	150	600	40	2.23
14682	HA 26/800	260	800	40	6.0



SA loop anchor

Item no.	Type	A	L	L ₁	L ₂	Item	Weight
		mm	mm	mm	mm	PU	kg/Item
14641	SA 15/550	230	550	360	240	40	1.87
14642	SA 20/600	300	600	380	320	40	3.97
14643	SA 26/800	350	840	550	360	40	8.69



The V-holder serves as an installation aid of the anchors for the bracing of one-sided wall formwork. The anchor component is latched into the factory-installed synthetic sleeve at depth.

Item no.	Type	Attachment Ø	L	Weight
		mm	mm	kg/Item
14697	V-holder VH 15,0, mounting angle 45°	22	300	0.42
14698	V-holder VH 20,0, mounting angle 45°	22	300	0.43
14699	V-holder VH 26,5, mounting angle 45°	36	300	0.44

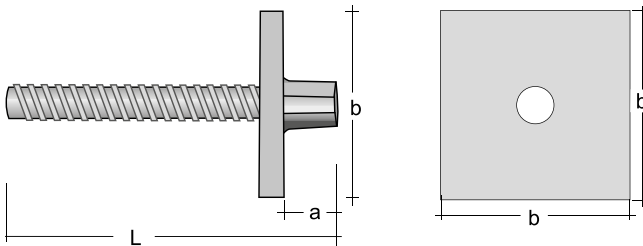


Anchoring for one-sided formwork

The **plate anchor PA** is an anchor rod with a welded square anchor plate. The dimensions of the anchor plate are 100 x 100 mm, plate thickness = 10 mm. The total anchor rod length is 160 mm. The preliminary length of the anchor rod is 100 mm. The load capacity is determined by static proof.

Item no.	Type	b	a	T	L	Item	Weight
		mm	mm	mm	mm	PU	kg/Item
14611	Plate anchor PA 15,0	100	50	10	160	15	1.16
14612	Plate anchor PA 20,0	120	60	15	275	10	2.75

Also available in other dimensions on request.



RM round socket

Item no.	Type	L	Item	Weight
		mm	PU	kg/item
14679	RM 15/70	70	50	0.27

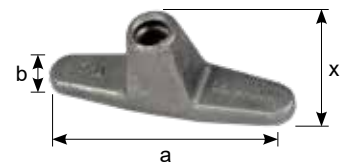


AF welded-on flange

Item no.	Type	a	b	x	Item	Weight
		mm	mm	mm	PU	kg/item
14668	AF 15,0	128	32	47	50	0.39

Material: S 355J2 | Proof of welded seam according to DIN 18800

Welded seam: If the fillet weld is > 3 mm, load capacity is kN 90



Anchorage for setting in concrete

The **GERO anchor** is a glass-fibre reinforced plastic anchor and is used for the anchoring of formwork, fall protections, brackets and push-pull props. 15 mm anchor rods can be screwed into the GERO.

- **high carrying capacity**
already from a concrete compressive strength of 10 N/mm²,
a load capacity of approx. 15 kN is achieved in the GERO.
- **no rust formation on the concrete surface**

GERO-plastic anchor

Item no.	Type	Item	Weight
		/ PU	kg/item
36070	GERO-plastic anchor 15,0	50	0.043



GERO-nail plug

Item no.	Type	Item	Weight
		/ PU	kg/item
36071	GERO-nail plug 15,0	50	0.005



GERO-plastic plug

Item no.	Type	Item	Weight
		/ PU	kg/item
36074	GERO-plastic plug	50	0.001



GERO-nail cone for exposed concrete

Item no.	Type	Item	Weight
		/ PU	kg/item
36072	GERO-nail cone	50	0.009



VK-GERO sealing cone for exposed concrete (made of concrete)

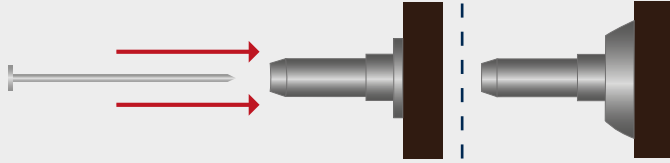
Item no.	Type	Item	Weight
		/ PU	kg/item
36072	VK-GERO sealing cone	50	0.009



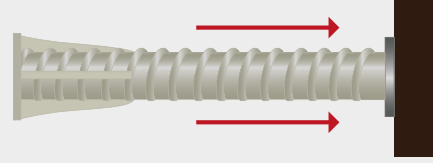
Anchages for setting in concrete

Assembly by means of the GERO nail plug
or the GERO nail cone (for exposed concrete)

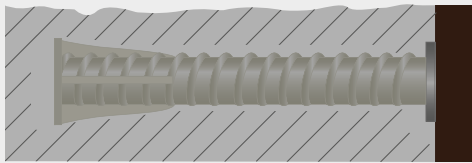
Step 1: Nail the GERO nail plug / nail cone to the formwork.



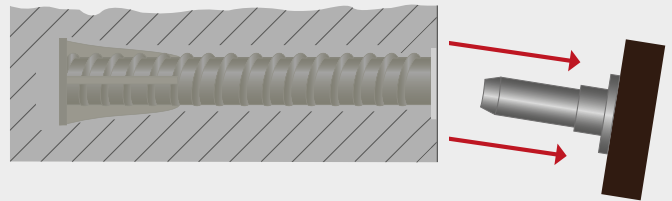
Step 2: Put on the GERO plastic anchor.



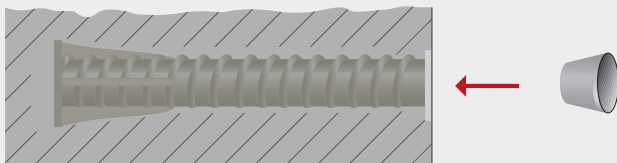
Step 3: Concreting



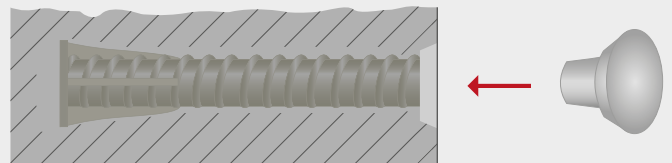
Step 4: Remove the GERO nail plug / nail cone



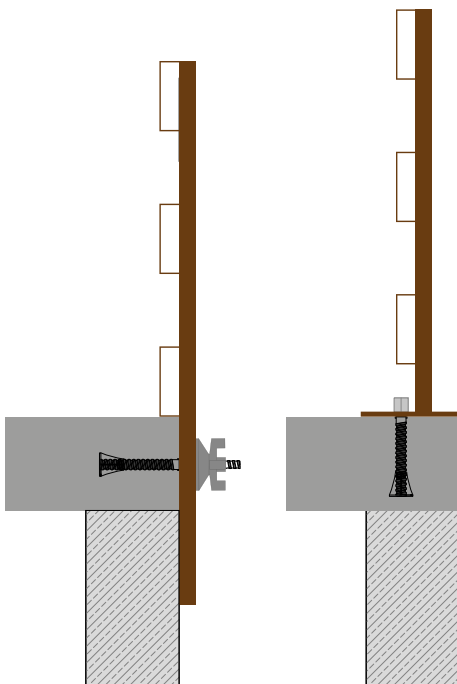
Step 5 Sealing options:
GERO plastic plug



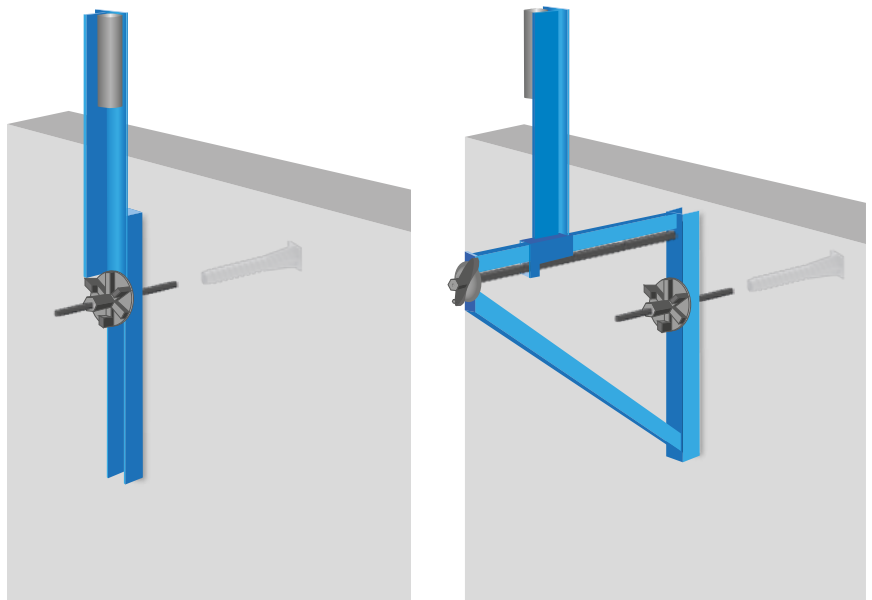
Step 5 Sealing options:
GERO sealing cone for exposed concrete



Anchoring of fall protection



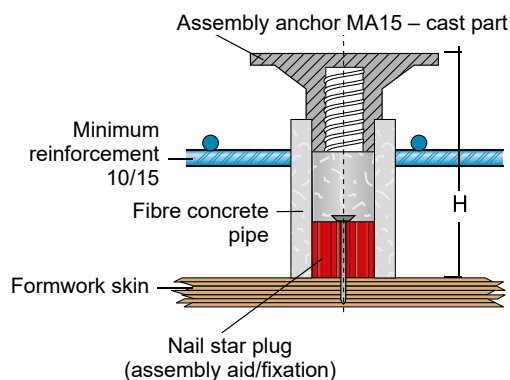
Anchoring of ceiling edge formwork



Anchorage for setting in concrete

The **assembly anchor** is used for the anchoring of cap bolts and support structures in bridge construction. It is concreted into the concrete component. The assembly anchor is mounted via the **nail star plug** which is screwed onto the formwork. This ensures that the anchor is stable and cannot tip over. The component height is 120 mm. The load capacities can be seen in the relevant building authority approval.

Item no.	Type	BD	H	C	Item	Weight
		mm	mm	mm	PU	kg/item
14674	MA 15,0 G	80	120	80	50	0.55
14476	Nail star plug	Ø27	60	80	50	0.05



MA assembly anchor cast part

Item no.	Type	H	C	Item	Weight
		mm	mm	PU	kg/item
14675	MA 15.0 only cast part	60	80	90	0,4



MA assembly anchor cast part

Item no.	Type	A	L	Item	Weight
		mm	mm	PU	kg/item
11435	KST 26	26		1.000	0,48
124341	FB-S 26/30	Ø24	30	500	

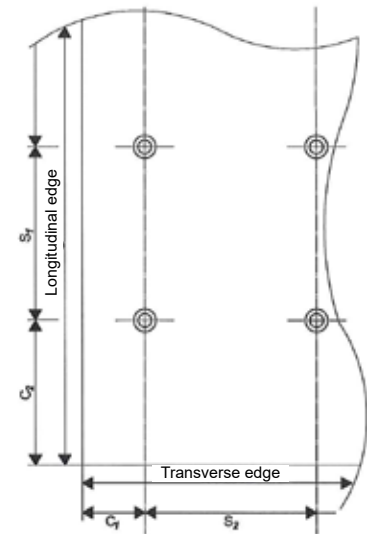


Note: The FB-S 26/30 is pasted into with the KarPox adhesive.

Anchorage for setting in concrete

Assembly anchor Ma 15.0 load capacity $d(NRk : 1.5 \text{ (safety factor)} = NRd)$

Resistances in tension	N_{rk}	N_{rd}
Concrete strength $\geq C30/37$	kN	kN
Anchorage in non-cracked concrete $c_2 \geq 50 \text{ cm}$	100	67
Anchorage in cracked concrete $c_2 \geq 50 \text{ cm}$	70	47
Anchorage in non-cracked concrete $c_2 \geq 45 \text{ cm}$	86	57
Anchorage in cracked concrete $c_2 \geq 45 \text{ cm}$	60	40
Anchorage in non-cracked concrete $c_2 \geq 40 \text{ cm}$	72	48
Anchorage in cracked concrete $c_2 \geq 40 \text{ cm}$	50	33
Anchorage in non-cracked concrete $c_2 \geq 36 \text{ cm}$	61	41
Anchorage in cracked concrete $c_2 \geq 36 \text{ cm}$	43	29



Edge and axial distances in the floor plan

Carrying capacity for transverse load

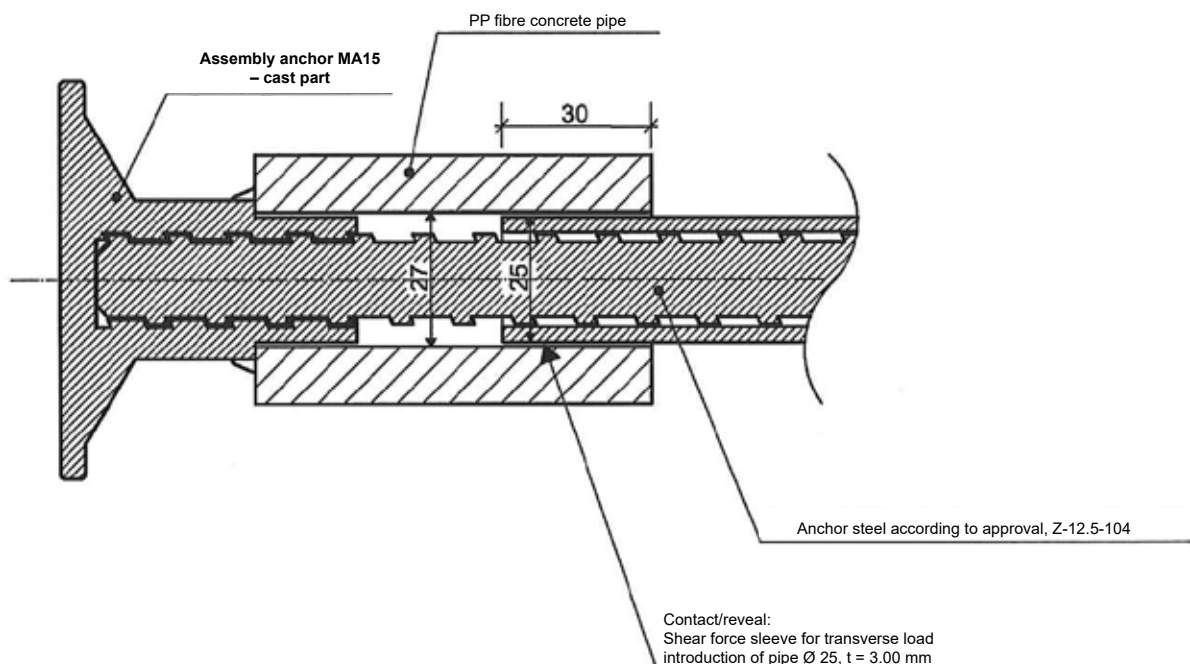
Minimum edge and axis distances: $c_1 \geq 22 \text{ cm}$, $c_2 \geq 36 \text{ cm}$, $s_1 \geq 60 \text{ cm}$, $s_2 \geq 60 \text{ cm}$

Resistances in tension	V_{rk}	V_{rd}
Concrete strength $\geq C30/37$	kN	kN
Anchoring in cracked concrete	19	12,7

Transverse load introduction with shear head sleeve

Steel tube $\varnothing 25$, $t = 3 \text{ mm}$ as per DIN EN 10220, $f_y \geq 23,5 \text{ kN/cm}^2$

The transverse loads are introduced via a shear head sleeve. This steel tube is flexurally rigidly integrated into the connected steel structure (bracket frame). The insertion depth in the fibre concrete pipe is fixed at $b_k = 30 \text{ mm}$ and is to be produced via the construction.



Anchoring for dowelling/drilling

BFA 15.0 S concrete and rock anchor for the subsequent anchoring of formwork or the attachment of devices and components. Assembly according to installation instructions. No building authority approval available.



Item no.	Type	L	Drill hole Ø	Drill hole depth	Item	Weight
		mm	mm	mm	PU	kg/item
14676	BFA 15,0 S	110	37	min. 230	50	0.5

Note: Each fixing point can only be used once for a maximum of 6 months.
Maximum pulling force $N_{RK,S}=158$ kN



BFA concrete and rock anchor

Item no.	Type	L	Drill hole Ø	Drill hole depth	Item	Weight
		mm	mm	mm	PU	kg/item
14671	BFA 15,0	110	32-35	min. 230	50	0.18
14672	BFA 20,0	110	40-42	min. 230	50	0.25
14673	BFA 26,5	110	51-53	min. 230	50	0.35

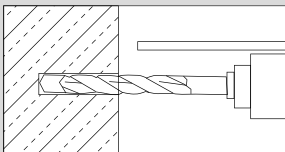


SCA impact anchor (retrofittable „dowel“ with DW 15 internal thread, galvanized)

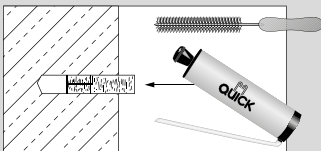
Item no.	Type	Item	Weight
		PU	kg/item
36045	Impact anchor with DW 15 internal thread	50	0.16
36046	Chuck for impact anchor DW 15	1	0.45



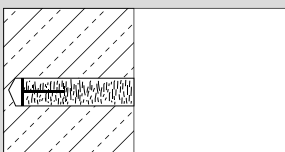
Assembly of the SCA impact anchor



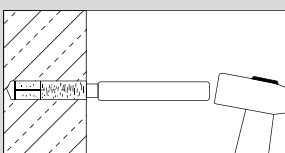
Pre-drill a Ø 22 mm hole



Clean the drill hole with a brush or compressed air pump



Push in the impact anchor to the required depth

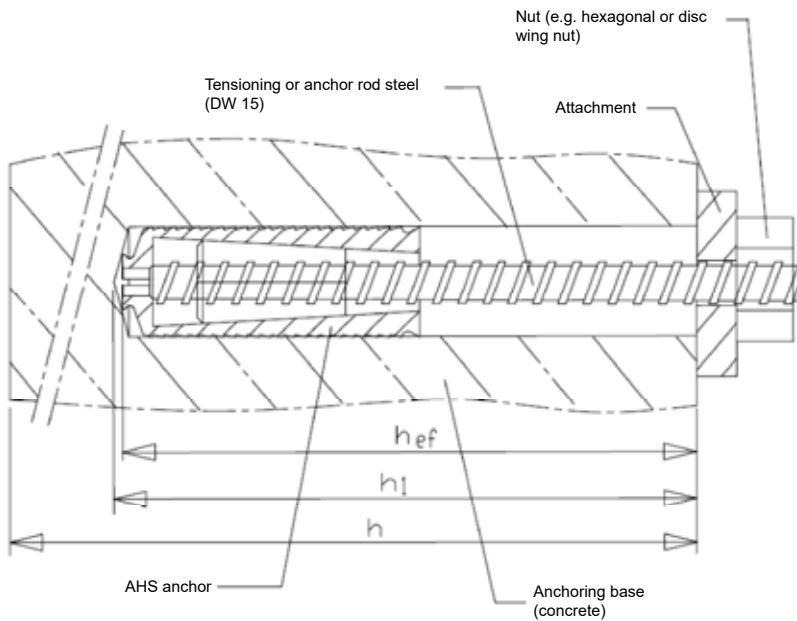


and advance by means of a chuck by strong blows

Screw in the threaded part firmly up to the stop.

Anchors for dowelling/drilling

Technical data: BFA 15.0 S concrete and rock anchor



Legend:

h_{ef} = effective anchoring depth
 h_1 = drill hole depth
 h = component thickness

Table 2: Assembly parameters

AHS anchor		
Drill core diameter	$d =$ [mm]	37
Drill cutting diameter	$d_{cut} \leq$ [mm]	37,70
Drill hole depth	$h_1 =$ [mm]	205 305
Diameter of the through hole in the attachment	$d_f =$ [mm]	17
Effective anchoring depth	$h_{ef} =$ [mm]	200 300
Prestressing force	$N_{inst} =$ [kN]	80

Table 3: Characteristic parameters for the carrying capacity under tensile stress (concrete failure) for concrete $\geq$ C20/25 and C50/60

AHS anchor		non-cracked concrete anchor	cracked concrete anchor	
effective anchoring depth	$h_{ef}^{(1)}$ [mm]	200	200	300
• for edge distance	$c \geq^{(2)}$ [mm]	300	300	450
characteristic tensile capacity for concrete $\geq$ C20/25:	$N_{Rk,c}$ [kN]	143	102	187
- C50/60:		221	158	290
• for minimum edge distance	$c_{min} =^{(2)}$ [mm]	200	200	300
Characteristic tensile capacity for concrete $\geq$ C20/25:	$N_{Rk,c}$ [kN]	107	77	140
- C50/60:		166	118	217
associated partial safety factor	γ_{Mc} [-]	1,5		

(1) For the definition of h_{ef} see Annex 1.

(2) The edge distance c may only be reduced to c_{min} in one direction. For edge distances $c_{min} \leq c_{vorh} < c$, $N_{Rk,c}$ may be interpolated in a straight line.

Table 4: Minimum values for component thickness, axial and edge distances

AHS anchor			
effective anchoring depth	$h_{ef} =$ [mm]	200	300
Minimum component thickness	$h_{min} =$ [mm]	300	450
Minimum axial distance	$s_{min} =$ [mm]	600	900
Edge distances	$c \geq$ [mm]	300	450
	$c_{min}^{(1)} =$ [mm]	200	300

(1) The edge distance c may only be reduced to c_{min} in one direction.

Arrangement

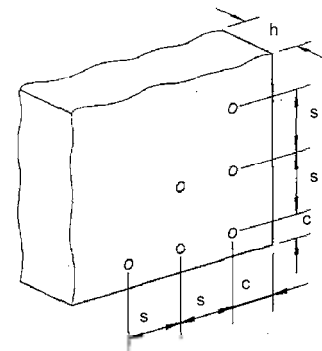


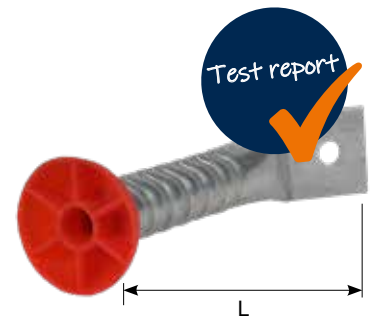
Table 5: Displacements

AHS anchor		for $N = 57$ kN
Displacement under short-term load	δ_{N0} [mm]	2,5
Displacement under permanent load	$\delta_{N\infty}$ [mm]	4,5

Anchoring for dowelling/drilling

AA Aluminium anchor sleeve

Item no.	Type	length	Item	Weight
		mm	/ PU	kg/item
36015	Aluminium anchor sleeve DW 15 including nail cone	130	100	0.01
36017	Concrete cone for PVC nail cone		100	0.10
36018	Adhesive for concrete cone in the connection area		1	100.0



AHD stop end sleeve D

Item no.	Type	Item	Weight
		/ PU	kg/PU
15630	Stop end sleeve DW 15, made of plastic, including nail plug	50	4.0



AHR stop end sleeve R

Item no.	Type	Item	Weight
		/ PU	kg/PU
15630	Stop end sleeve DW 15, made of plastic, including locking pin and pre-assembled nail cone	100	6.0

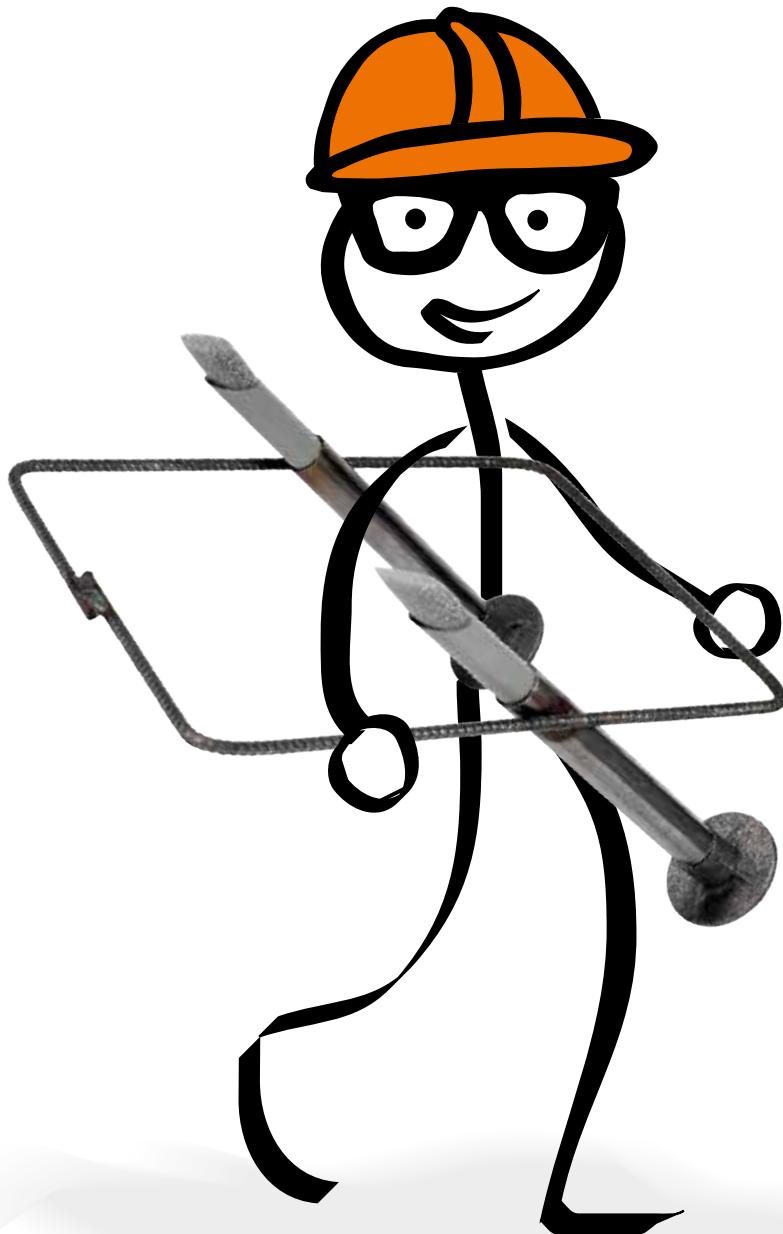


MAE mounting anchor

Item no.	Type	Item	Weight
		/ PU	kg/item
146751	MA 15.0 E only square cast part, 55x80x58mm	50	0.45
146752	MA 15.0 E only square cast part, 70x100x58mm	50	0.60
146753	Plastic foot for MAE small and large	50	0.04
146754	Plastic plug for MAE small and large	1.000	



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