

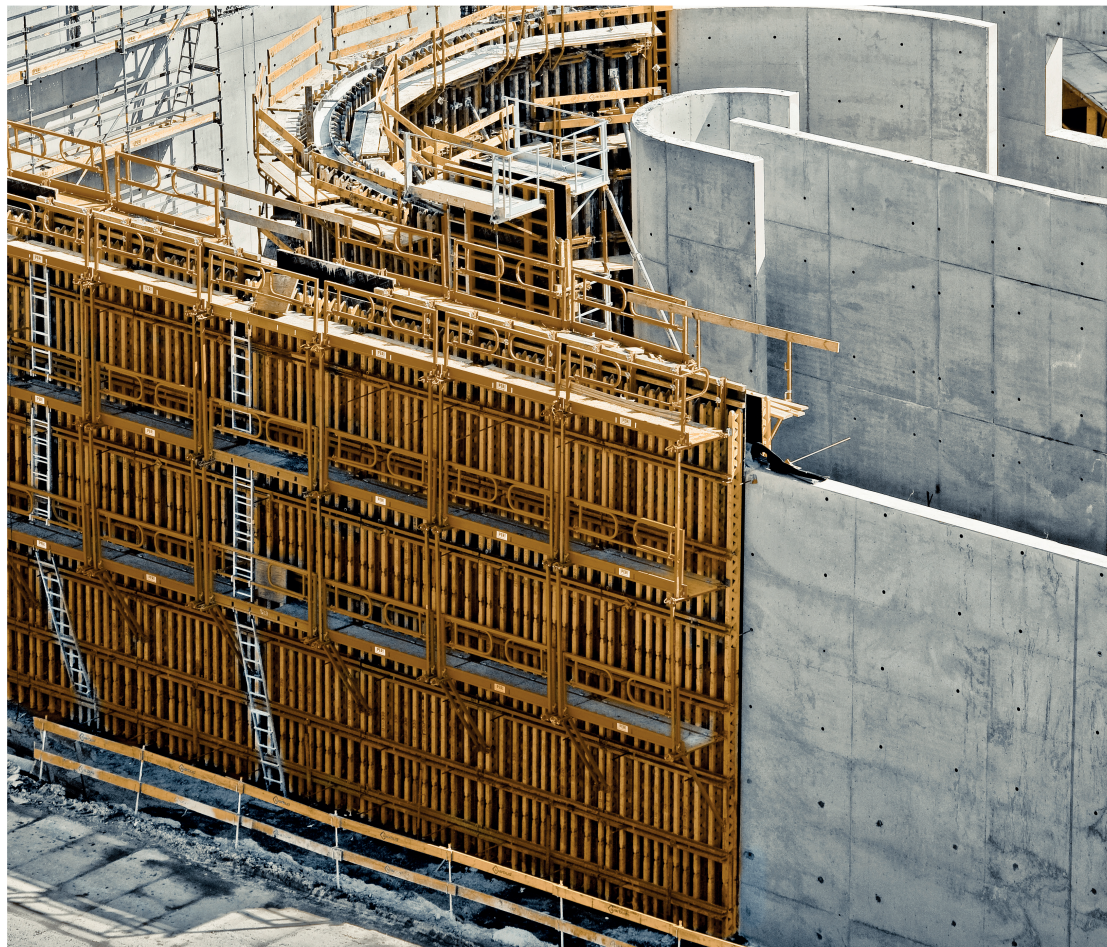
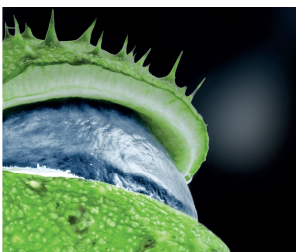


SAH
Stahlwerk Annahütte

SAS Schalungstechnik - Katalog

SAS Formwork ties - catalogue

SAS SYSTEMS



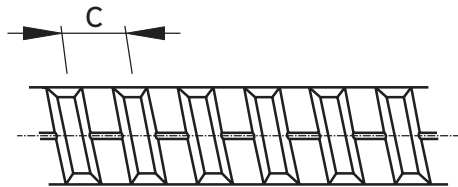
MAX AICHER

Bezeichnung <i>specification</i>	Seite <i>page</i>			
	Ø12,5	Ø15	Ø20	Ø26,5
Anschweißflansch <i>welding flange</i>	—	9	—	—
Anschweißstück <i>welding bolt</i>	—	8	22	—
Beton-/Felsanker 2-schalig <i>expansion shell 2-leaf</i>	—	14	—	32
Beton-/Felsanker 3-schalig <i>expansion shell 3-leaf</i>	—	15	25	—
Bundmutter <i>hexagonal nut with extension</i>	—	9	—	—
Flanschmutter <i>flange nut</i>	4	10 +11	23	—
Flügelmutter <i>wing nut</i>	—	11	23	31
Hakenanker <i>hook anchor</i>	—	6	21	28
Kalottenplatte <i>dome plate</i>	—	16	25	—
Kombiplatte <i>combi plate</i>	—	15 -17	—	—
Kunststofffuß für Montageanker <i>plastic coupler for fix anchor</i>	—	14	—	—
Montageanker, groß <i>fix anchor, large</i>	—	14	24	32
Montageanker, klein <i>fix anchor, small</i>	—	13	—	—
Plattenanker <i>plate anchor</i>	—	15	25	—
Rundmutter <i>round nut</i>	—	9	—	—
Schalungsanker Typ FA <i>Tie Rod Type FA</i>	—	5	20	28
Schalungsanker Typ FC <i>Tie Rod Type FC</i>	—	5	20	—
Schalungsanker Typ FS <i>Tie Rod Type FS</i>	4	5	20	—
Schlaufenanker <i>loop anchor</i>	—	6	21	28
Sechskantmutter <i>hexagonal nut</i>	—	9	22	30
Sechskantmutter, Volllast <i>hexagonal nut</i>	4	9	22	30
Stahlkonus <i>steel cone</i>	—	6	21	29
Stahl-Kunststoffkonus Typ MKK <i>steel-plastic cone type MKK</i>	—	7	22	29
Unterlagsplatte, geprägt <i>washer stamped</i>	—	13	—	—
Verbindungs- <i>muffe</i> , kurz, Sechskant <i>coupler short, hexagonal</i>	—	—	—	31
Verbindungs- <i>muffe</i> , sechskant <i>coupler, hexagonal</i>	4	10	23	31
Vollplatte, rechteckig <i>plate rectangular</i>	—	—	—	32
Vollplatte, quadratisch <i>plate square</i>	—	—	24	31+32
Vorlaufkonus Typ 30 <i>cone type 30</i>	—	8	—	—
Vorlaufkonus Typ 30/M24 / Typ 40/M36 <i>cone type 30/M24 / type 40/M36</i>	—	7	—	29
Wassersperre mit Absatz <i>waterstop with landing</i>	—	12	23	—
Wassersperre mit Innenaufnahme <i>waterstop</i>	—	11	—	—
Wassersperre / Stab <i>waterstop / tie rod</i>	—	12	24	31
Wellenanker <i>wave anchor</i>	—	5	21	28

Die Gewichtsangaben sind Mittelwerte. Die tatsächlichen Gewichte können aufgrund von Fertigungstoleranzen abweichen.
Weight specifications are average values. The actual values may deviate due to fabrication tolerances.

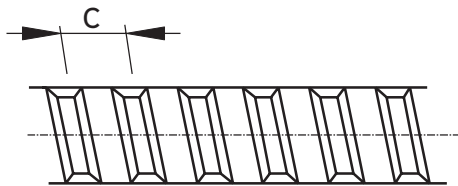
Streckgrenze/Zugfestigkeit <i>yield stress/ ultimate stress</i>	Nenn- $\varnothing$ <i>nom.-$\varnothing$</i>	Tragkraft ¹ <i>working load</i>	Strecklast <i>yield load</i>	Bruchlast <i>ultimate load</i>	Fläche <i>cross section area</i>		Gewicht <i>weight</i>	Dehnung <i>elongation</i>	
	[mm]	[kN]	[kN]	[kN]	[mm²]	[m/to]	[kg/m]	A _{gt} [%]	A _{11,3} [%]

SAS 900 / 1100 FA <i>grade 160 FA</i>					warmgewalzt, schweißbar <i>hot rolled, weldable</i>				
SAS 900 / 1100 Typ FA	15	90	156	190	173	694,4	1,44	3	7
	20	160	278	340	309	390,6	2,56		
	26,5	280	497	607	552	223,2	4,48	3	7

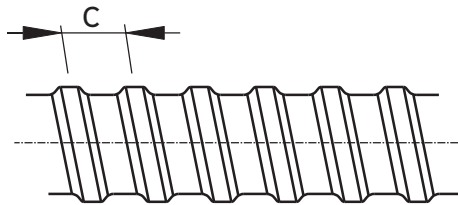


Längsnuten zwischen den Rippen | *longitudinal slots between ribs*

SAS 900 / 1050 FC <i>grade 150 FC</i>					warmgewalzt <i>hot rolled</i>				
SAS 900 / 1050 Typ FC	15	90	158	184	175	694,4	1,44	3	7
	20	160	280	327	311	390,6	2,56		



SAS 750 / 875 FS <i>grade 120 FS</i>					kaltgerollt, schweißbar <i>cold rolled, weldable</i>				
SAS 750 / 875 FS	12,5	50	99	116	132,5	961,5	1,04	2	5,5
	15	80	142	165	189	675,7	1,48		
	20	140	245	285	326	390,6	2,56		



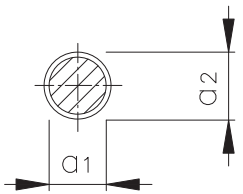
¹Geprüft nach DIN 18216
Proof acc. DIN 18216

Ø12.5

SAS Schalungsanker Typ FS gerollt, schweißbar
SAS Tie Rod Type FS cold rolled, weldable

schwarz | black
verzinkt | galvanized

12FS...
12FS...G



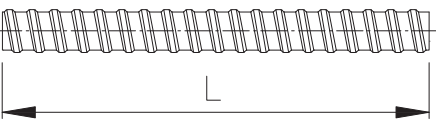
a₁ = 12,5mm
a₂ = 14mm
L = variabel bis max. 6m | variable up to max. 6m

Gewicht | weight 1,04kg/m

Tragkraft | working load 50kN

Werkstoff | material SAS 750/875

verzinkt | galvanized Galvanischer Überzug ISO°2081 – Fe/Zn8/C
Galvanic coating ISO°2081 – Fe/Zn8/C

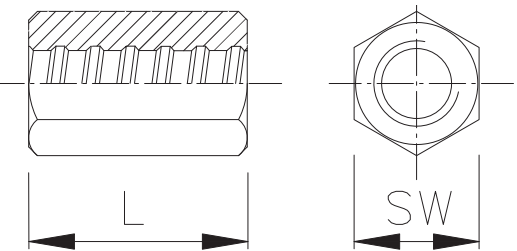


Sechskantmutter Vollast | hexagonal nut

DIN 18216

schwarz | black
verzinkt | galvanized

12F22050
12F22050G



L = 50mm

SW = 24mm

Gewicht | weight 0,13kg

Tragkraft | working load 50kN

Werkstoff | material S355J2

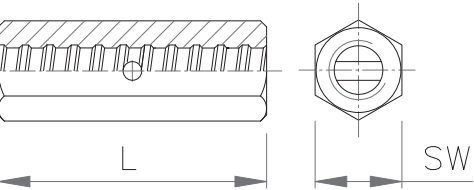


Verbindungsuffe Sechskant | coupler hexagonal

DIN 18216

schwarz | black
verzinkt | galvanized

12F28090
12F28090G



L = 90mm

SW = 24mm

Gewicht | weight 0,24kg

Tragkraft | working load 50kN

Werkstoff | material S355J2

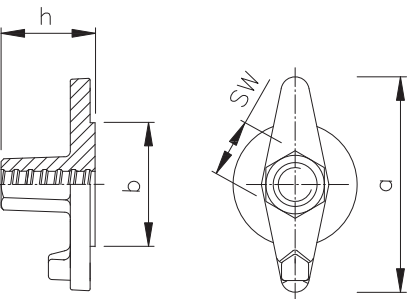


Flanschmutter | flange nut

DIN 18216

verzinkt | galvanized

12F31070G



a = 110mm

b = Ø70mm

h = 50mm

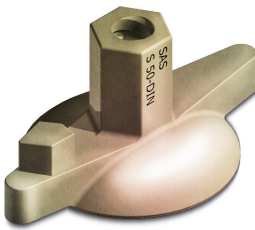
SW = 24mm

Gurtungsabstand | girder spacing 35mm

Gewicht | weight 0,43kg

Tragkraft | working load 50kN

Werkstoff | material EN-GJMW-400-5 / EN-GJS-500-7

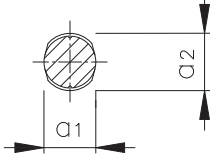


Ø15.0

SAS Schalungsanker Typ FA¹ gewalzt, schweißbar
SAS Tie Rod Type FA hot rolled, weldable

schwarz | black
verzinkt | galvanized

15FA...
15FA...G



a₁ = 15mm
a₂ = 17mm
L = variabel bis max. 15m | variable up to max. 15m
L = verzinkt max. 6m | galvanized max. 6m

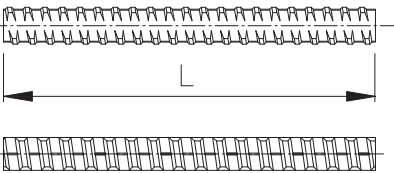
Gewicht | weight 1,44kg/m

Tragkraft | working load 90kN

Werkstoff | material SAS 900 / 1100

verzinkt | galvanized Galvanischer Überzug ISO°2081 – Fe/Zn8/C
Galvanic coating ISO°2081 – Fe/Zn8/C

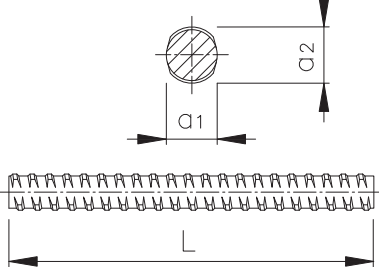
Zulassung | approval DIBt Z-12.5-96



SAS Schalungsanker Typ FC gewalzt
SAS Tie Rod Type FC hot rolled

schwarz | black
verzinkt | galvanized

15FC
15FC...G



a₁ = 15mm
a₂ = 17mm
L = variabel bis max. 15m | variable up to max. 15m
L = verzinkt max. 6m | galvanized max. 6m

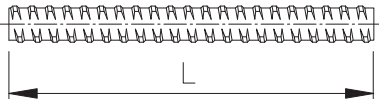
Gewicht | weight 1,44kg/m

Tragkraft | working load 90kN

Werkstoff | material SAS 900/1050

verzinkt | galvanized Galvanischer Überzug ISO°2081 – Fe/Zn8/C
Galvanic coating ISO°2081 – Fe/Zn8/C

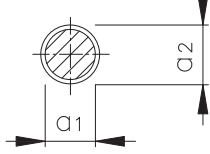
Zulassung | approval DIBt Z-12.5-118



SAS Schalungsanker Typ FS gerollt, schweißbar
SAS Tie Rod Type FS cold rolled, weldable

schwarz | black
verzinkt | galvanized

15FS...
15FS...G



a₁ = 15mm
a₂ = 17mm
L = variabel bis max. 6m | variable up to max. 6m

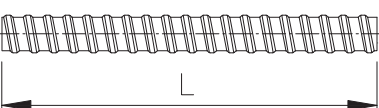
Gewicht | weight 1,48kg/m

Tragkraft | working load 80kN

Werkstoff | material SAS 750 / 875

verzinkt | galvanized Galvanischer Überzug ISO°2081 – Fe/Zn8/C
Galvanic coating ISO°2081 – Fe/Zn8/C

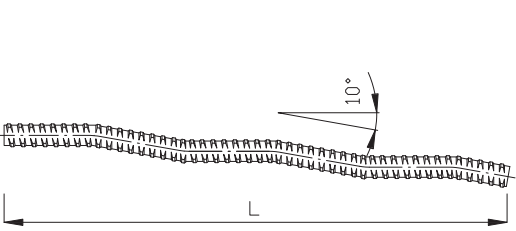
Zulassung | approval DIBt Z-12.5-104



Wellenanker | wave anchor

Typ FA | type FA
Typ FA | type FA

15FA66550W
15FA66670W



L = 550mm

Gewicht | weight 0,79kg

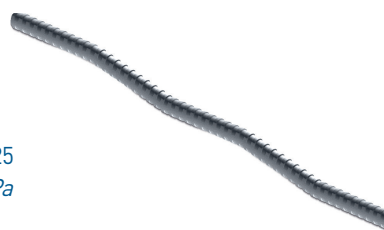
L = 670mm

Gewicht | weight 0,96kg

Betongüte | concrete strength ≥ C 20/25
≥ 25 MPa

Tragkraft | working load 90kN

Werkstoff | material SAS 900/1100

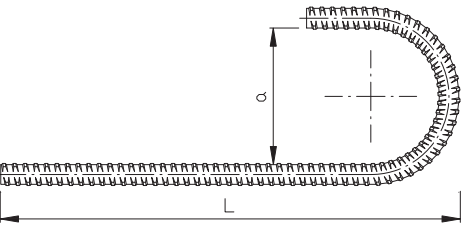


¹Kennzeichnung: Längsnuten zwischen Rippen
Marking: Longitudinal slots between ribs

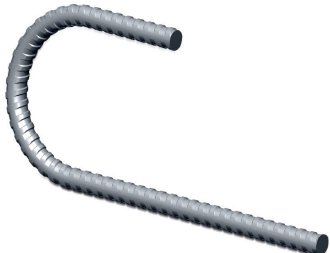
Ø15.0

Hakenanker | hook anchor

Typ FA | type FA 15FA64250H
Typ FA | type FA 15FA64450H



a = 120mm
L = 250mm
Gewicht | weight 0,72kg
a = 120mm
L = 450mm
Gewicht | weight 1,00kg



Betongüte | concrete strength $\geq C 20/25$
 $\geq 25 MPa$

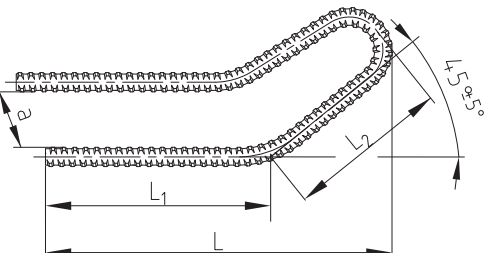
Tragkraft | working load 90kN

Werkstoff | material SAS 900/1100

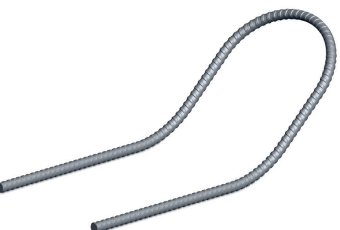
Biegung außerhalb der DIBt Zulassung |
bending outside of the DIBt approval Z-12.5-96

Schlaufenanker | loop anchor

Typ FA | type FA 15FA65550S



a = 230mm
L = 550mm
L1 = 360mm
L2 = 240mm



Gewicht | weight 1,87kg

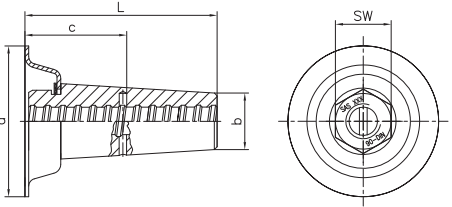
Betongüte | concrete strength $\geq C 20/25$
 $\geq 25 MPa$

Tragkraft | working load 90kN je Stabende | on each bar end

Werkstoff | material SAS 900/1100

Stahlkonus Typ 30 | steel cone type 30

verzinkt | galvanized 15F12030



a = Ø80mm
b = Ø30mm
c = 55mm
L = 102mm
SW = 30mm



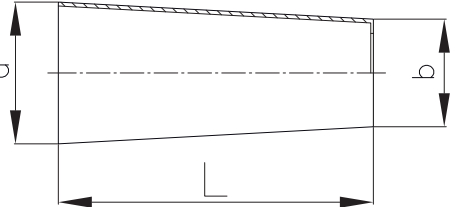
Gewicht | weight 0,65kg

Tragkraft | working load 90kN

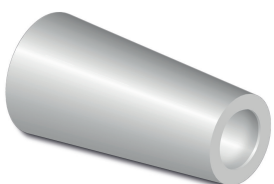
Werkstoff | material S355J2, C45+N

PE-Hülse für Stahlkonus Typ 30 | PE-sleeve for steel cone type 30

15F12030K



a = Ø40mm
b = Ø30mm
L = 81mm



Gewicht | weight 0,01kg

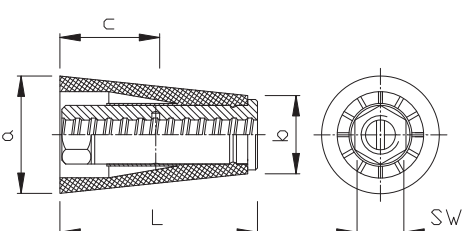
Werkstoff | material PE

Zum einfachen Ausschrauben des Stahlkonus Typ 30. PE-Hülse wird vor der Montage auf den Konus gesteckt und verbleibt im Beton.
To ensure easy unscrewing of steel cone type 30. The PE-sleeve is put on the cone before installation and remains in the concrete.

Ø15.0

Stahl-Kunststoffkonus Typ MKK
steel-plastic cone type MKK

DIN 18216 verzinkt | galvanized 15F14100



a = Ø60mm
b = Ø40mm
c = 53mm
L = 101mm
SW = 27mm



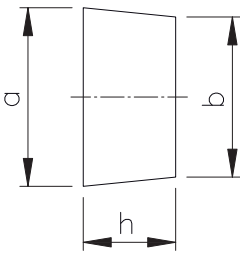
Gewicht | weight 0,39kg

Tragkraft | working load 90kN

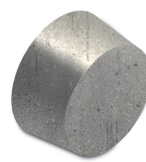
Werkstoff | material C45 + PP

Betonstopfen für Stahl-Kunststoffkonus Typ MKK
concrete plug for steel-plastic cone type MKK

15F14100S



a = Ø59mm
b = Ø53mm
h = 30mm



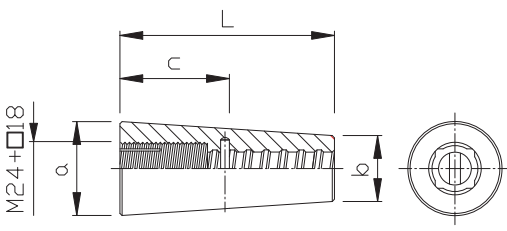
Gewicht | weight 0,15kg

Werkstoff | material Beton | concrete

Zum Verschließen der Konuslöcher des Stahl-Kunststoffkonus.
For sealing of cone holes of the steel-plastic cone.

Vorlaufkonus Typ 30 / M24 | cone type 30 / M24

verzinkt | galvanized 15F15030



a = Ø43mm
b = Ø30mm
c = 50mm
L = 98mm



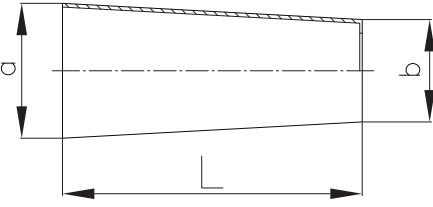
Gewicht | weight 0,57kg

Tragkraft | working load 90kN

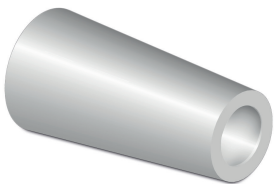
Werkstoff | material S355J2

PE-Hülse für Vorlaufkonus Typ 30 + 30 / M 24
PE-sleeve for steel cone type 30 + 30 / M24

15F15030K



a = Ø43mm
b = Ø30mm
L = 95mm



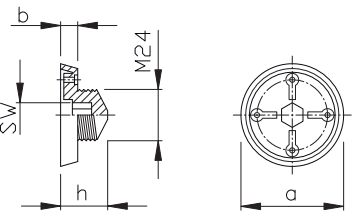
Gewicht | weight 0,02kg

Werkstoff | material PE

Zum einfachen Ausschrauben des Stahlkonus Typ 30 + 30 / M24. PE-Hülse wird vor der Montage auf den Konus gesteckt und verbleibt im Beton.
To ensure easy unscrewing of steel cone type 30 + 30 / M24. The PE-sleeve is put on the cone before installation and remains in the concrete.

Nagelplatte für Vorlaufkonus Typ 30/M24 | *nail plate for cone type 30/M24*

15F15030N

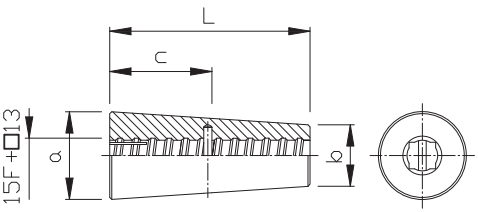


a = Ø48mm
b = 8mm
h = 22mm
SW = 10mm
Gewicht | *weight* 0,01kg
Werkstoff | *material* PE



Vorlaufkonus Typ 30 | *cone type 30*

15F17030

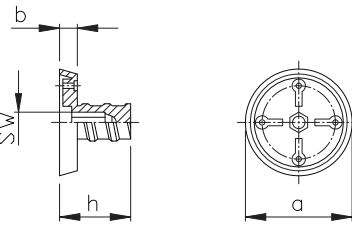


a = Ø43mm
b = Ø30mm
c = 50mm
L = 98mm
Gewicht | *weight* 0,57kg
Tragkraft | *working load* 90kN
Werkstoff | *material* S355J2



Nagelplatte für Vorlaufkonus Typ 30 | *nail plate for cone type 30*

15F17030N

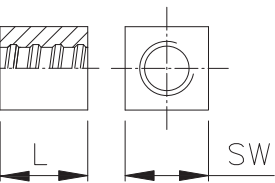


a = Ø48mm
b = 8mm
h = 32mm
SW = 8mm
Gewicht | *weight* 0,01kg
Werkstoff | *material* PE



Anschweißstück¹ | *welding bolt*

15F20030



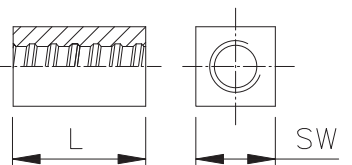
L = 30mm
SW = □30mm
Gewicht | *weight* 0,16kg
Tragkraft | *working load* 60kN
Werkstoff | *material* S355J2



Anschweißstück¹ | *welding bolt*

DIN 18216

15F20050



L = 50mm
SW = □30mm
Gewicht | *weight* 0,26kg
Tragkraft | *working load* 90kN
Werkstoff | *material* S355J2

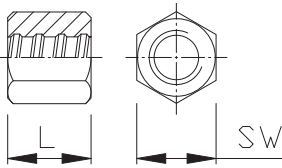


¹Nachweis der Schweißnaht nach DIN EN 1090
Proof of welding acc. DIN EN 1090

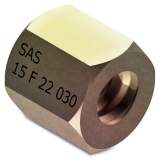
Sechskantmutter | *hexagonal nut*

schwarz | *black*
verzinkt | *galvanized*

15F22030
15F22030G



L = 30mm
SW = 30mm
Gewicht | *weight* 0,13kg
Tragkraft | *working load* 60kN
Werkstoff | *material* S355J2C+C

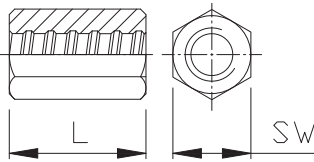


Sechskantmutter Volllast | *hexagonal nut*

DIN 18216

schwarz | *black*
verzinkt | *galvanized*

15F22050
15F22050G



L = 50mm
SW = 30mm
Gewicht | *weight* 0,22kg
Tragkraft | *working load* 90kN
Werkstoff | *material* S355J2C+C

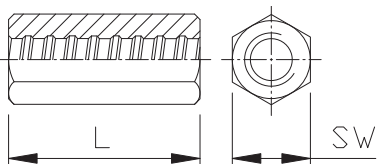


Sechskantmutter | *hexagonal nut*

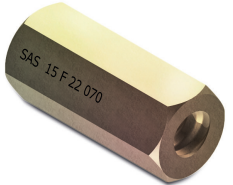
DIN 18216

schwarz | *black*
verzinkt | *galvanized*

15F22070
15F22070G



L = 70mm
SW = 30mm
Gewicht | *weight* 0,30kg
Tragkraft | *working load* 90kN
Werkstoff | *material* S355J2C+C

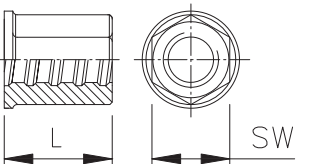


Bundmutter | *hexagonal nut with extension*

DIN 18216

verzinkt | *galvanized*

15F24035G



L = 35mm
SW = 30mm
Gewicht | *weight* 0,14kg
Tragkraft | *working load* 60kN
Werkstoff | *material* EN-GJMW-400-5 / EN-GJS-500-7

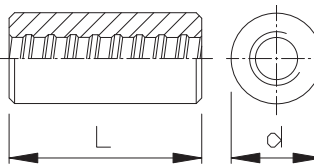


Rundmutter | *round nut*

DIN 18216

schwarz | *black*

15F25070



L = 70mm
SW = Ø30mm
Gewicht | *weight* 0,27kg
Tragkraft | *working load* 90kN
Werkstoff | *material* S355J2

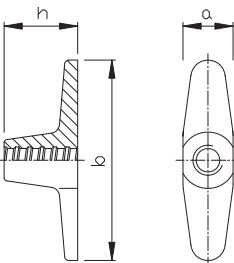


Anschweißflansch¹ | *welding flange*

DIN 18216

geschmiedet | *forged*

15F27130



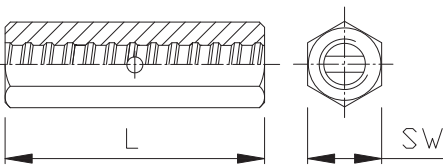
a = 32mm
b = 128mm
h = 47mm
Gewicht | *weight* 0,39kg
Tragkraft | *working load* 90kN
Werkstoff | *material* S355J2



¹Nachweis der Schweißnaht nach DIN EN 1090
Proof of welding acc. DIN EN 1090

Ø15.0

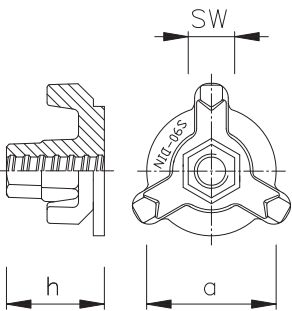
Verbindungs-*muffe* Sechskant | *coupler hexagonal*



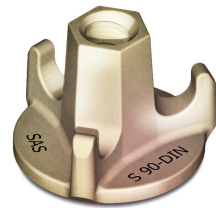
schwarz | *black*
verzinkt | *galvanized*
15F28100
15F28100G
L = 100 mm
SW = 30 mm
Gewicht | *weight* 0,42 kg
Tragkraft | *working load* 90 kN
Werkstoff | *material* S355J2



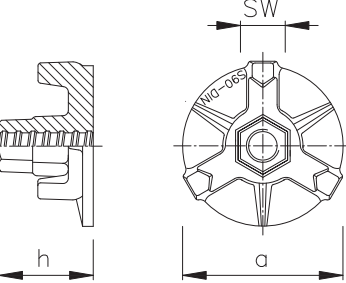
Flanschmutter 3-flügelig | *flange nut 3-wings*



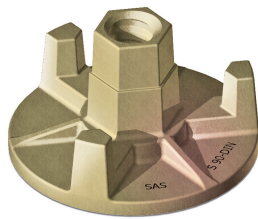
DIN 18216
verzinkt | *galvanized*
15F31070G
a = Ø70 mm
h = 54 mm
SW = 27 mm
Gewicht | *weight* 0,43 kg
Gurtungsabstand | *girder spacing* 35 mm
Tragkraft | *working load* 90 kN
GE 300
Werkstoff | *material* EN-GJMW-400-5 / EN-GJS-500-7
EN-GJMW-550-4



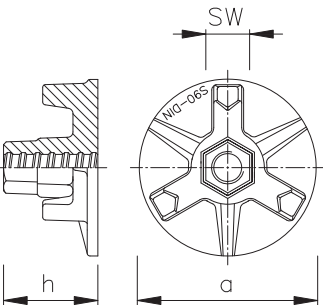
Flanschmutter 3-flügelig | *flange nut 3-wings*



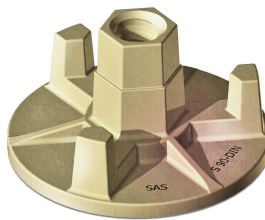
DIN 18216
verzinkt | *galvanized*
15F31090G
a = Ø95 mm
h = 54 mm
SW = 27 mm
Gewicht | *weight* 0,66 kg
Gurtungsabstand | *girder spacing* 35 mm
Tragkraft | *working load* 90 kN
GE 300
Werkstoff | *material* EN-GJMW-400-5 / EN-GJS-500-7
EN-GJMW-550-4



Flanschmutter 3-flügelig | *flange nut 3-wings*

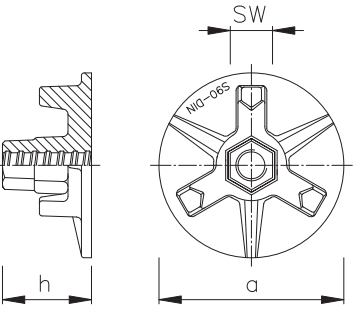


DIN 18216
verzinkt | *galvanized*
15F31100G
a = Ø100 mm
h = 54 mm
SW = 27 mm
Gewicht | *weight* 0,73 kg
Gurtungsabstand | *girder spacing* 50 mm
Tragkraft | *working load* 90 kN
GE 300
Werkstoff | *material* EN-GJMW-400-5 / EN-GJS-500-7
EN-GJMW-550-4

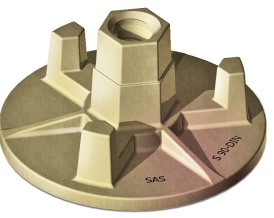


Ø15.0

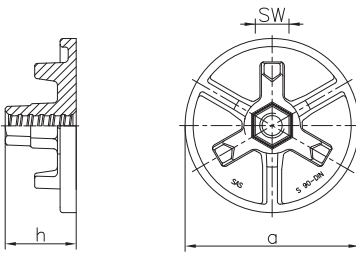
Flanschmutter 3-flügelig | *flange nut 3-wings*



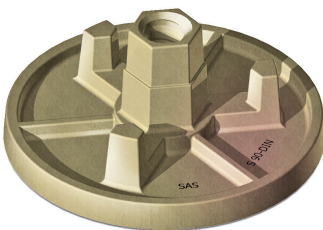
DIN 18216
verzinkt | *galvanized*
15F31110G
a = Ø110 mm
h = 54 mm
SW = 27 mm
Gewicht | *weight* 0,85 kg
Gurtungsabstand | *girder spacing* 50 mm
Tragkraft | *working load* 90 kN
GE 300
Werkstoff | *material* EN-GJMW-400-5 / EN-GJS-500-7
EN-GJMW-550-4



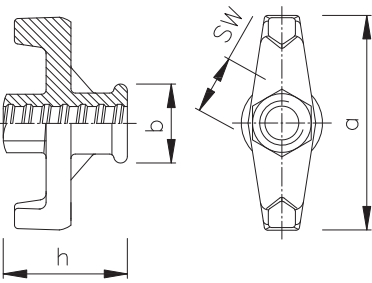
Flanschmutter 3-flügelig | *flange nut 3-wings*



DIN 18216
verzinkt | *galvanized*
15F31130G
a = Ø130 mm
h = 54 mm
SW = 27 mm
Gewicht | *weight* 1,16 kg
Gurtungsabstand | *girder spacing* 50 mm
Tragkraft | *working load* 90 kN
GE 300
Werkstoff | *material* EN-GJMW-400-5 / EN-GJS-500-7
EN-GJMW-550-4



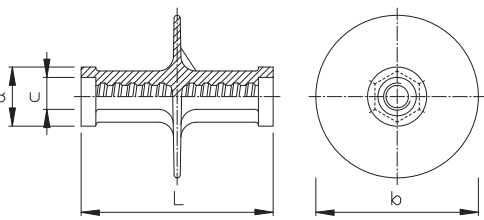
Flügelmutter | *wing nut*



DIN 18216
verzinkt | *galvanized*
15F32026G
a = 95 mm
b = Ø36 mm
h = 54 mm
SW = 27 mm
Gewicht | *weight* 0,32 kg
Tragkraft | *working load* 90 kN
GE 300
Werkstoff | *material* EN-GJMW-400-5 / EN-GJS-500-7
EN-GJMW-550-4



Wassersperre mit Innenaufnahme für PVC-Rohre Ø26
waterstop for Ø26 plastic spacer tubes



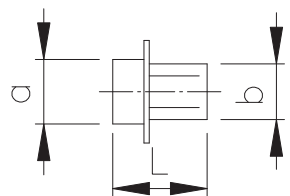
DIN 18216
15F41130
a = Ø40 mm
b = Ø110 mm
c = Ø26 mm
L = 130 mm
Gewicht | *weight* 0,95 kg
Tragkraft | *working load* 90 kN
Werkstoff | *material* EN-GJMW-400-5 / EN-GJS-500-7
EN-GJMW-550-4



Ø15.0

Anschlusskupplung für PVC / Faserbetonrohre | adaptor for spacer tubes

15F41130A

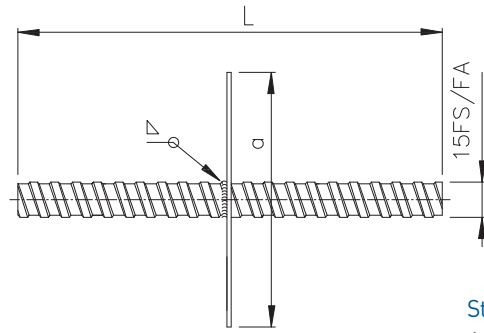


a = Ø26 mm
b = Ø22 mm
L = 33 mm
Gewicht | weight 1,09 kg / Verpackungseinheit (250 Stück)
1,09 kg / packing unit (250 pieces)
Werkstoff | material PE

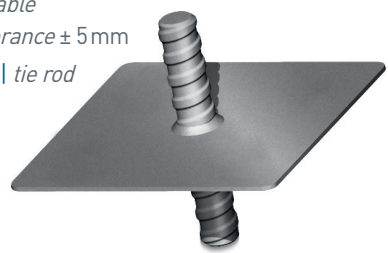


Wassersperre / Stab mit aufgeschweißter Scheibe
waterstop / tie rod with welded plate

Typ FA | type FA 15FA43000
Typ FS | type FS 15FS43000



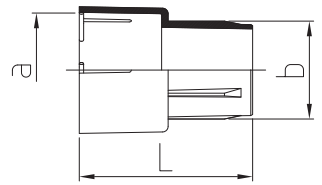
a = 120 mm
L = variabel | variable
Toleranz | tolerance ± 5 mm
Gewicht | weight 0,22 kg + Stab | tie rod
Tragkraft | working load 80 / 90 kN
Werkstoff | material:
Platte | plate S235JR
Stab | tie rod 15 FS/FA



Stablänge bei Verwendung mit Stahl-Kunststoffkonus: Wandstärke minus 11 cm.
Length in combination with steel-plastic cone: thickness of wall minus 11 cm.

Anschlusskupplung für PVC / Faserbetonrohre
adaptor for plastic spacer tubes

15F44110A

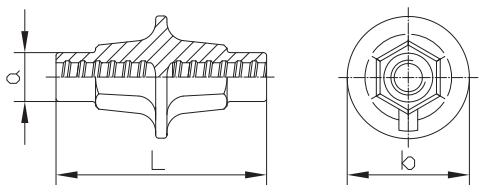


a = Ø26 mm
b = Ø22 mm
L = 40 mm
Gewicht | weight 0,90 kg / Verpackungseinheit (250 Stück)
0,90 kg / packing unit (250 pieces)
Werkstoff | material HDPE / PP



Wassersperre mit Absatz Ø26 | waterstop with landing Ø26

15F44110S



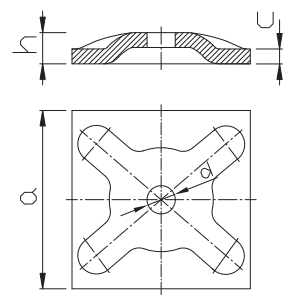
a = Ø26 mm
b = Ø65 mm
L = 112 mm
Gewicht | weight 0,56 kg
Tragkraft | working load 90 kN
Werkstoff | material EN-GJMW-400-5 / EN-GJS-500-7
EN-GJMW-550-4



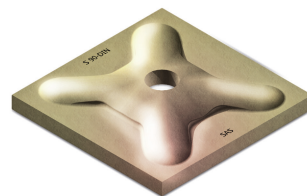
Ø15.0

Unterlagsplatte geprägt | washer stamped

verzinkt | galvanized 15F52010G

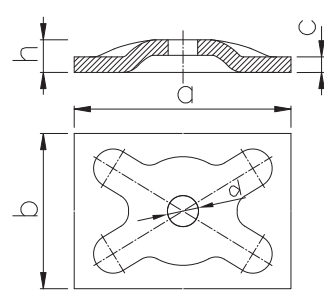


a = 120 mm
c = 10 mm
h = 21 mm
d = 20 mm
Gewicht | weight 1,10 kg
Tragkraft | working load 90 kN
Werkstoff | material S235JR

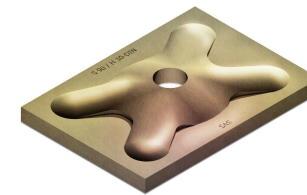


Unterlagsplatte geprägt | washer stamped

verzinkt | galvanized 15F54010G

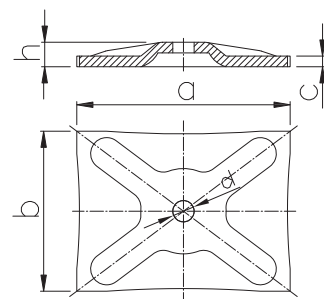


a = 140 mm
b = 100 mm
c = 10 mm
h = 21 mm
d = 20 mm
Gewicht | weight 1,15 kg
Tragkraft | working load 90 kN
Werkstoff | material S235JR

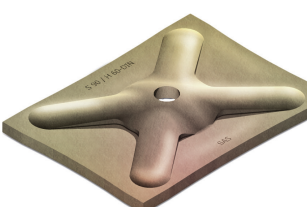


Unterlagsplatte geprägt | washer stamped

verzinkt | galvanized 15F55010G



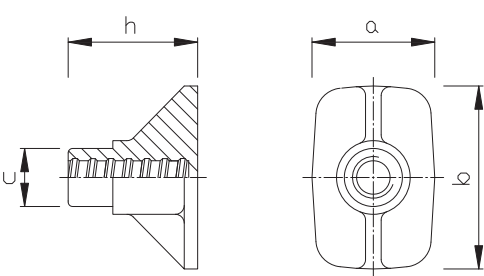
a = 200 mm
b = 150 mm
c = 10 mm
h = 23 mm
d = 20 mm
Gewicht | weight 2,26 kg
Tragkraft | working load 90 kN
Werkstoff | material S235JR



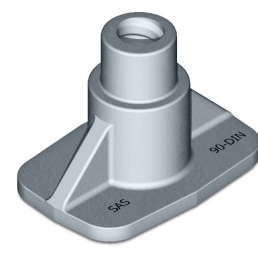
Montageanker klein | fix anchor small

DIN 18216

15F61055



a = 56 mm
b = 82 mm
c = Ø26 mm
h = 58 mm
Gewicht | weight 0,45 kg
Einbindetiefe | embedding depth 108 mm
Betongüte | concrete strength ≥ C 20/25
≥ 25 MPa
Werkstoff | material EN-GJMW-400-5 / EN-GJS-500-7
EN-GJMW-550-4



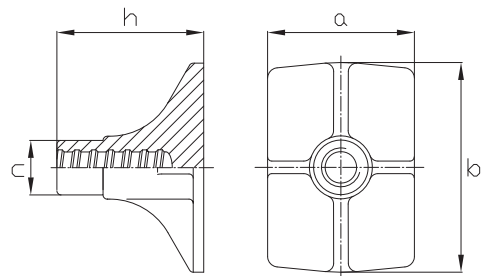
Zusatzbewehrung nach statischem Nachweis erforderlich.
Additional reinforcement acc. to analysis.

Ø15.0

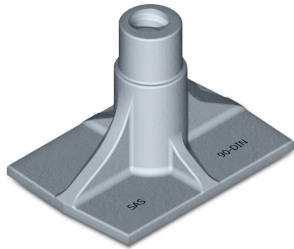
Montageanker groß | fix anchor large

DIN 18216

15F61070

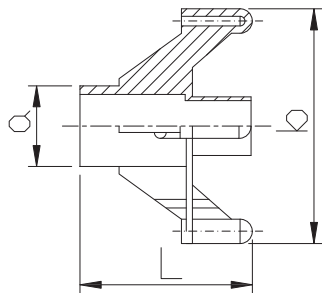


a = 70 mm
b = 100 mm
c = Ø 26 mm
h = 70 mm
Gewicht | weight 0,60 kg
Einbindetiefe | embedding depth 118 mm
Betongüte | concrete strength $\geq C 20/25$
 $\geq 25 \text{ MPa}$
Werkstoff | material EN-GJMW-400-5 / EN-GJS-500-7
EN-GJMW-550-4
Zusatzbewehrung nach statischem Nachweis erforderlich.
Additional reinforcement acc. to analysis.

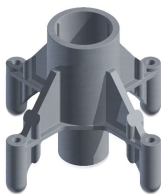


Kunststofffuß für Montageanker groß + klein
plastic coupler for fix anchor large + small

15F62055

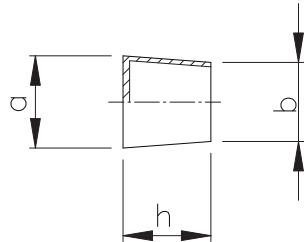


a = Ø 33 mm
b = Ø 98 mm
L = 70 mm
Gewicht | weight 0,04 kg
Für Montageanker | for fix anchor 15F 61 070 + 15F 61 055
Werkstoff | material PE

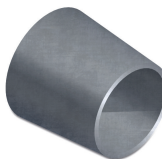


Stopfen für Kunststofffuß für Montageanker groß + klein
PE-plug for plastic coupler for fix anchor large + small

15F62055A

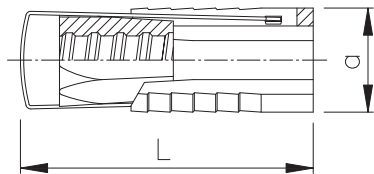


a = 21 mm
b = 18 mm
h = 20 mm
Gewicht | weight 0,002 kg
Werkstoff | material PE
für Kunststofffuß | for plastic coupler 15F 62 055



Beton-/ Felsanker 2-schalig | expansion shell 2-leaf

15F63034



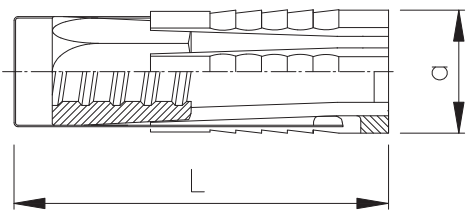
a = Ø 32 mm
L = 90 mm
Gewicht | weight 0,22 kg
Tragkraft | working load 60 kN
Werkstoff | material EN-GJMW-400-5 / EN-GJS-500-7
Bohrloch | bore hole Ø 33 - 35 mm
Montage nach Einbauanweisung (siehe Seite 47-48)
Assembling acc. to installation manual (page 47-48)



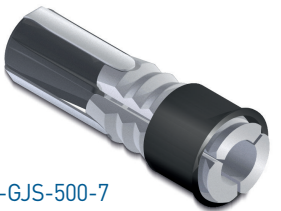
Ø15.0

Beton-/ Felsanker 3-schalig | expansion shell 3-leaf

15F63037



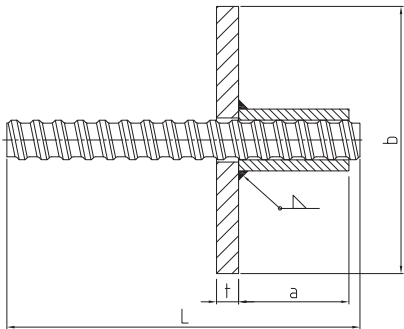
a = Ø 33 mm
L = 120 mm
Gewicht | weight 0,37 kg
Tragkraft | working load 90 kN
Werkstoff | material EN-GJMW-400-5 / EN-GJS-500-7
Bohrloch | bore hole Ø 35 - 37 mm
Montage nach Einbauanweisung (siehe Seite 47-48)
Assembling acc. to installation manual (page 47-48)



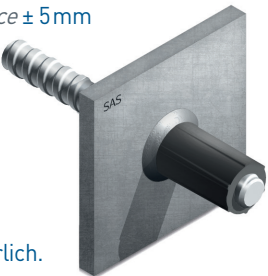
Plattenanker | plate anchor

Typ FS | type FS

15FS63160



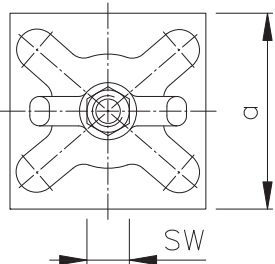
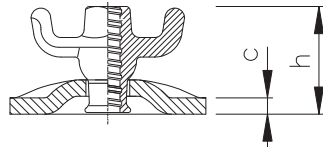
a = 50 mm
b = □ 100 mm
t = 10 mm
L = 160 mm bzw. variabel | or variable
Toleranz | tolerance $\pm 5 \text{ mm}$
Gewicht | weight 1,16 kg
Betongüte | concrete strength $\geq C 20/25$
 $\geq 25 \text{ MPa}$
Werkstoff Platte | material plate S235JR
Vorlänge | front length 100 mm
Zusatzbewehrung nach statischen Nachweisen erforderlich.
Additional reinforcement acc. to analysis.



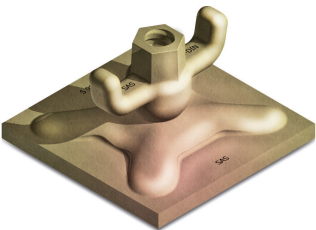
Kombiplatte | combi plate

verzinkt | galvanized

15F72010G



a = □ 120 mm
c = 10 mm
h = 66 mm
SW = 27 mm
Gewicht | weight 1,39 kg
Tragkraft | working load 90 kN
Werkstoff | material:
Platte | plate S235JR
Mutter | nut S355J2 / C 35
Flügelmutter beweglich um ca. 4°
Wing nut moveable appr. 4°



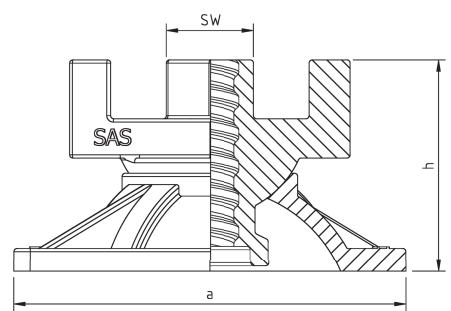
Ø15.0

Kalottenplatte, quadratisch | *dome plate, square*

DIN 18216

verzinkt | *galvanized*

15F72120G



a = 120 mm

h = 65 mm

SW = 27 mm

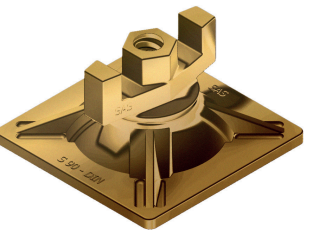
Gewicht | *weight* 1,39 kg

Tragkraft | *working load* 90 kN

Werkstoff | *material* C 45 / S355J2 / EN-GJMW-550-4

Flügelmutter beweglich um ca. 8°

Wing nut moveable appr. 8°

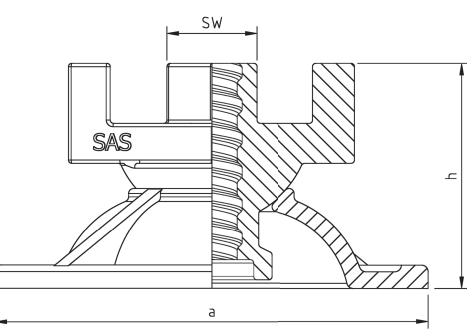


Kalottenplatte, rund | *dome plate, round*

DIN 18216

verzinkt | *galvanized*

15F73130G



a = Ø 130 mm

h = 67 mm

SW = 27 mm

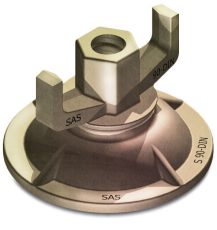
Gewicht | *weight* 1,07 kg

Tragkraft | *working load* 90 kN

Werkstoff | *material* C 45 / S355J2 / EN-GJMW-550-4

Flügelmutter beweglich um ca. 9°

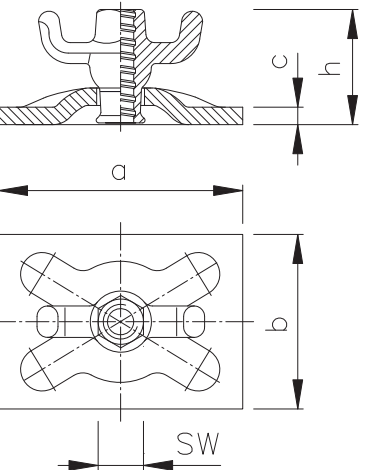
Wing nut moveable appr. 9°



Kombiplatte | *combi plate*

verzinkt | *galvanized*

15F74010G



a = 140 mm

b = 100 mm

c = 10 mm

h = 66 mm

SW = 27 mm

Gewicht | *weight* 1,38 kg

Tragkraft | *working load* 90 kN

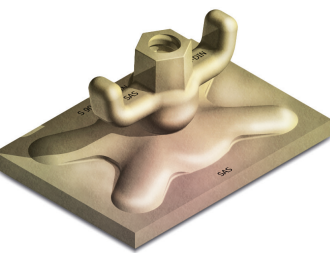
Werkstoff | *material*:

Platte | *plate* S235JR

Mutter | *nut* S355J2 / C 35

Flügelmutter beweglich um ca. 5°

Wing nut moveable appr. 5°

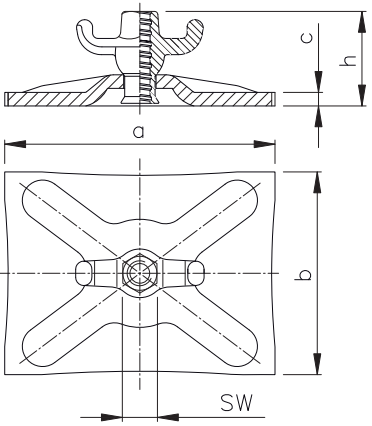


Ø15.0

Kombiplatte | *combi plate*

verzinkt | *galvanized*

15F75010G



a = 200 mm

b = 150 mm

c = 10 mm

h = 68 mm

SW = 27 mm

Gewicht | *weight* 2,62 kg

Tragkraft | *working load* 90 kN

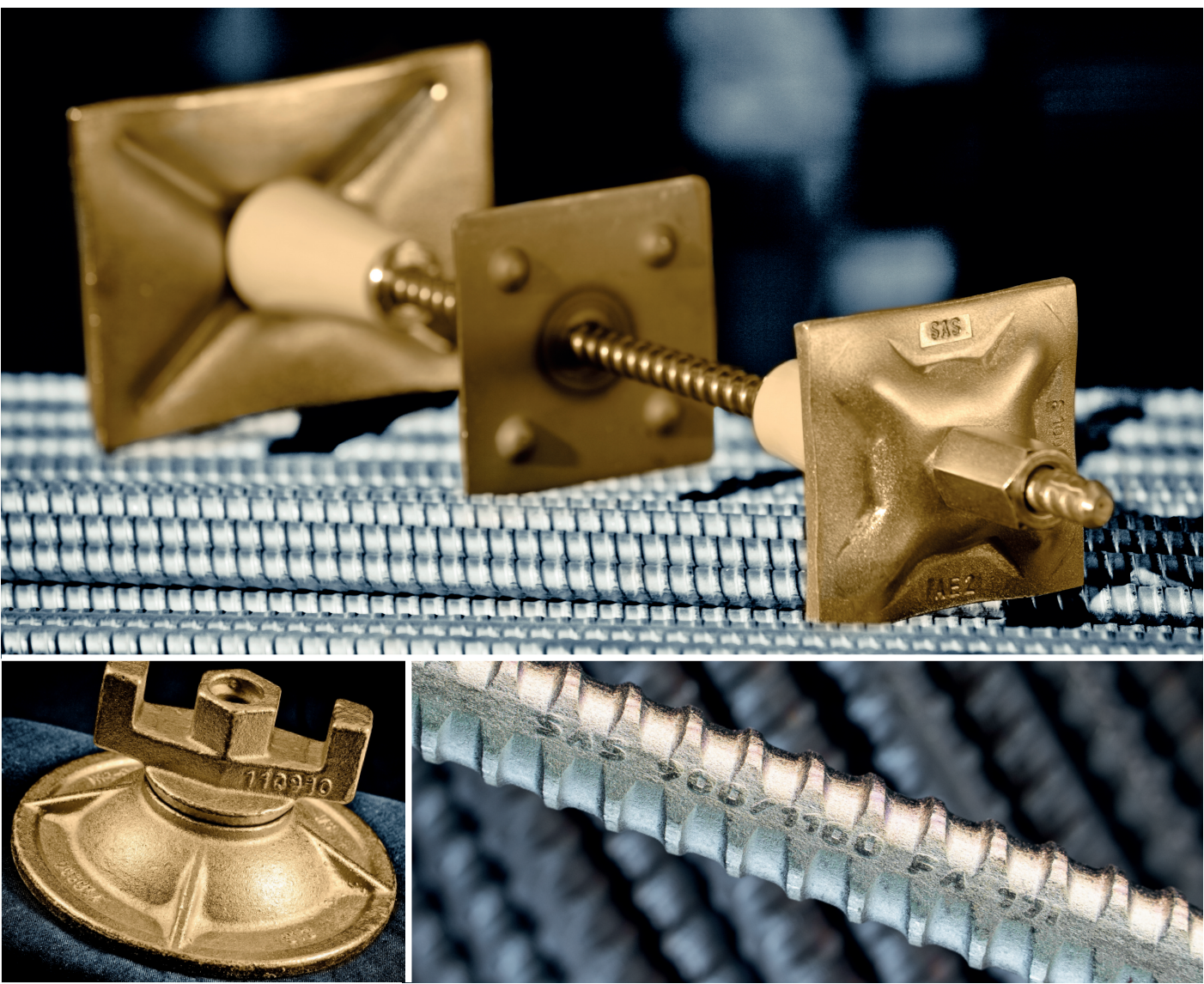
Werkstoff | *material*:

Platte | *plate* S235JR

Mutter | *nut* S355J2 / C 35

Flügelmutter beweglich um ca. 5°

Wing nut moveable appr. 5°

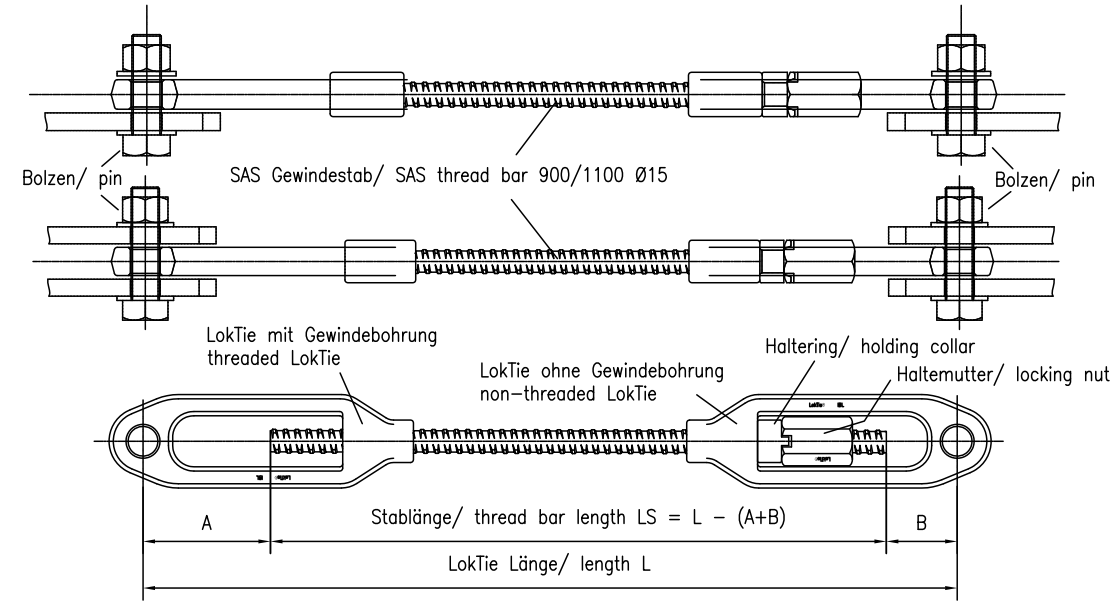


Ø15.0

SAS LokTie - Zugstabsystem | Tie Rod System
ohne Muffe | without coupler

feuerverzinkt
hot-dip galvanized

15F80120FV



A = 130 - 80 mm

B = 65 - 45 mm

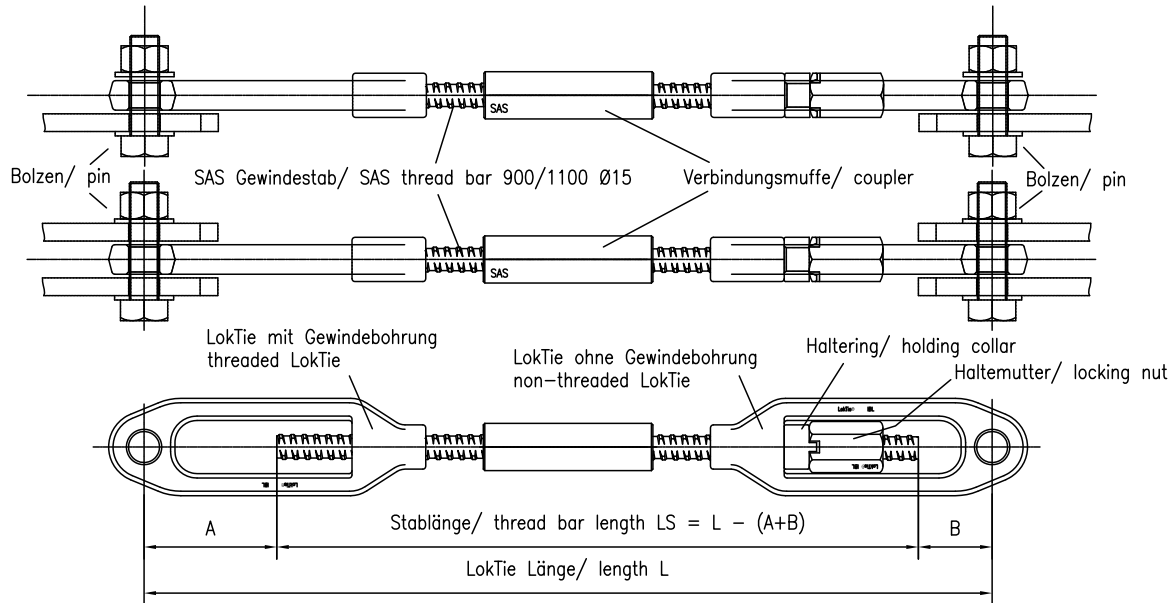
Tragkraft | working load 92,1 kN

gemäß Zulassung | acc. approval DIBt Z - 14.4 - 565

SAS LokTie - Zugstabsystem | Tie Rod System
mit Muffe | with coupler

feuerverzinkt
hot-dip galvanized

15F80120FV



A = 130 - 80 mm

B = 65 - 45 mm

Tragkraft | working load 73,3 kN

gemäß Zulassung | acc. approval DIBt Z - 14.4 - 565

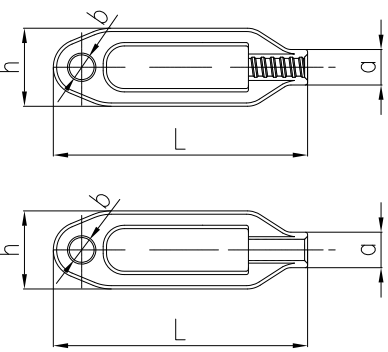
Ø15.0

SAS LokTie

feuerverzinkt
hot-dip galvanized

15F80120FV

LokTie mit Gewinde / ohne Gewinde
LokTie with thread / without thread



a = Ø 30 mm

b = Ø 21 mm

h = 66 mm

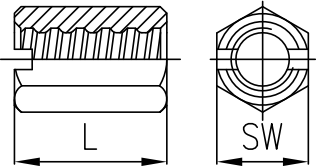
L = 215 mm

Werkstoff | material G 34 CrMo 4 + QT 1

Gewicht | weight mit Gewinde | with thread = 1,01 kg

ohne Gewinde | without thread = 1,02 kg

Haltermutter | locking nut



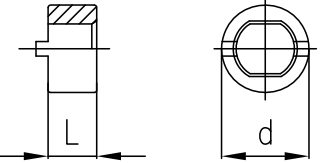
L = 50 mm

SW 30 mm

Werkstoff | material G 34 CrMo 4 + QT 1

Gewicht | weight 0,20 kg

Haltering | locking ring



L = 17 mm

d = 30 mm

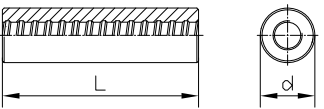
Werkstoff | material G 34 CrMo 4 + QT 1

Gewicht | weight 0,06 kg

Verbindungsmuffe, rund | coupler, round

feuerverzinkt
hot-dip galvanized

15F25115FV



L = 115 mm

d = 32 mm

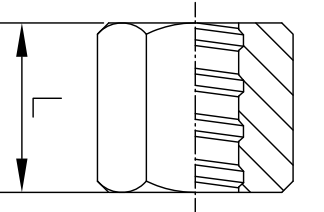
Werkstoff | material S355J2

Gewicht | weight 0,38 kg

Sechskantmutter | hexagonal nut

feuerverzinkt
hot-dip galvanized

15F22030FV



L = 30 mm

SW 30 mm

Werkstoff | material S355J2C+C

Gewicht | weight 0,10 kg

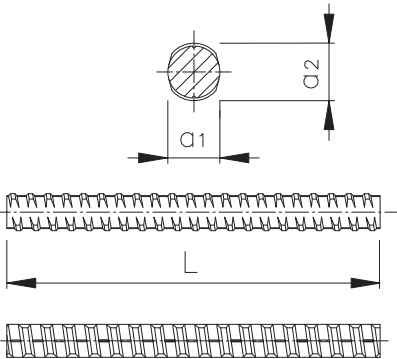
Verwendung nur zur Lagesicherung | Use only for fixing position

Ø20.0

SAS Schalungsanker Typ FA¹ gewalzt, schweißbar
SAS Tie Rod Type FA hot rolled, weldable

schwarz | black
verzinkt | galvanized

20FA...
20FA...G



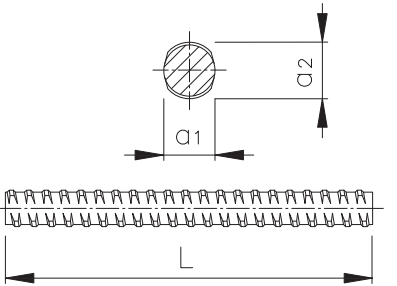
a₁ = 20mm
a₂ = 23mm
L = variabel bis max. 15m | variable up to max. 15m
L = verzinkt max. 6m | galvanized max. 6m

Gewicht | weight 2,56kg/m
Tragkraft | working load 160kN
Werkstoff | material SAS 900/1100
verzinkt | galvanized Galvanischer Überzug ISO°2081 – Fe/Zn8/C
Zulassung | approval DIBt Z-12.5-96

SAS Schalungsanker Typ FC gewalzt | SAS Tie Rod Type FC hot rolled

schwarz | black
verzinkt | galvanized

20FC...
20FC...G



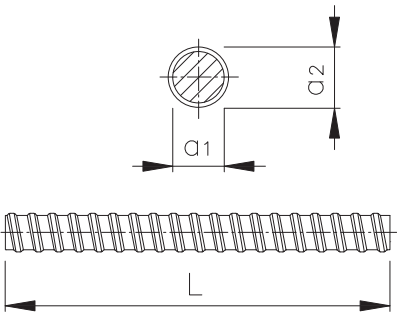
a₁ = 20mm
a₂ = 23mm
L = variabel bis max. 15m | variable up to max. 15m
L = verzinkt max. 6m | galvanized max. 6m

Gewicht | weight 2,56kg/m
Tragkraft | working load 160kN
Werkstoff | material SAS 900/1050
verzinkt | galvanized Galvanischer Überzug ISO°2081 – Fe/Zn8/C
Zulassung | approval DIBt Z-12.5-118

SAS Schalungsanker Typ FS gerollt, schweißbar
SAS Tie Rod Type FS cold rolled, weldable

schwarz | black
verzinkt | galvanized

20FS...
20FS...G



a₁ = 20mm
a₂ = 23mm
L = variabel bis max. 6m | variable up to max. 6m

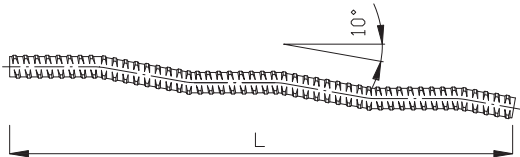
Gewicht | weight 2,56kg/m
Tragkraft | working load 140kN
Werkstoff | material SAS 750 / 875
verzinkt | galvanized Galvanischer Überzug ISO°2081 – Fe/Zn8/C
Zulassung | approval DIBt Z-12.5-104

¹Kennzeichnung: Längsnuten zwischen Rippen
Marking: Longitudinal slots between ribs

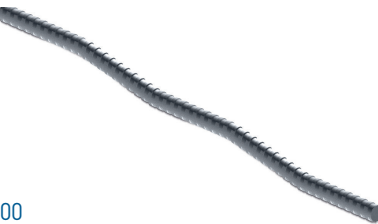
Ø20.0

Wellenanker | wave anchor

Typ FA | type FA
20FA66700W

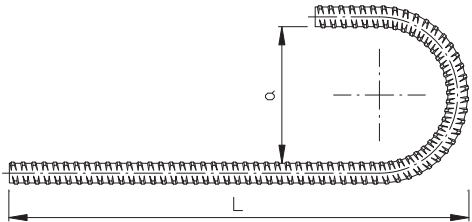


L = 700mm
Gewicht | weight 1,79kg
Betongüte | concrete strength ≥ C 20/25
Tragkraft | working load 160kN
Werkstoff | material SAS 900/1100

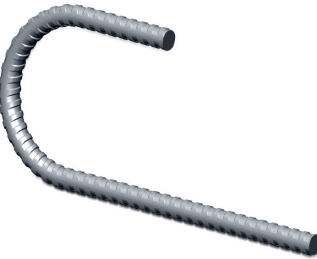


Hakenanker | hook anchor

Typ FA | type FA
20FA64600H

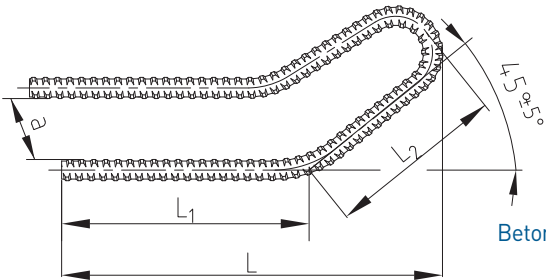


a = 150mm
L = 600mm
Gewicht | weight 2,23kg
Betongüte | concrete strength ≥ C 20/25
Tragkraft | working load 160kN
Werkstoff | material SAS 900/1100
Biegung außerhalb der DIBt Zulassung |
bending outside of the DIBt approval Z-12.5-96

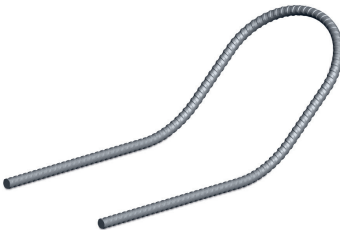


Schlaufenanker | loop anchor

Typ FA | type FA
20FA65600S

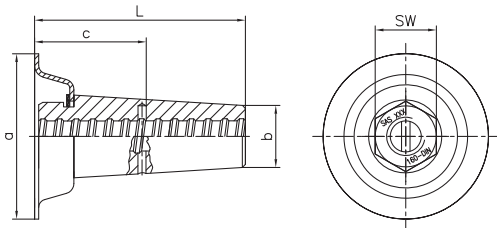


a = 300mm
L = 600mm
L₁ = 380mm
L₂ = 320mm
Gewicht | weight 3,94kg
Betongüte | concrete strength ≥ C 20/25
Tragkraft | working load 160kN je Stabende | on each bar end
Werkstoff | material SAS 900/1100

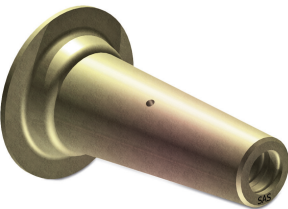


Stahlkonus Typ 33 | steel cone type 33

verzinkt | galvanized
20F12033



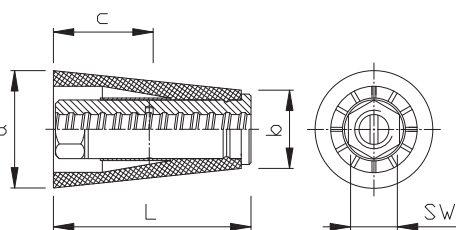
a = Ø80mm
b = Ø33mm
c = 68mm
L = 129mm
SW = 36mm
Gewicht | weight 1,00kg
Tragkraft | working load 160kN
Werkstoff | material S355J2



Stahl-Kunststoffkonus Typ MKK | steel-plastic cone type MKK

verzinkt | galvanized

20F14126

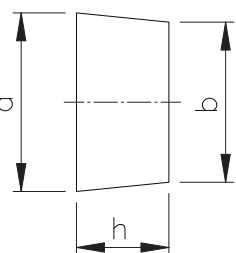


a = Ø70 mm
b = Ø45 mm
c = 65 mm
L = 126 mm
SW = 32 mm
Gewicht | weight 0,80 kg
Tragkraft | working load 160 kN
Werkstoff | material S355J2 + PP, C45



Betonstopfen für Stahl-Kunststoffkonus Typ MKK
concrete plug for steel-plastic cone type MKK

20F14126S



a = Ø69 mm
b = Ø60 mm
h = 40 mm
Gewicht | weight 0,20 kg
Werkstoff | material Beton | concrete

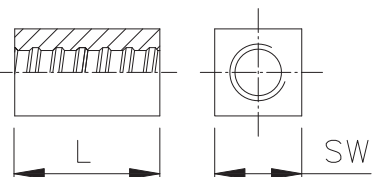


Zum Verschließen der Konuslöcher des Stahl-Kunststoffkonus.
For sealing of cone holes of the steel-plastic cone.

Anschweißstück¹ | welding bolt

DIN 18216

20F20060



L = 60 mm
SW = □40 mm
Gewicht | weight 0,57 kg
Tragkraft | working load 160 kN
Werkstoff | material S355J2

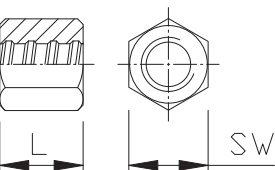


Sechskantmutter | hexagonal nut

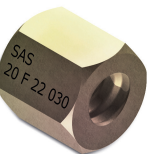
DIN 18216

schwarz | black
verzinkt | galvanized

20F22030
20F22030G



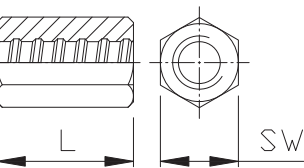
L = 30 mm
SW = 36 mm
Gewicht | weight 0,17 kg
Tragkraft | working load 70 kN
Werkstoff | material S355J2C+C



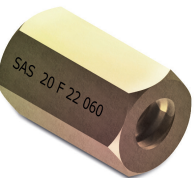
Sechskantmutter Volllast | hexagonal nut

schwarz | black
verzinkt | galvanized

20F22060
20F22060G



L = 60 mm
SW = 36 mm
Gewicht | weight 0,34 kg
Tragkraft | working load 160 kN
Werkstoff | material S355J2C+C

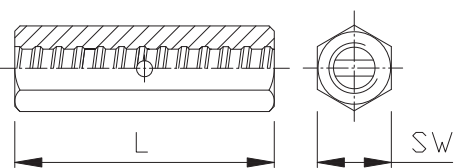


¹Nachweis der Schweißnaht nach DIN EN 1090
Proof of welding acc. DIN EN 1090.

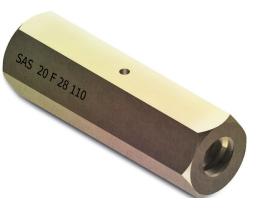
Verbindungs-
muffe Sechskant | coupler hexagonal

schwarz | black
verzinkt | galvanized

20F28110
20F28110G



L = 110 mm
SW = 36 mm
Gewicht | weight 0,63 kg
Tragkraft | working load 160 kN
Werkstoff | material S355J2C+C

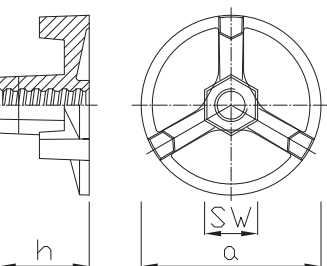


Flanschmutter 3-flügelig | flange nut 3-wings

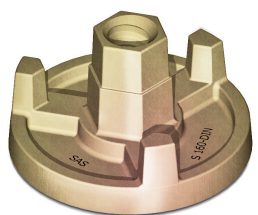
DIN 18216

verzinkt | galvanized

20F31130G



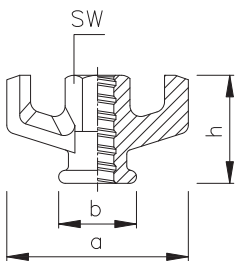
a = Ø130 mm
h = 65 mm
SW = 36 mm
Gewicht | weight 1,54 kg
Gurtungsabstand | girder spacing 50 mm
Tragkraft | working load 160 kN
Werkstoff | material EN-GJMW-550-4



Flügelmutter | wing nut

verzinkt | galvanized

20F32036G



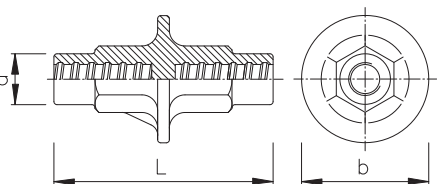
a = 110 mm
b = Ø42 mm
h = 60 mm
SW = 36 mm
Gewicht | weight 0,45 kg
Tragkraft | working load 160 kN
Werkstoff | material EN-GJMW-400-5 / EN-GJS-500-7
EN-GJMW-500-4



Wassersperre mit Absatz Ø31 x 20
Waterstop with landing Ø31 x 20

DIN 18216

20F41150



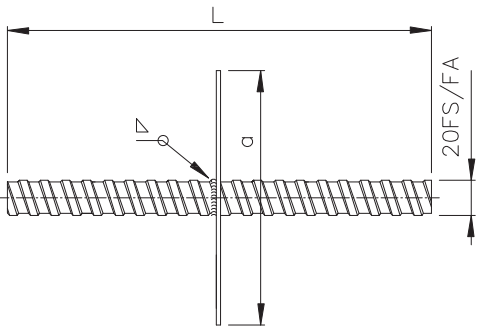
a = Ø31 mm
b = Ø90 mm
L = 150 mm
Gewicht | weight 1,39 kg
Tragkraft | working load 160 kN
Werkstoff | material EN-GJMW-400-5 / EN-GJS-500-7
EN-GJMW-500-4



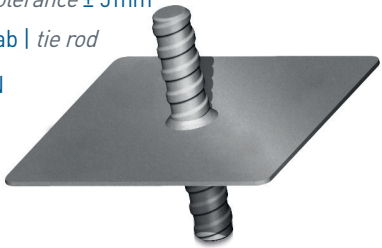
Ø20.0

Wassersperre / Stab mit aufgeschweißter Scheibe
waterstop / tie rod with welded plate

Typ FA | type FA 20FA43000
Typ FS | type FS 20FS43000



a = 120 mm
L = variabel | variable
Toleranz | tolerance ± 5 mm
Gewicht | weight 0,22 kg + Stab | tie rod
Tragkraft | working load 140 / 160 kN
Werkstoff | material.
Platte | plate S235JR
Stab | Tie Rod 20FS / FA

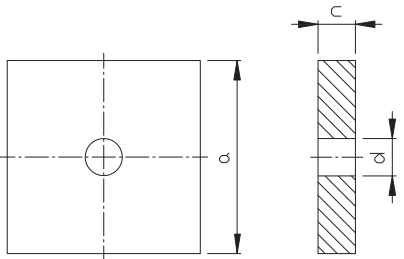


Stablänge bei Verwendung mit Stahl-Kunststoffkonus: Wandstärke minus 13 cm.
Length in combination with steel-plastic cone: thickness of wall minus 13 cm.

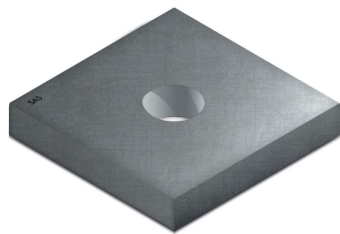
Vollplatte | plate

DIN 18216

20F52020

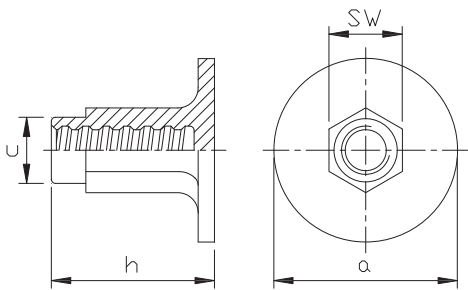


a = 120 mm
c = 20 mm
d = Ø 25 mm
Gewicht | weight 2,15 kg
Tragkraft | working load 160 kN
Gurtungsabstand | girder spacing 50 mm
Werkstoff | material S235JR



Montageanker | fix anchor

20F61080



a = Ø 90 mm
c = Ø 31 mm
h = 80 mm
SW = 39 mm
Gewicht | weight 0,78 kg
Betongüte | concrete strenght ≥ C 20/25
≥ 25 MPa
Werkstoff | material EN-GJMW-400-5 / EN-GJS-500-7 / EN-GJMW-550-4

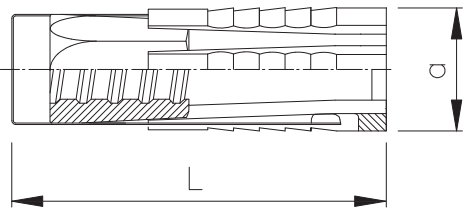


Zusatzbewehrung nach statischem Nachweis erforderlich.
Additional reinforcement acc. to analysis.

Ø20.0

Beton-/ Felsanker 3-schalig | expansion shell 3-leaf

20F63053



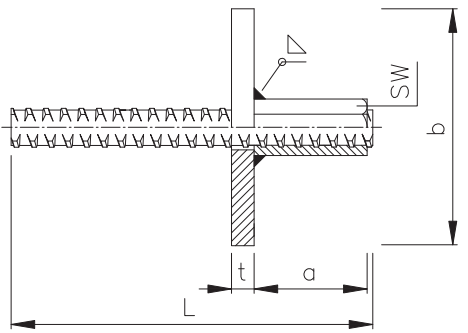
a = Ø 39 mm
L = 110 mm
Gewicht | weight 0,44 kg
Bohrloch | bore hole Ø 40 - 42 mm
Tragkraft | working load 120 kN
Werkstoff | material EN-GJMW-400-5 / EN-GJS-500-7
Montage nach Einbauanweisung (siehe Seite 47-48)
Assembling acc. to installation manual. (page 47-48)



Plattenanker | plate anchor DIN 18216

Typ FA | type FA
Typ FS | type FS

20FA63275
20FS63275



a = 60 mm
b = 120 mm
SW = 36 mm
t = 15 mm
L = 275 mm bzw. variabel | or variable
Toleranz | tolerance ± 5 mm
Gewicht | weight 2,75 kg
Betongüte | concrete strength ≥ C 20/25
≥ 25 MPa
Werkstoff Platte | material plate S235JR
Werkstoff Stab | material bar 20FA / 20FS
Vorlänge | front length 200 mm
Zusatzbewehrung nach statischen Nachweisen erforderlich.
Additional reinforcement acc. to analysis.

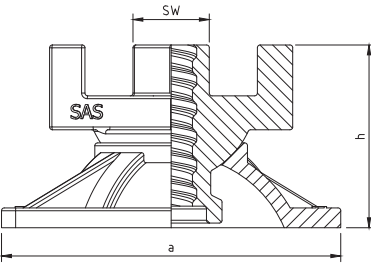


Kalottenplatte, rund | dome plate, round

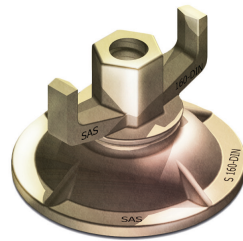
DIN 18216

verzinkt | galvanized

20F73130G



a = Ø 130 mm
h = 85 mm
SW = 36 mm
Gewicht | weight 1,80 kg
Tragkraft | working load 160 kN
Werkstoff | material. GE 300
S 355
C 45

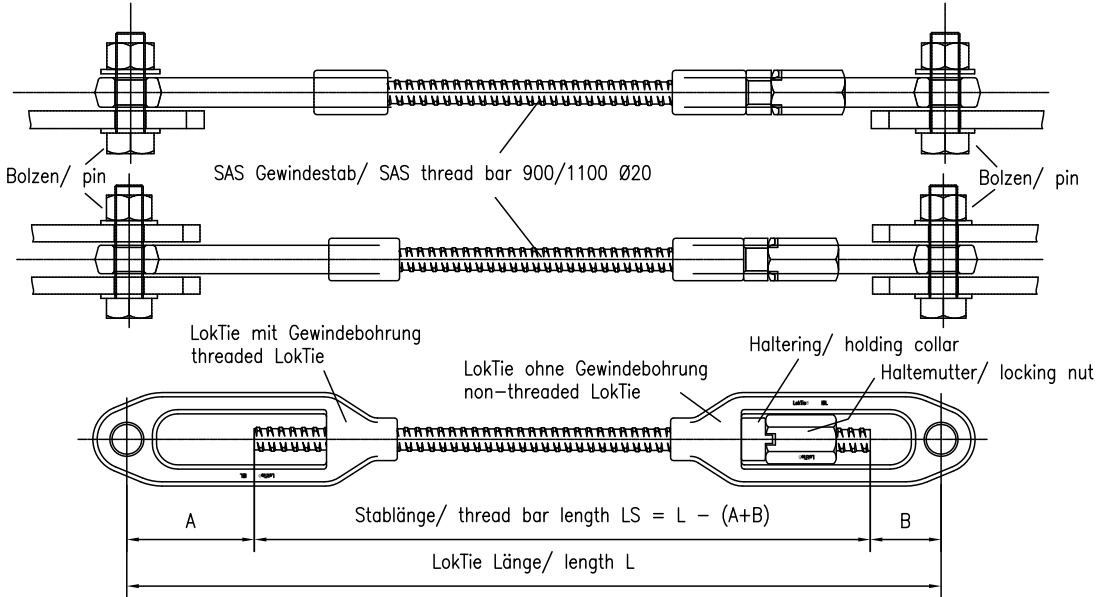


Flügelmutter beweglich um ca. 5°
Wing nut moveable appr. 5°

SAS LokTie - Zugstabsystem | Tie Rod System
ohne Muffe | without coupler

feuerverzinkt
hot-dip galvanized

20F80124FV



A = 150 - 95mm

B = 70 - 50mm

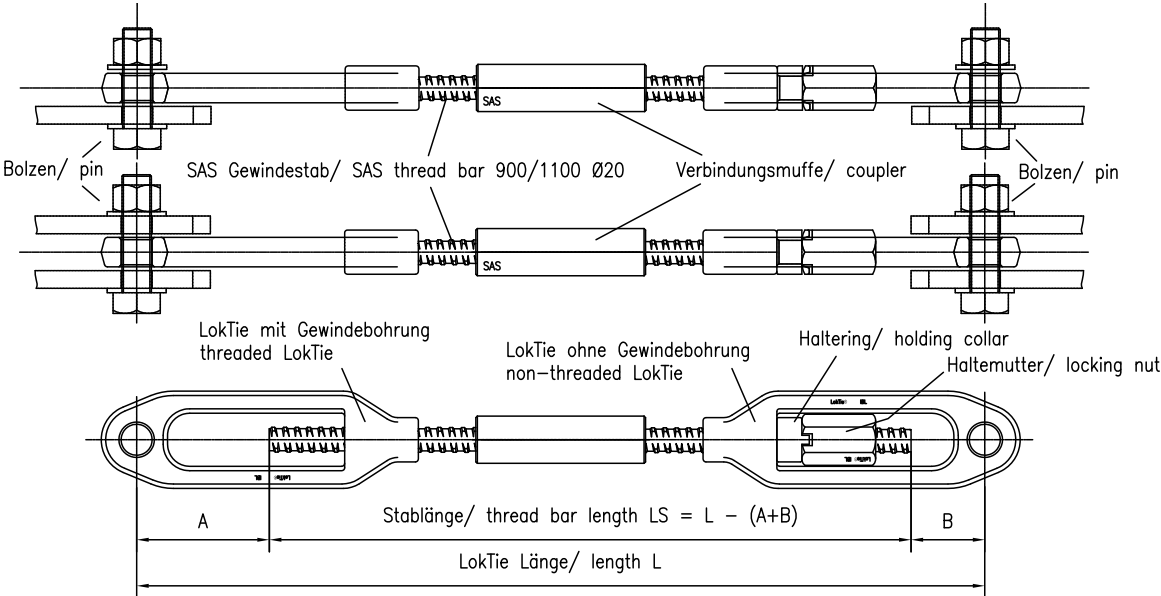
Tragkraft | working load 154,7kN

gemäß Zulassung | acc. approval DIBt Z - 14.4 - 565

SAS LokTie - Zugstabsystem | Tie Rod System
mit Muffe | with coupler

feuerverzinkt
hot-dip galvanized

20F80124FV



A = 150 - 95mm

B = 70 - 50mm

Tragkraft | working load 121,5kN

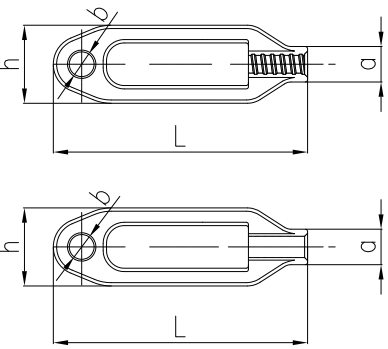
gemäß Zulassung | acc. approval DIBt Z - 14.4 - 565

SAS LokTie

feuerverzinkt
hot-dip galvanized

20F80124FV

LokTie mit Gewinde / ohne Gewinde
LokTie with thread / without thread



a = Ø36 mm

b = Ø25 mm

h = 84 mm

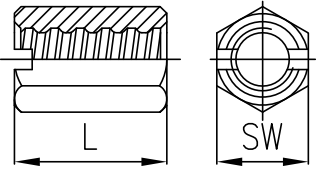
L = 250 mm

Werkstoff | material: G 34 CrMo 4 + QT 1

Gewicht | weight mit Gewinde | with thread = 1,84 kg

ohne Gewinde | without thread = 1,82 kg

Haltermutter | locking nut



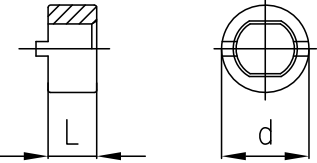
L = 60 mm

SW 36 mm

Werkstoff | material: G 34 CrMo 4 + QT 1

Gewicht | weight 0,33 kg

Haltering | locking ring



L = 20 mm

d = 36 mm

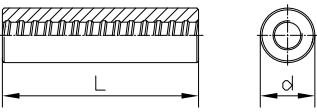
Werkstoff | material: G 34 CrMo 4 + QT 1

Gewicht | weight 0,09 kg

Verbindungsmuffe, rund | coupler, round

feuerverzinkt
hot-dip galvanized

20F25120FV



L = 120 mm

d = 40 mm

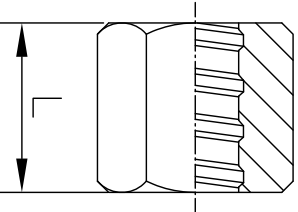
Werkstoff | material: S355J2

Gewicht | weight 0,89 kg

Sechskantmutter | hexagonal nut

feuerverzinkt
hot-dip galvanized

20F22030FV



L = 30 mm

SW 36 mm

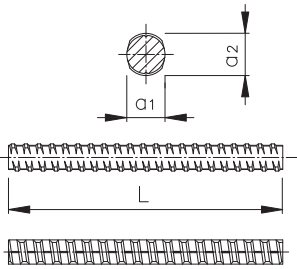
Werkstoff | material: S355J2C+C

Gewicht | weight 0,17 kg

Verwendung nur zur Lagesicherung |
Use only for fixing position

Ø26.5

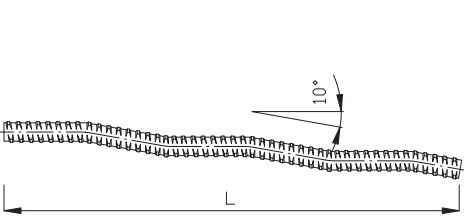
SAS Schalungsanker Typ FA¹ gewalzt, schweißbar
SAS Tie Rod Type FA hot rolled, weldable



	schwarz <i>black</i>	26FA...
	verzinkt <i>galvanized</i>	26FA...G
	$a_1 = 26,5\text{ mm}$	
	$a_2 = 31\text{ mm}$	
	$L = \text{variabel bis max. 15 m} \mid \text{variable up to max. 15 m}$	
	$L = \text{verzinkt max. 6 m} \mid \text{galvanized max. 6 m}$	
Gewicht <i>weight</i>	4,48 kg/m	
Tragkraft <i>working load</i>	280 kN	
Werkstoff <i>material</i>	SAS 900/1100	
verzinkt <i>galvanized</i>	Galvanischer Überzug ISO°2081 - Fe/Zn8/C Galvanic coating ISO°2081 - Fe/Zn8/C	
Zulassung <i>approval</i>	DIBt Z-12.5-132	

Wellenanker | *wave anchor*

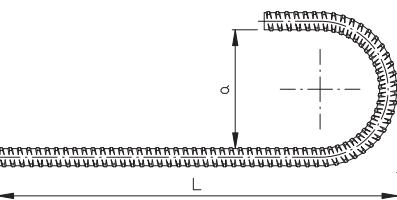
Typ FA | *type FA* 26FA66800W



	$L = 800\text{ mm}$	
Gewicht <i>weight</i>	3,58 kg	
Betongüte <i>concrete strength</i>	$\geq \text{C 20/25}$ $\geq 25\text{ MPa}$	
Tragkraft <i>working load</i>	220 kN	
Werkstoff <i>material</i>	SAS 900/1100	

Hakenanker | *hook anchor*

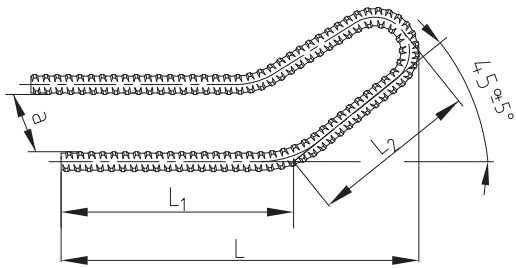
Typ FA | *type FA* 26FA64800H



	$a = 280\text{ mm}$	
	$L = 800\text{ mm}$	
Gewicht <i>weight</i>	6,00 kg	
Betongüte <i>concrete strength</i>	$\geq \text{C 20/25}$ $\geq 25\text{ MPa}$	
Tragkraft <i>working load</i>	220 kN	
Werkstoff <i>material</i>	SAS 900/1100	
Biegung außerhalb der DIBt Zulassung <i>bending outside of the DIBt approval</i>	Z-12.5-132	

Schlaufenanker | *loop anchor*

Typ FA | *type FA* 26FA65800S



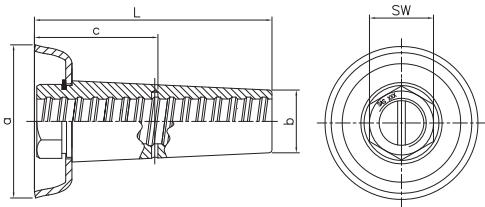
	$a = 350\text{ mm}$	
	$L = 840\text{ mm}$	
	$L_1 = 550\text{ mm}$	
	$L_2 = 360\text{ mm}$	
Gewicht <i>weight</i>	8,69 kg	
Betongüte <i>concrete strength</i>	$\geq \text{C 20/25}$ $\geq 25\text{ MPa}$	
Tragkraft <i>working load</i>	280 kN je Stabende <i>on each bar end</i>	
Werkstoff <i>material</i>	SAS 900/1100	
Biegung außerhalb der DIBt Zulassung <i>bending outside of the DIBt approval</i>	Z-12.5-132	

¹Kennzeichnung: Längsnuten zwischen Rippen
Marking: Longitudinal slots between ribs

Ø26.5

Stahlkonus Typ 40 | *steel cone type 40*

verzinkt | *galvanized* 26E12040

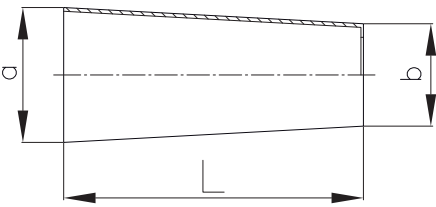


	$a = \text{Ø} 98\text{ mm}$
	$b = \text{Ø} 40\text{ mm}$
	$c = 80\text{ mm}$
	$L = 152\text{ mm}$
	$SW = 41\text{ mm}$
Gewicht <i>weight</i>	1,49 kg
Tragkraft <i>working load</i>	280 kN
Werkstoff <i>material</i>	S355J2, C45+N

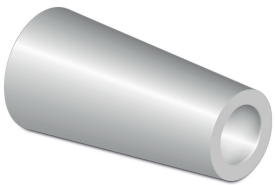


PE-Hülse für Stahlkonus Typ 40 | *PE-sleeve for steel cone type 40*

26E12040K

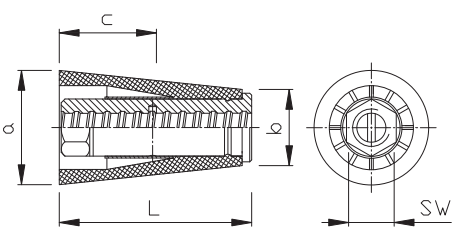


	$a = \text{Ø} 52,5\text{ mm}$
	$b = \text{Ø} 40\text{ mm}$
	$L = 120\text{ mm}$
Gewicht <i>weight</i>	0,01 kg
Werkstoff <i>material</i>	PE
Zum einfachen Ausschrauben des Stahlkonus Typ 40. PE-Hülse wird vor der Montage auf den Konus gesteckt und verbleibt im Beton. <i>To ensure easy unscrewing of steel cone type 40. The PE-sleeve is put on the cone before installation and remains in the concrete.</i>	



Stahl-Kunststoffkonus Typ MKK | *steel-plastic cone type MKK*

verzinkt | *galvanized* 26E14135

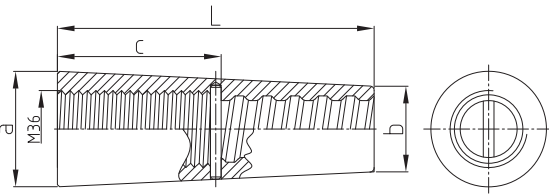


	$a = \text{Ø} 103\text{ mm}$
	$b = \text{Ø} 57\text{ mm}$
	$c = 71\text{ mm}$
	$L = 135\text{ mm}$
	$SW = 46\text{ mm}$
Gewicht <i>weight</i>	1,71 kg
Tragkraft <i>working load</i>	250 kN
Werkstoff <i>material</i>	S355J0 + PP



Vorlaufkonus Typ 40 / M36 | *cone type 40 / M36*

verzinkt | *galvanized* 26E15040

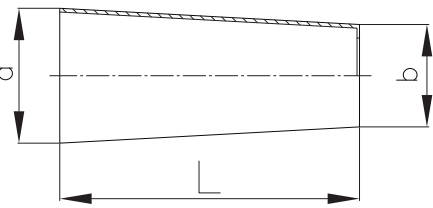


	$a = \text{Ø} 54\text{ mm}$
	$b = \text{Ø} 40\text{ mm}$
	$c = 77\text{ mm}$
	$L = 148\text{ mm}$
Gewicht <i>weight</i>	1,19 kg
Tragkraft <i>working load</i>	240 kN
Werkstoff <i>material</i>	S355J2 / C45



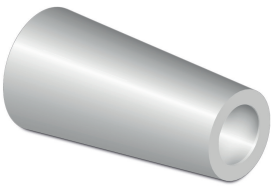
PE-Hülse für Vorlaufkonus Typ 40 / M36
PE-sleeve for cone type 40 / M36

26E15040K



a = Ø54 mm
b = Ø40 mm
L = 145 mm

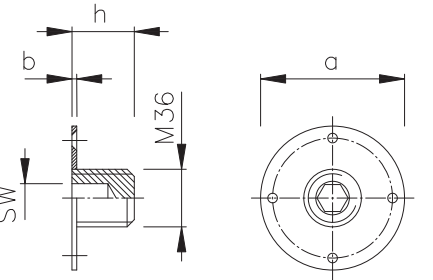
Gewicht | weight 0,02 kg
Werkstoff | material PE



Zum einfachen Ausschrauben des Stahlkonus Typ 40 / M36. PE-Hülse wird vor der Montage auf den Konus gesteckt und verbleibt im Beton.
To ensure easy unscrewing of steel cone type 40 / M36. The PE-sleeve is put on the cone before installation and remains in the concrete.

Nagelplatte für Vorlaufkonus Typ 40 / M36 | nail plate for cone type 40 / M36

26E15040N



a = Ø75 mm
b = 5 mm
h = 35 mm

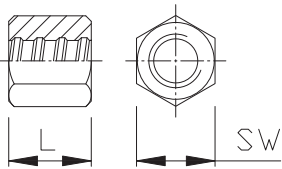
SW = 17 mm
Gewicht | weight 0,37 kg
Werkstoff | material Stahl | steel



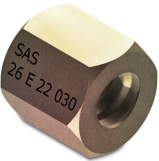
Sechskantmutter | hexagonal nut

schwarz | black
verzinkt | galvanized

26E22030
26E22030G



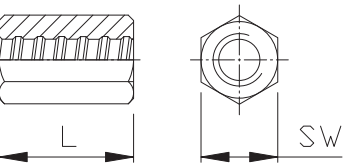
L = 30 mm
SW = 46 mm
Gewicht | weight 0,27 kg
Tragkraft | working load 90 kN
Werkstoff | material S355J2C+C



Sechskantmutter | hexagonal nut

schwarz | black
verzinkt | galvanized

26E22060
26E22060G



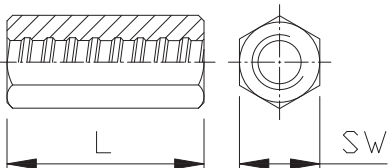
L = 60 mm
SW = 46 mm
Gewicht | weight 0,54 kg
Tragkraft | working load 200 kN
Werkstoff | material S355J2C+C



Sechskantmutter Volllast | hexagonal nut

schwarz | black
verzinkt | galvanized

26E22080
26E22080G



L = 80 mm
SW = 46 mm
Gewicht | weight 0,74 kg
Tragkraft | working load 300 kN
Werkstoff | material S355J2C+C

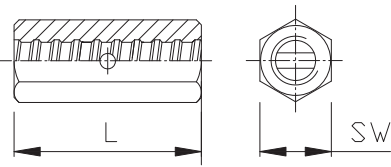


Ø26.5

Verbindungsuffe kurz, Sechskant | coupler short, hexagonal

schwarz | black
verzinkt | galvanized

26E28120
26E28120G



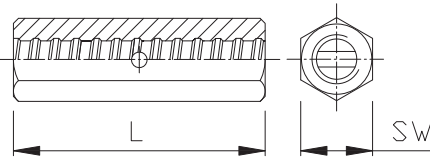
L = 120 mm
SW = 46 mm
Gewicht | weight 1,09 kg
Tragkraft | working load 200 kN
Werkstoff | material S355J2C+C



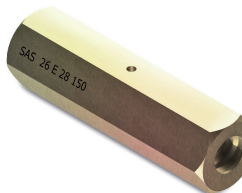
Verbindungsuffe Sechskant | coupler hexagonal

schwarz | black
verzinkt | galvanized

26E28150
26E28150G



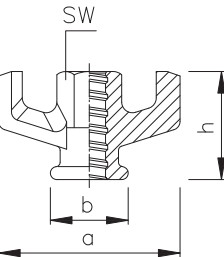
L = 150 mm
SW = 46 mm
Gewicht | weight 1,36 kg
Tragkraft | working load 300 kN
Werkstoff | material S355J2C+C



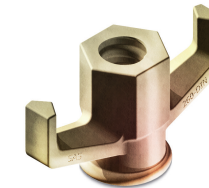
Flügelmutter | wing nut

verzinkt | galvanized

26E32046G



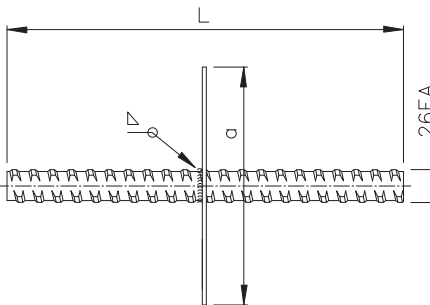
a = 155 mm
b = Ø52 mm
h = 65 mm
SW = 46 mm
Gewicht | weight 0,90 kg
Tragkraft | working load 260 kN
Werkstoff | material EN-GJMW-400-5 / EN-GJS-500-7
EN-GJMW-500-4



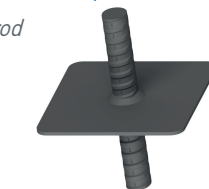
Wassersperre / Stab mit aufgeschweißter Scheibe
waterstop / tie rod with welded plate

Typ FA

26FA43000



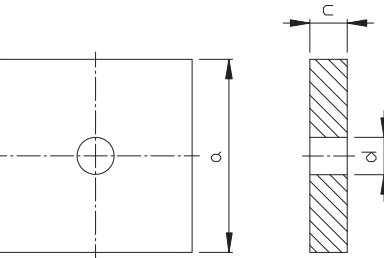
a = □120 mm
L = variabel | variable - Toleranz | tolerance ± 5 mm
Gewicht | weight 0,21 kg + Stab / tie rod
Tragkraft | working load 220 kN
Werkstoff | material:
Platte | plate S235JR
Stab | tie rod 26FA
Stablänge bei Verwendung mit Stahl-Kunststoffkonus: Wandstärke minus 14 cm.
Length in combination with steel-plastic cone: thickness of wall minus 14 cm.



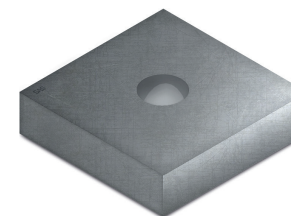
Vollplatte | plate

DIN 18216

26E52020



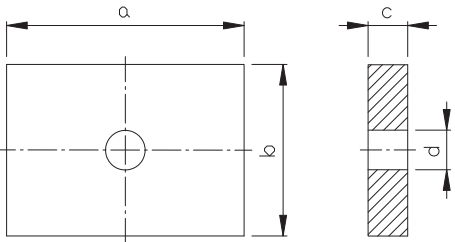
a = □120 mm
c = 20 mm
d = Ø32 mm
Gewicht | weight 2,10 kg
Tragkraft | working load 300 kN
Gurtungsabstand | girder spacing 50 mm
Werkstoff | material S235JR



Vollplatte rechteckig | plate rectangular

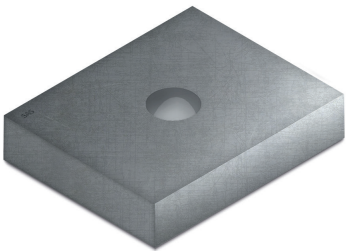
DIN 18216

26E52030



- a = 150 mm
- b = 120 mm
- c = 30 mm
- d = Ø32 mm

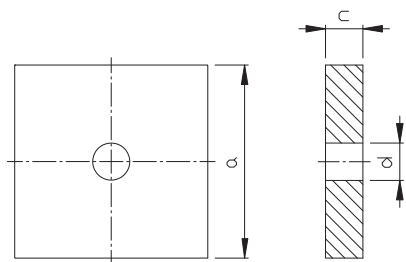
Gewicht | weight 3,99 kg
Tragkraft | working load 300 kN
Gurtungsabstand | girder spacing 50 mm
Werkstoff | material S235JR



Vollplatte quadratisch | plate square

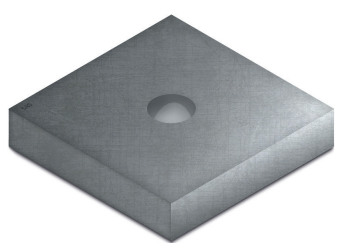
DIN 18216

26E52035



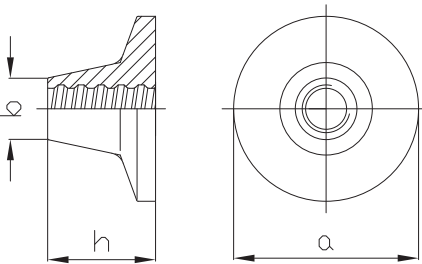
- a = □150 mm
- c = 35 mm
- d = Ø32 mm

Gewicht | weight 5,70 kg
Tragkraft | working load 300 kN
Gurtungsabstand | girder spacing 50 mm
Werkstoff | material S235JR



Montageanker | fix anchor

26E61120



- a = Ø120 mm
- b = Ø40 mm
- h = 70 mm

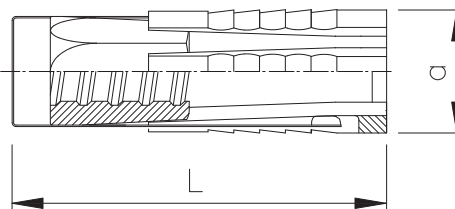
Gewicht | weight 1,90 kg
Betonstärke | concrete strength $\geq C 20/25$
 $\geq 25 \text{ MPa}$
Werkstoff | material EN-GJMW-400-5 / EN-GJS-500-7
EN-GJMW-500-4



Zusatzbewehrung nach statischem Nachweis erforderlich.
Additional reinforcement acc. to analysis.

Beton-/ Felsanker 2-schalig | expansion shell 2-leaf

26E63063



- a = Ø50 mm
- L = 120 mm

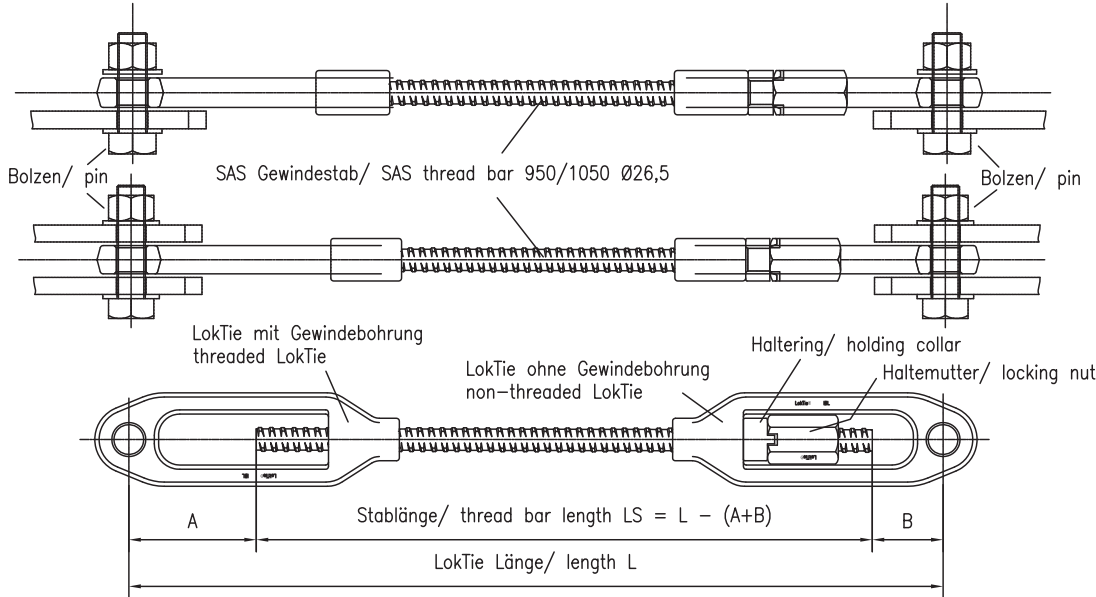
Gewicht | weight 0,58 kg
Bohrloch | bore hole Ø51 - 53 mm
Tragkraft | working load 150 kN
Werkstoff | material EN-GJMW-400-5 / EN-GJS-500-7
Montage nach Einbauanweisung (siehe Seite 47-48)
Assembling acc. to installation manual (page 47-48)



SAS LokTie - Zugstabsystem | Tie Rod System
ohne Muffe | without coupler

feuerverzinkt
hot-dip galvanized

26E80130FV



A = 190 - 120 mm

B = 85 - 60 mm

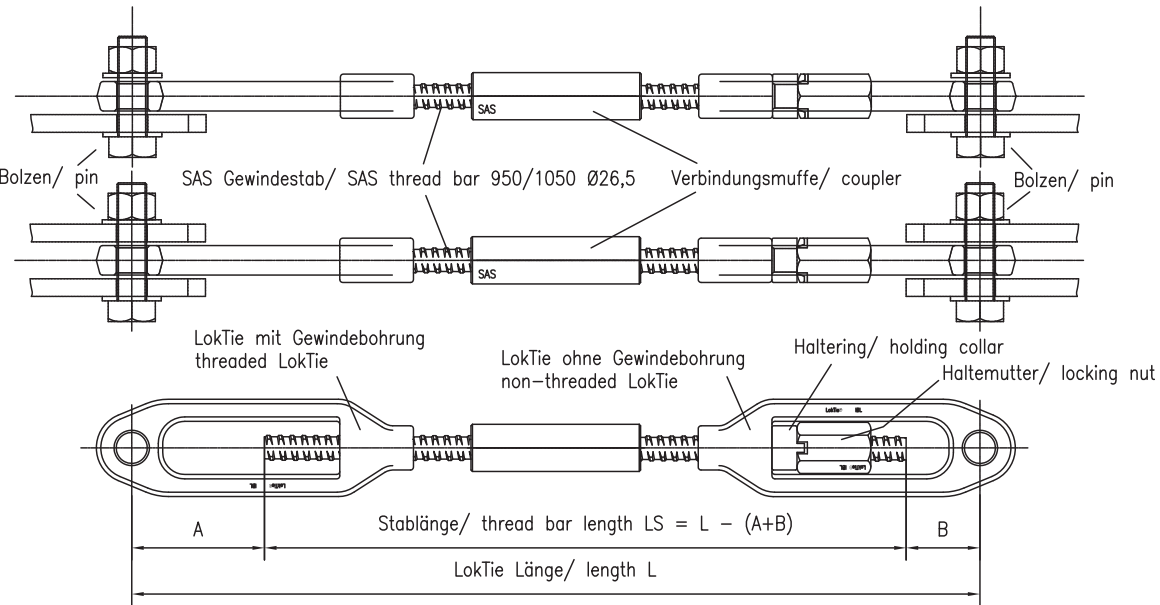
Tragkraft | working load 290,1 kN

gemäß Zulassung | acc. approval DIBt Z - 14.4 - 565

SAS LokTie - Zugstabsystem | Tie Rod System
mit Muffe | with coupler

feuerverzinkt
hot-dip galvanized

26E80130FV



A = 190 - 120 mm

B = 85 - 60 mm

Tragkraft | working load 274,5 kN

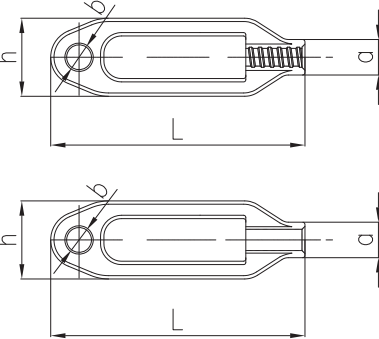
gemäß Zulassung | acc. approval DIBt Z - 14.4 - 565

SAS LokTie

feuerverzinkt
hot-dip galvanized

26E80130FV

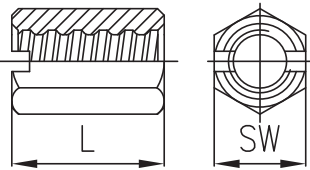
LokTie mit Gewinde / ohne Gewinde
LokTie with thread / without thread



a = Ø46 mm
b = Ø31 mm
h = 106 mm
L = 330 mm

Werkstoff | material: G 34 CrMo 4 + QT 1
Gewicht | weight mit Gewinde | with thread = 3,96 kg
ohne Gewinde | without thread = 3,96 kg

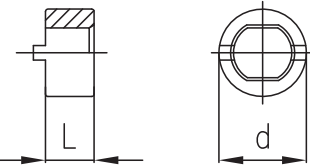
Haltermutter | locking nut



L = 80 mm
SW 46 mm

Werkstoff | material: G 34 CrMo 4 + QT 1
Gewicht | weight 0,70 kg

Haltering | locking ring



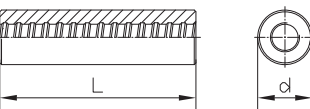
L = 25 mm
d = 46 mm

Werkstoff | material: G 34 CrMo 4 + QT 1
Gewicht | weight 0,09 kg

Verbindungsuffe, rund | coupler, round

feuerverzinkt
hot-dip galvanized

26E25185FV



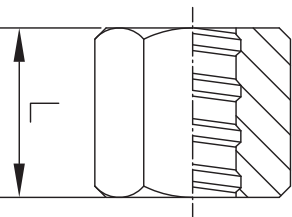
L = 185 mm
d = 52 mm

Werkstoff | material: S355J2
Gewicht | weight 2,18 kg

Sechskantmutter | hexagonal nut

feuerverzinkt
hot-dip galvanized

26E22030FV



L = 30 mm
SW 46 mm

Werkstoff | material: S355J2C+C
Gewicht | weight 0,27 kg

Verwendung nur zur Lagesicherung | use only for fixing position

Keilklemme leichte Ausführung | cam clamp light version

verzinkt oder lackiert |
galvanized or painted

10F11008



90 x 60 mm

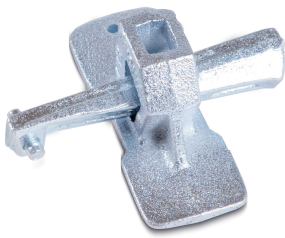
Gewicht | weight 0,26 kg

Für Rundeisen bis Ø8 mm | For round bars up to Ø8 mm

Keilklemme aus Guß | cam clamp cast iron

verzinkt oder lackiert |
galvanized or painted

10F11010



110 x 40 mm

Gewicht | weight 0,43 kg

Keil geschmiedet, vergütet | Wedge forged, tempered.
Für Rundeisen Ø5 - 10 mm | For round bars up to Ø5 - 10 mm

Keilklemme aus Guß | cam clamp cast iron

verzinkt oder lackiert |
galvanized or painted

10F11013



110 x 40 mm

Gewicht | weight 0,46 kg

Keil geschmiedet, vergütet | Wedge forged, tempered.
Für Rundeisen Ø8 - 13 mm | For round bars up to Ø8 - 13 mm

Federklemme verstärkt | spring clamp strengthened

verzinkt oder lackiert |
galvanized or painted

10F12200



110 x 75 mm

Gewicht | weight 0,42 kg

Für Rundeisen Ø5 - 10 mm | For round bars up to Ø5 - 10 mm
Bewährtes Feder-Exzenter-System | reliable spring-excentric-system

Spindelspanner für Keilklemme | *spindle-spanner for cam clamp*

verzinkt oder lackiert |
galvanized or painted

10F16012

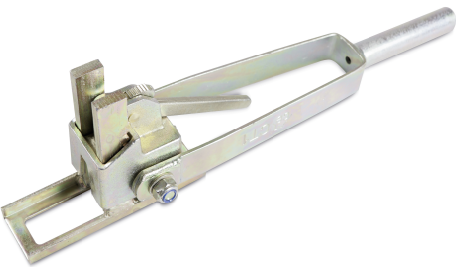


Gewicht | *weight* 1,42kg
Für Rundeisen bis Ø12mm | *For round bars up to Ø12mm*

Hebelspanner für Federklemme | *level-spanner for spring clamp*

verzinkt oder lackiert |
galvanized or painted

10F17100



Gewicht | *weight* 2,70kg
Tragkraft | *working load* 25kN
Für Rundeisen bis Ø12mm | *For round bars up to Ø12mm*

Spindelspanner für Federklemme | *spindle-spanner for spring clamp*

verzinkt oder lackiert |
galvanized or painted

10F18100



Gewicht | *weight* 1,20kg
Für Rundeisen bis Ø12mm | *For round bars up to Ø12mm*

Spannstabausdreher | *tie rod remover*

verzinkt | *galvanized*

15F71001

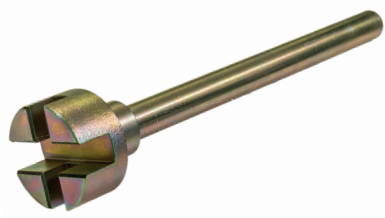


Gewicht | *weight* 0,40kg
Für SAS Schalungsanker Ø15 Typ FA / FC / FS
For SAS Tie Rods Ø15 Type FA / FC / FS

Spannstabausdreher | *tie rod remover*

verzinkt | *galvanized*

10F71002G



Gewicht | *weight* 1,90kg
Für SAS Schalungsanker Ø15 + Ø20 Typ FA / FC
For SAS Tie Rods Ø15 + Ø20 Type FA / FC

Konenschlüssel | *cone wrench*

verzinkt | *galvanized*

15F16100



SW = 27mm
Gewicht | *weight* 1,10kg
Für Stahl-Kunststoffkonus Typ MKK | *For steel-plastic cone type MKK*

4-Kant-Konenschlüssel | *square cone wrench*

verzinkt | *galvanized*

15F16110

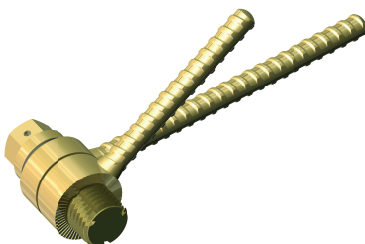


Gewicht | *weight* 1,60kg
□13mm für Vorlaufkonus Typ 30 | *for cone type 30*
□18mm für Vorlaufkonus Typ 30 / M24 | *for cone type 30 / M24*

Konenschlüssel Typ 40/M36 | *cone wrench type 40/M36*

verzinkt | *galvanized*

26E15041

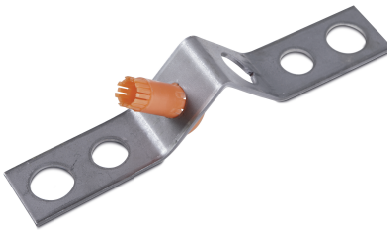


Gewicht | *weight* 1,96kg
Für Stahlkonus Typ 40/M36 (26E 15 040) | *for cone type 40/M36 (26E 15 040)*

V-Halter | *V-holder*

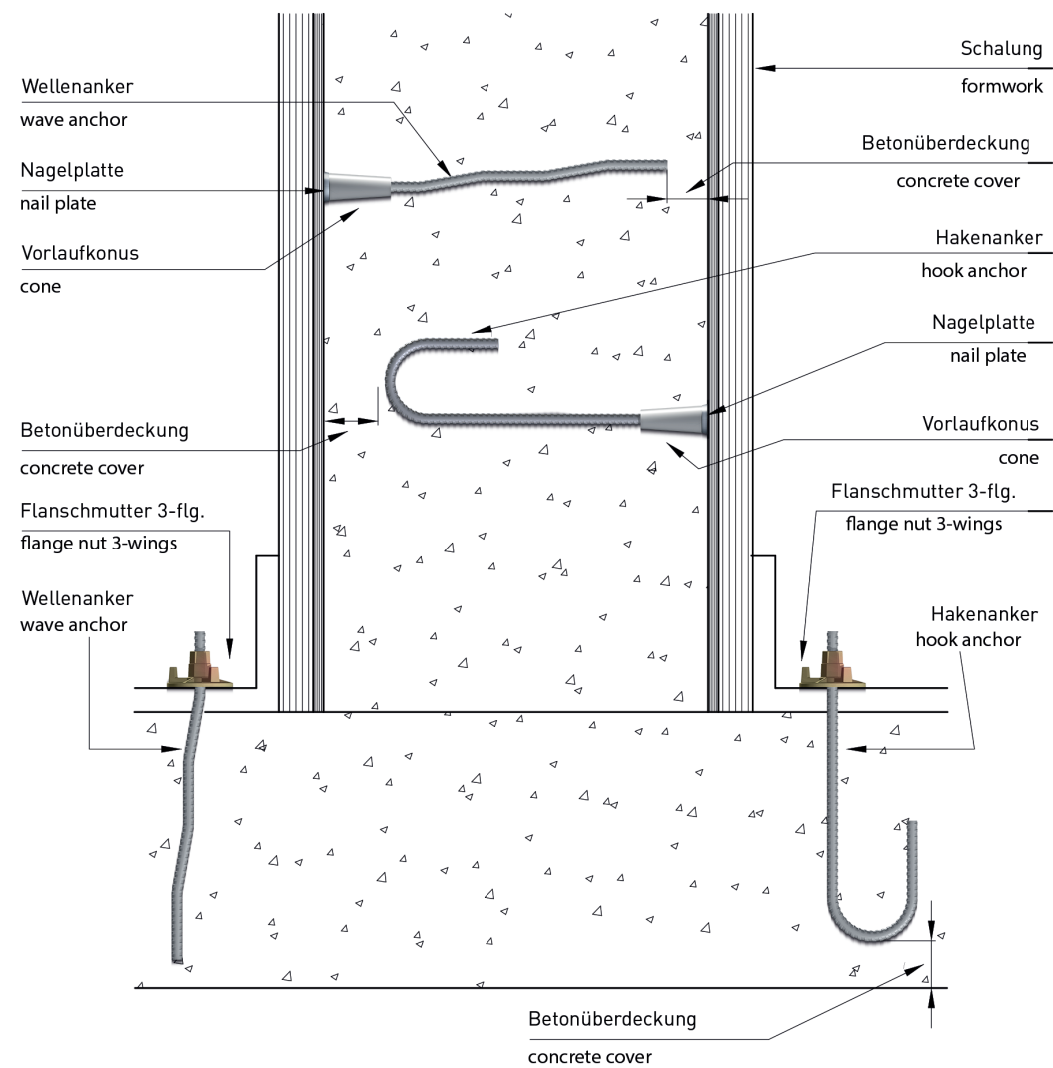
verzinkt | *galvanized*

15F66300
20F66300
26E66300



Gewicht | *weight*:
Ø15 0,42kg
Ø20 0,43kg
Ø26,5 0,44kg
Halterung für Schlaufenanker 45° | *For fixing loop anchor 45°*

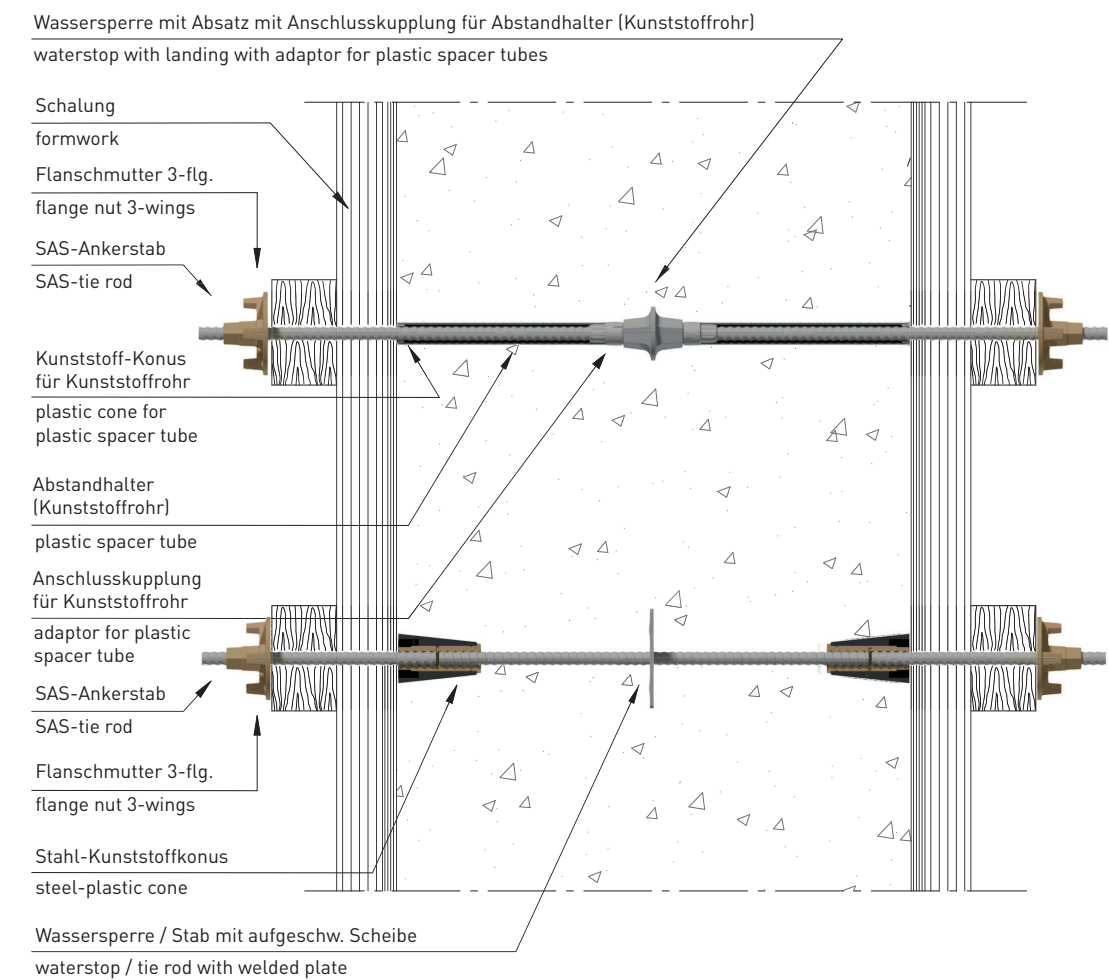
example 1



Wellenanker | wave anchor 15FA66550W
 Hakenanker | hook anchor 15FA64250H
 Hakenanker | hook anchor 15FA64450H
 Vorlaufkonus Typ 30 | cone type 30 15F17030
 Nagelplatte | nail plate 15F17030N
 Flanschmutter 3-flg. | flange nut 3-wings 15F31...G

Der Einbau der Schalungsankersysteme muss durch qualifiziertes Personal erfolgen!
The installation of the system has to be carried out by instructed staff!

example 2

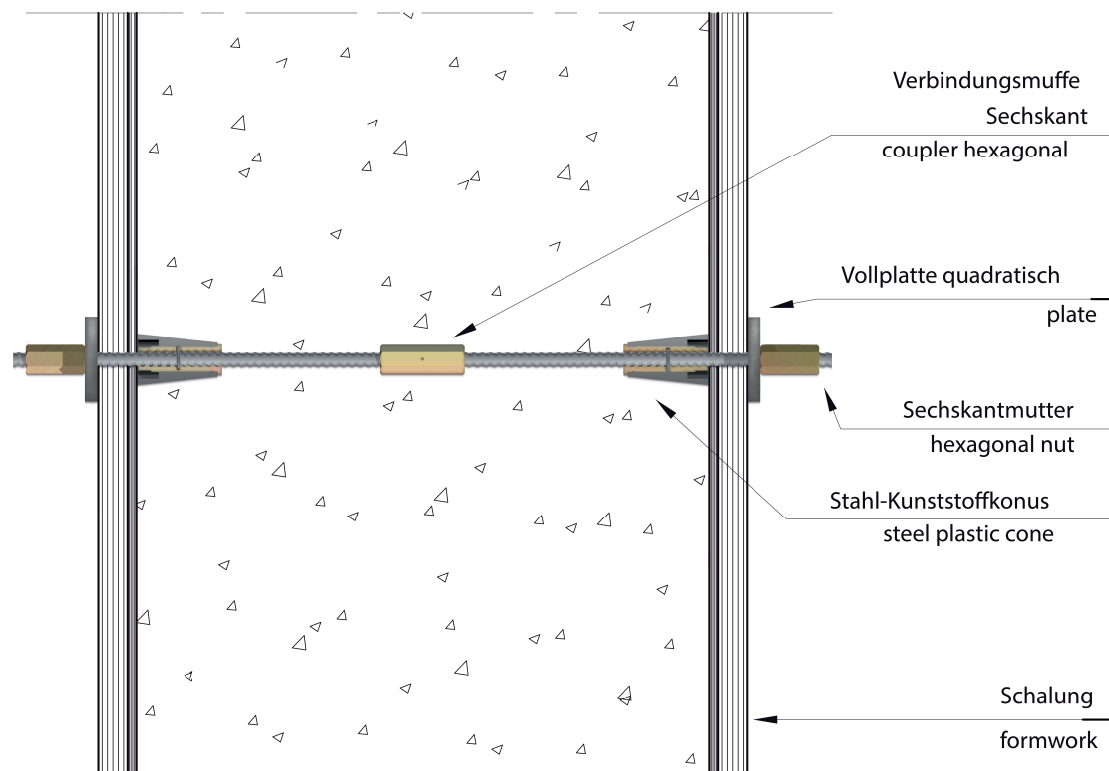


Wassersperre mit Absatz | waterstop with landing 15F44110S
 Anschlusskupplung für Kunststoffrohr | adaptor for plastic spacer tube 15F44110A
 Wassersperre / Stab mit aufgeschweißter Scheibe | waterstop / tie rod with welded plate 15FS43000
 Stahl-Kunststoffkonus Typ MKK | steel-plastic cone type MKK 15F14100
 Flanschmutter 3-flg. | flange nut 3-wings 15F31...G

Die Ankerstäbe (nicht Wassersperre / Stab mit aufgeschweißter Scheibe) und die Stahl-Kunststoffkonus müssen wieder ausgebaut werden.
 Nach dem Ausbau müssen die Löcher mit Betonstopfen zugleibt oder mit Mörtel verschlossen werden.
The tie rods (except waterstop / tie rod with welded plate) and the steel plastic cones have to be removed.
After removing the remaining holes have to be closed by concrete plugs or filling with mortar.

Der Einbau der Schalungsankersysteme muss durch qualifiziertes Personal erfolgen!
The installation of the system has to be carried out by instructed staff!

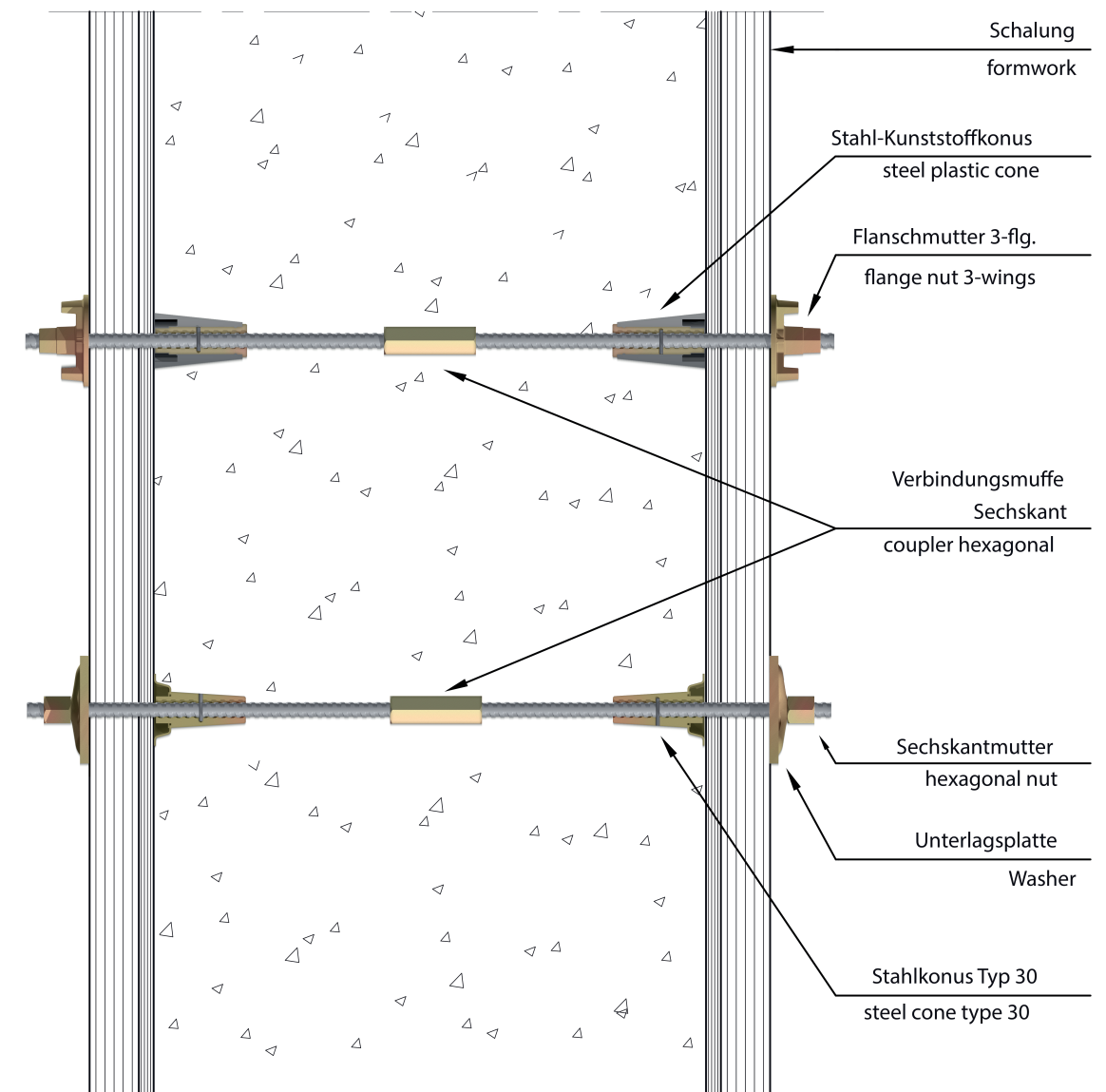
example 3



Sechskantmutter | hexagonal nut 26E22080
 Vollplatte, quadratisch | plate 26E52020
 Verbindungs- mufte Sechskant | coupler hexagonal 26E28150
 Stahl-Kunststoffkonus Typ MKK | steel-plastic cone type MKK 26E14135

Der Einbau der Schalungsankersysteme muss durch qualifiziertes Personal erfolgen!
 The installation of the system has to be carried out by instructed staff!

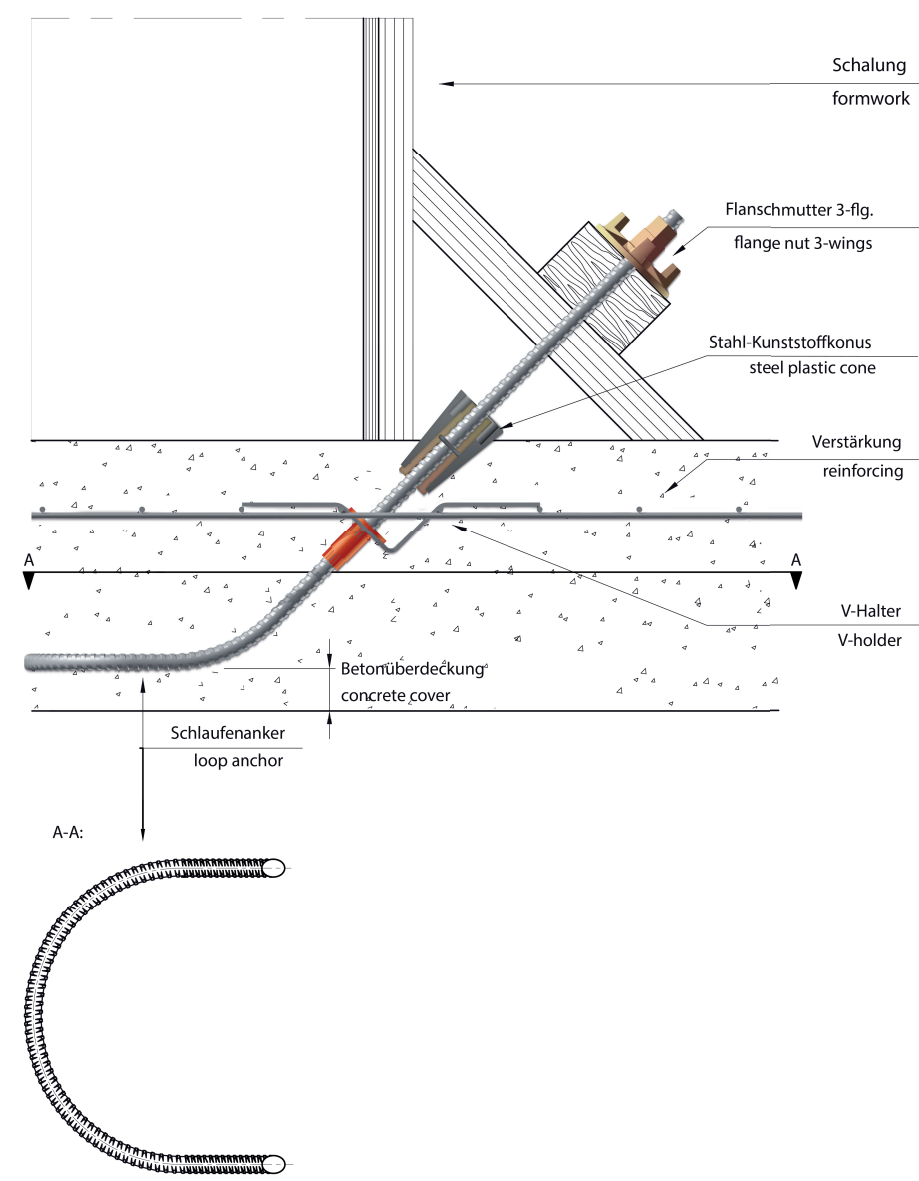
example 4



Stahl-Kunststoffkonus Typ MKK | steel-plastic cone type MKK 15F14100
 Flanschmutter 3-flg. | flange nut 3-wings 15F31...G
 Verbindungs- mufte Sechskant | coupler hexagonal 15F28100
 Sechskantmutter, Volllast | hexagonal nut 15F22050
 Unterlagsplatte geprägt | washer stamped 15F52010G
 Stahlkonus Typ 30 | steel cone type 30 15F12030

Der Einbau der Schalungsankersysteme muss durch qualifiziertes Personal erfolgen!
 The installation of the system has to be carried out by instructed staff!

example 5



Schlaufenanker | loop anchor 15FA65550S

Stahl-Kunststoffkonus Typ MKK | steel-plastic cone type MKK 15F14100

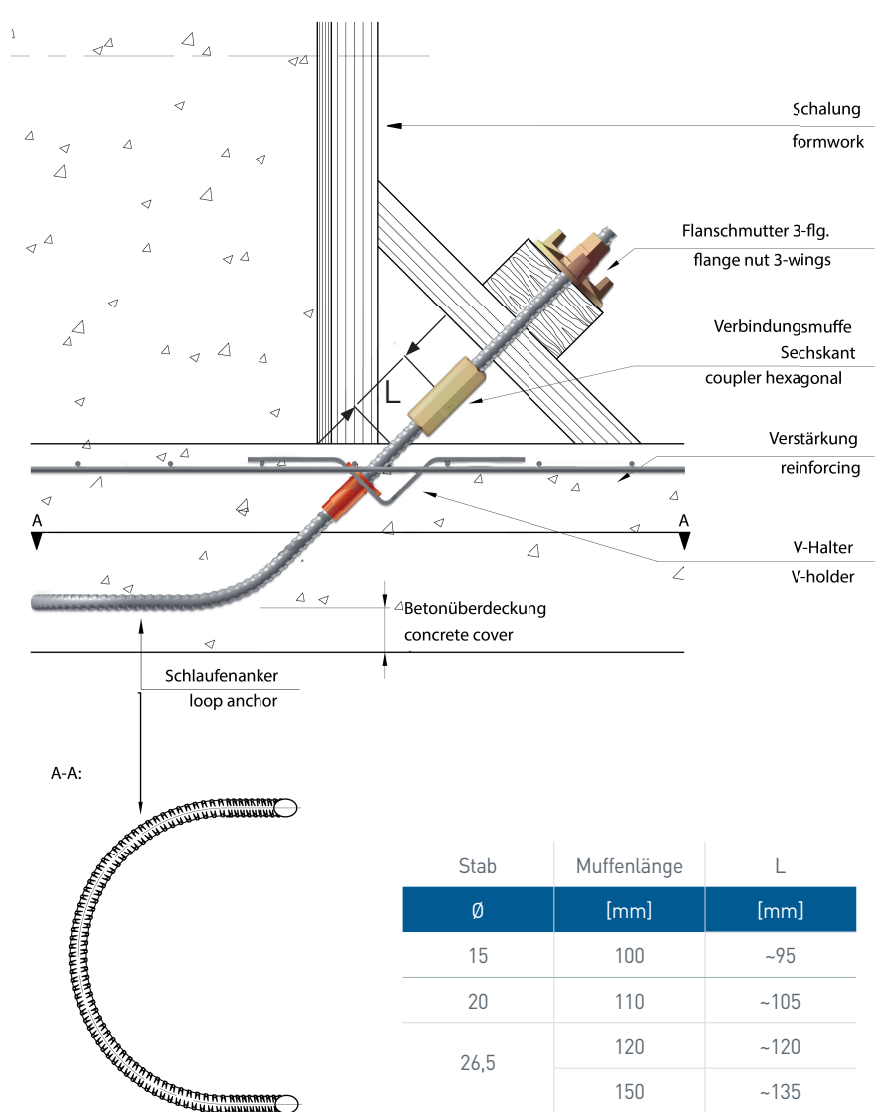
Flanschmutter 3-flg. | flange nut 3-wings 15F31...G

V-Halter | v-holder 15F66300

Der Schlaufenanker muss so eingebaut werden, dass der Stahl-Kunststoffkonus aus dem Beton heraus steht.
Nach dem Entfernen der Schalung kann der Stahl-Kunststoffkonus herausgeschraubt werden.
*The loop anchor has to be placed, that the steel-plastic cone looks out of the concrete.
After removing of the formwork the steel-plastic cone can be screwed off.*

Der Einbau der Schalungsankersysteme muss durch qualifiziertes Personal erfolgen!
The installation of the system has to be carried out by instructed staff!

example 6



Stab Ø	Muffenlänge [mm]	L [mm]
15	100	~95
20	110	~105
26,5	120	~120
	150	~135

Schlaufenanker | loop anchor 15FA65550S

Verbindungsmuffe, sechskant | coupler, hexagonal 15F28100

Verbindungsmuffe, sechskant | coupler, hexagonal 15F28100G

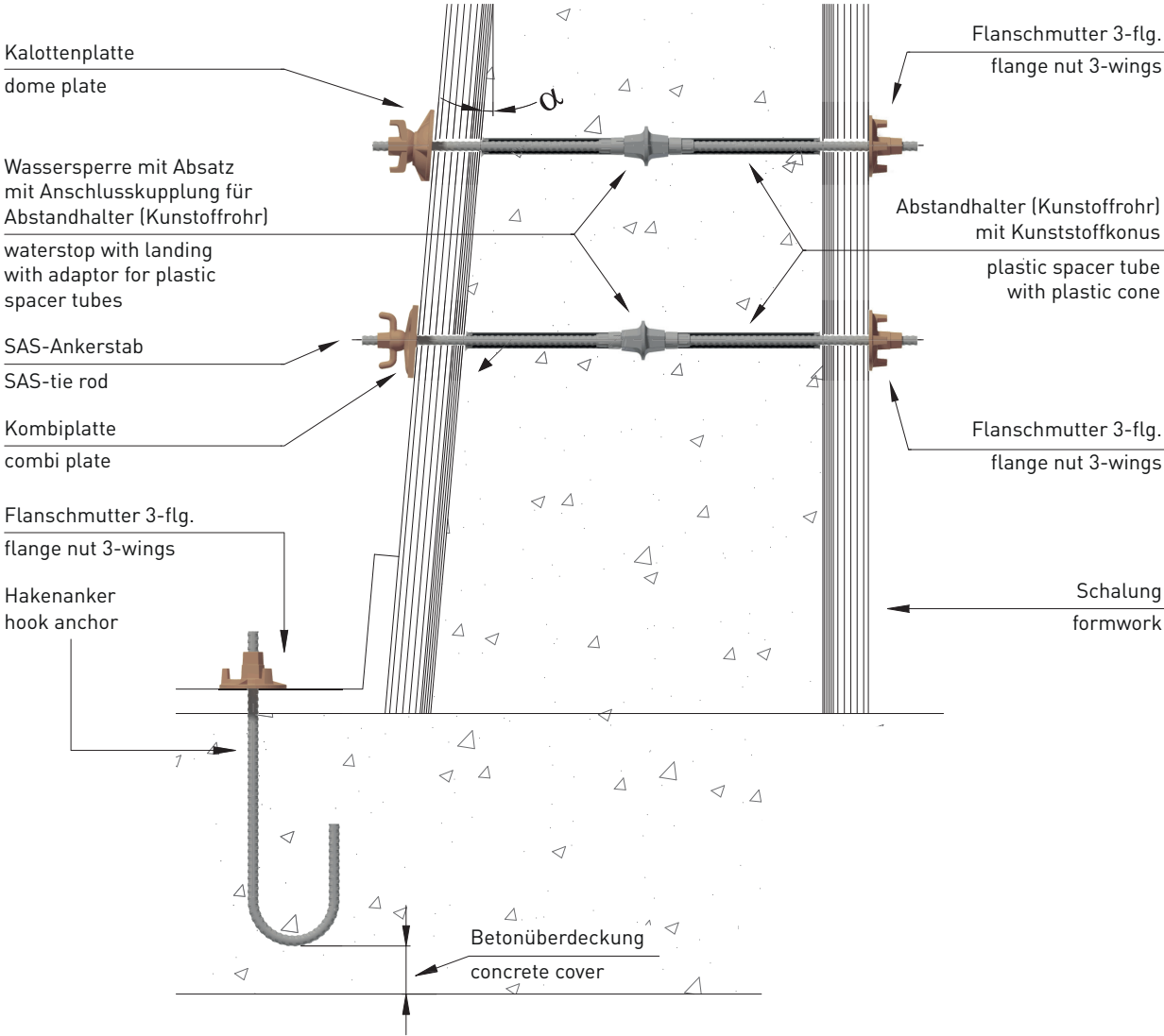
Flanschmutter 3-flg. | flange nut 3-wings 15F31...G

V-Halter | v-holder 15F66300

Der Schlaufenanker muss so eingebaut werden, dass das Stabende gemäß den Angaben aus der Tabelle aus dem Beton heraus steht.
Nach dem Betonieren kann die Verbindungsmuffe (sechskant) zur Verlängerung aufgeschraubt werden.
*The loop anchor has to be placed, that the end of the tie rod looks out of the concrete as indicated in the table.
After concreting the coupler (hexagonal) can be screwed on the tie rod for lengthening.*

Der Einbau der Schalungsankersysteme muss durch qualifiziertes Personal erfolgen!
The installation of the system has to be carried out by instructed staff!

example 7



Mögliche Neigung α der Schalung bei Verwendung folgenden Zubehörs:
Possible inclination α of formwork using the following accessories:

Kombiplatte Combi Plate	15F72010G	4°	15F74010G	5°	15F75010G	5°
Kalottenplatte Dome Plate	15F72120G	8°	15F73130G	9°	20F73130G	5°

Hakenanker | hook anchor 15FA64250H

Hakenanker | hook anchor 15FA64450H

Wassersperre mit Absatz | waterstop with landing 15F44110S

Anschlusskupplung | adaptor 15F44110A

Kombiplatte | combi plate 15F72010G

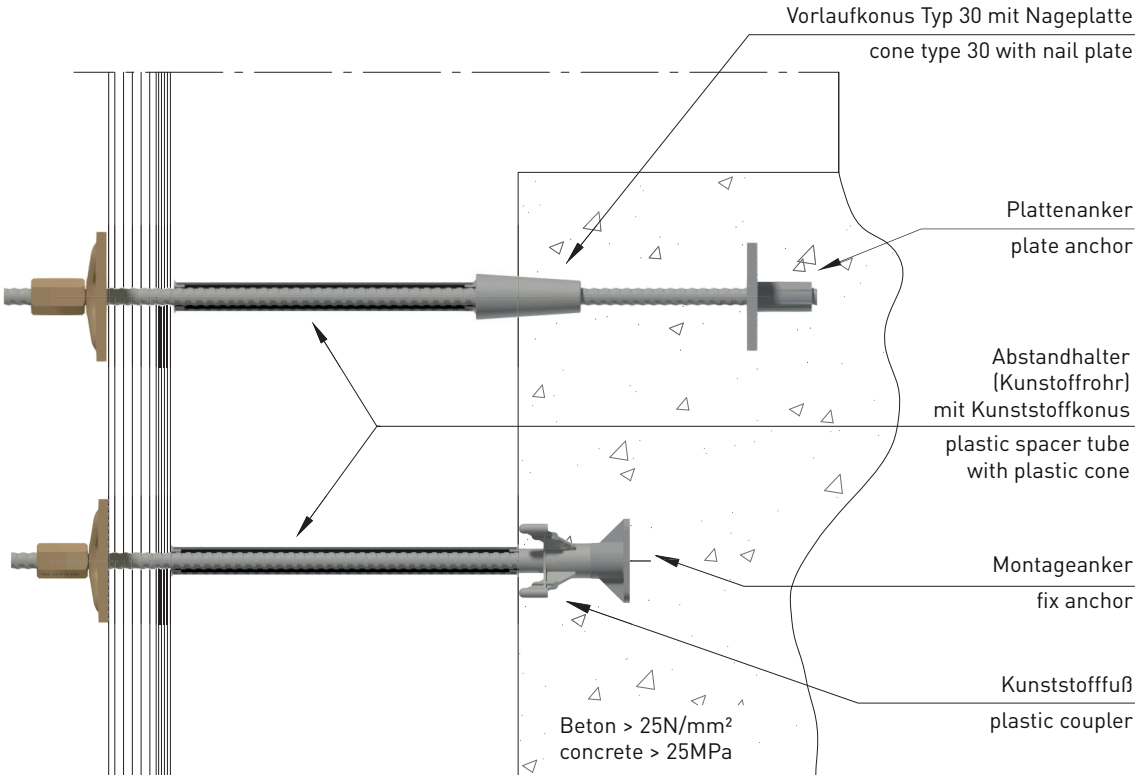
Kalottenplatte | dome plate 15F72120G

Flanschmutter 3-flg. | flange nut 3-wings 15F31 ...G

Die Ankerstäbe müssen wieder ausgebaut werden.
Nach dem Ausbau müssen die Löcher mit Betonstopfen zuglebt oder mit Mörtel verschlossen werden.
The tie rods have to be removed. After removing, the remaining holes have to be closed by concrete plugs or filling with mortar.

Der Einbau der Schalungsankersysteme muss durch qualifiziertes Personal erfolgen!
The installation of the system has to be carried out by instructed staff!

example 8



Plattenanker | plate anchor 15FS63160

Vorlaufkonus Typ 30 | cone type 30 15F17030

Nagelplatte für Vorlaufkonus Typ 30 | nail plate for cone type 30 15F 17030N

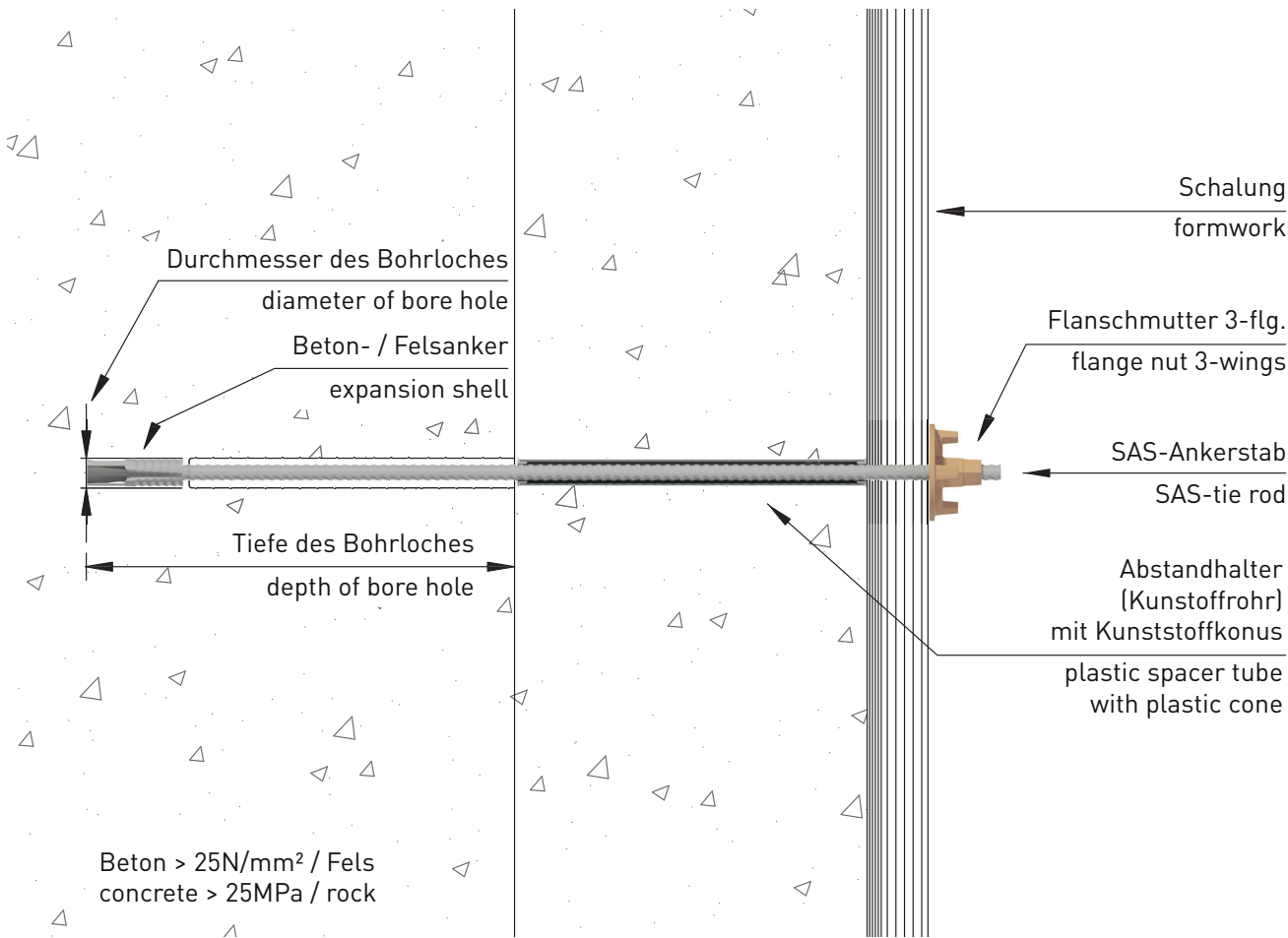
Montageanker | fix anchor 15F61070

Montageanker | fix anchor 15F61055

Kunststofffuß für Montageanker | plastic coupler 15F62055

Zusatzbewehrung nach statischem Nachweis erforderlich. | Additional reinforcement acc. to analysis.

Der Einbau der Schalungsankersysteme muss durch qualifiziertes Personal erfolgen!
The installation of the system has to be carried out by instructed staff!



- Beton-/Felsanker Ø15mm | expansion shell Ø15mm 15F63034
- Beton-/Felsanker Ø15mm | expansion shell Ø15mm 15F63037
- Beton-/Felsanker Ø20mm | expansion shell Ø20mm 20F63053
- Beton-/Felsanker Ø26,5mm | expansion shell Ø26,5mm 26E63063

Zusatzbewehrung nach statischem Nachweis erforderlich. | Additional reinforcement acc. to analysis.

Der Einbau der Schalungsankersysteme muss durch qualifiziertes Personal erfolgen!
The installation of the system has to be carried out by instructed staff!

Orientierungswerte für Beton- und Felsanker Orientation values for Expansion Shells	15F63034	15F63037	20F63053	26E63063
Bohrloch- bore hole - Ø [mm] *	33 - 35	35 - 37	40 - 42	51 - 53
Bohrlochtiefe depth of bore hole t [cm] *	23	32	35	42
Effektive Verankerungstiefe effective anchorage depth h _{eff} [cm] *	20	26	32	37
Mindest-Bohrlochabstand min. distance to next bore hole 3 x t [cm] *	60	78	96	111
Mindest-Randabstand min. distance to edge 1,5 x t [cm] *	30	39	48	56

*Angestellte Werte stellen reine Orientierungshilfen dar. Die tatsächliche aufnehmbare Traglast ist auf Grundlage der Vorgaben der EN 1992-4 und den örtlichen Gegebenheiten zu ermitteln und durch Probebelastungen nachzuweisen.
Specified values are just orientation values. The actual load bearing capacity shall be determined on the basis of the requirements of EN 1992-4 and the local conditions and verified by means of load capacity tests on site.

Anker auf Ankerstabende aufschrauben. Der farbige Plastikring muss dabei auf dem Betonanker bleiben. Stab ganz durch den Konus des Spreizdübels durchschrauben, 1–2 Gewindegänge sollten am oberen Ende überstehen.

Stab mit Anker ins Bohrloch einschieben. Der Plastikring muss sich dabei am Bohrlochrand abstreifen (falls nicht, muss der Ring mit der Hand abgestriffen werden).

ACHTUNG:

- Einbindetiefe, Rand- und Achsabstand sind ausreichend zu wählen.
- Vor der endgültigen Belastung sind Belastungsprüfungen vor Ort vorzunehmen. Dabei ist auf ungünstigste Bedingungen zu achten, wie größtmögliches Bohrloch, schlechtestmögliche Beton- bzw. Felsqualität.
- Der Anker ist mittels Hohlkolbenpresse zu „ziehen“ bis er versagt bzw. die angegebene Prüflast in der beigefügten Tabelle „Prüflasten für Beton u. Felsanker“ erreicht (1,5-fache Gebrauchslast). Versagt der Anker vorher, können die Parameter Bohrlochtiefe, Bohrlochdurchmesser, Achs- und Randabstand variiert werden und ein neuer Zugversuch erfolgen. Die zulässige Arbeitslast wird aus der Versagenslast mit einem Sicherheitsfaktor von 1,5 ermittelt.
Beispiel:
Versagenslast vor Ort: 100 kN
Max. zulässige charakteristische Arbeitslast: 100 / 1,5 = 67 kN
- Beton- bzw. Felsgüte und Bohrlochdurchmesser sind die ausschlaggebenden Faktoren für die Tragkraft des Ankers. Die Wahl des kleineren empfohlenen Bohrlochdurchmessers kann zu erheblich günstigeren Traglasten führen.
- Zugversuch mit größter Sorgfalt durchführen** – Kräfte können bei Stabbruch überraschend und schlagartig freierwerden. **Lebensgefahr!**

Für Spreizdübel sind keine Zulassungen vorgeschrieben und deshalb auch nicht verfügbar.

Screw expansion shell on the bar (tie rod) and take care that the bar is screwed through the cone of the expansion shell. 1-2 pitches of thread bar should be extend out of the cone. The coloured plastic ring must remain on the expansion shell.

Put the assembled anchor into the well prepared borehole. The coloured plastic ring must be removed through the edge of the borehole; if not it must be removed by hand.

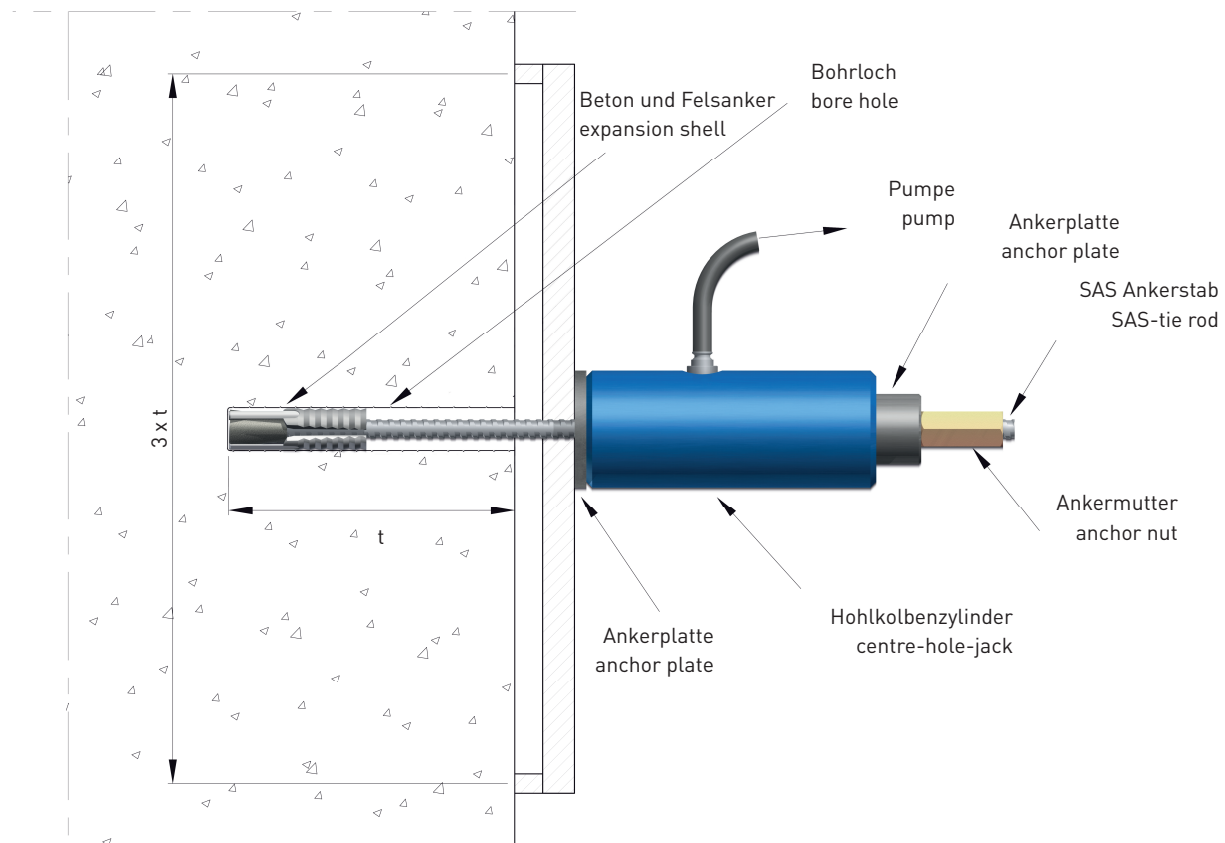
ATTENTION:

- Embedment depth, edge and center distance shall be chosen sufficiently.
- Before putting a full load on the anchor a pull out test under worst conditions on site shall be carried out (biggest possible borehole and worst quality of concrete or rock/soil).
- The pull out test has to be done with a centre-hole jack up to slippage of the anchor or up to the testing load according to table “Testing loads for expansion shells”. (1.5 times working load) If the anchor is pulled out before, vary the parameters borehole depth, borehole diameter, axis and edge distance and conduct a new pull out test. The permitted working load is determined from the failure load with a safety factor of 1.5.
Example: Reached failure load on site: 100 kN
Max. characteristic working load: 100 / 1.5 = 67 kN
- In any case please be aware that the concrete quality or rock or soil as well as size of borehole will affect the anchor behaviour. The choice of the smaller recommended borehole diameter can lead to a significant higher load capacity.
- The pull out tests should be conducted very carefully using experienced and skilled people only.
- There is high danger due to uncontrolled energy/power if the anchor slips out or break. Danger of life!

There is no special approval for expansion shells available as it is not required.

Der Einbau der Schalungsankersysteme muss durch qualifiziertes Personal erfolgen!
The installation of the system has to be carried out by instructed staff!

Probezug für Beton- und Felsanker | *Instruction for Pull-out-test of expansion shell*



Prüflasten für Beton- und Felsanker | *Testing loads for Expansion Shell*

Beton- und Felsanker Expansion Shell	Arbeitslast Working load [kN]	Prüfkraft F_p Testing load F_p [kN]	Hohlkolbenzylinder / centre hole jack
15F63034	60	90	Kraft force ≥ 200 kN • Hub lift ≥ 150 mm • Enerpac RCH-206
15F63037	90	135	
20F63053	120	180	
26E63063	150	225	

Die Prüflasten sind Empfehlungen und keine Garantie für die tatsächliche Tragfähigkeiten des Beton- / Felsankers.
The testing loads are a recommendation and not a guarantee of the real load capacity of Expansion Shells.



SAS Gewindestäbe | SAS thread bar

Streckgrenze / Zugfestigkeit | yield stress / ultimate stress
Anwendungsbereiche | areas of application

Nenn- $\varnothing$
nom.- $\varnothing$

Strecklast
yield load

Bruchlast
ultimate load

Fläche
cross section area

Gewicht
weight

Dehnung
elongation

		[mm]	[kN]	[kN]	[mm²]	[m/to]	[kg/m]	A _{gt} [%]	A _{11,3} [%]	
SAS 500 / 550 – grade 75										
	Bewehrungstechnik <i>reinforcing systems</i>	12	57	62	113	1123,6	0,89	6	10	
		14	77	85	154	826,4	1,21			
		16	100	110	201	632,9	1,58			
		20	160	175	314	404,9	2,47			
		25	245	270	491	259,7	3,85			
	Geotechnik <i>geotechnical systems</i>	28	310	340	616	207,0	4,83			
		32	405	440	804	158,5	6,31			
		36	510	560	1020	125,2	7,99			
		40	630	690	1260	101,3	9,87			
		43	726	799	1452	87,7	11,40			
		50	980	1080	1960	64,9	15,40			
SAS 555 / 700 – grade 80		57,5	1441	1818	2597	49,1	20,38	5	---	
SAS 555 / 700 – grade 80		63,5	1760	2215	3167	40,2	24,86	5	---	
SAS 500 / 550 – grade 75		75	2209	2430	4418	28,8	34,68	5	---	
Alternativ SAS 550 / 620 erhältlich alternative SAS 550 / 620 available										
SAS 450 / 700 – grade 60										
	Bergbau <i>mining</i>	16	93	145	207	617,3	1,62		(A ₅) 15	
		25	220	345	491	259,7	3,85		(A ₅) 20	
SAS 650 / 800 – grade 90										
	Bergbau <i>mining</i>	22	247	304	380	335,6	2,98		(A ₅) 18	
		25	319	393	491	259,7	3,85			
		28	400	493	616	207,0	4,83			
		30	460	565	707	180,2	5,55			
SAS 670 / 800 – grade 97										
	Geotechnik <i>geotechnical systems</i>	18	170	204	254	500,0	2,00	5	10	
		22	255	304	380	335,6	2,98			
		25	329	393	491	259,7	3,85			
		28	413	493	616	207,0	4,83			
	Ankerteknik <i>tunneling & mining</i>	30	474	565	707	180,2	5,55			
		35	645	770	962	132,5	7,55			
		43	973	1162	1452	87,7	11,40			
		50	1315	1570	1963	64,9	15,40			
	Hochfeste Bewehrung <i>high-strength reinforcement</i>	57,5	1740	2077	2597	49,1	20,38			---
		63,5	2122	2534	3167	40,2	24,86			---
		75	2960	3535	4418	28,8	34,68			---
SAS 950 / 1050 – grade 150										
	Spanntechnik <i>post-tensioning systems</i>	18	230	255	241	510,2	1,96	5	7	
		26,5	525	580	551	223,2	4,48			
		32	760	845	804	153,1	6,53			
		36	960	1070	1020	120,9	8,27			
	Geotechnik <i>geotechnical systems</i>	40	1190	1320	1257	97,9	10,21			
		47	1650	1820	1735	70,9	14,10			
SAS 835 / 1035 – grade 150										
	Geotechnik <i>geotechnical systems</i>	57	2155	2671	2581	47,7	20,95	4	---	
		65	2780	3447	3331	36,9	27,10		---	
		75	3690	4572	4418	27,9	35,90		---	
SAS 900 / 1100 FA – grade 160 FA										
	Schalungstechnik <i>formwork ties</i>	15	156	190	173	694,4	1,44	3	7	
		20	278	340	309	390,6	2,56			
		26,5	497	607	552	223,2	4,48	3		
SAS 900 / 1050 FC – grade 150 FC										
	Schalungstechnik <i>formwork ties</i>	15	158	184	175	694,4	1,44	3	7	
		20	280	327	311	390,6	2,56			
SAS 750 / 875 FS – kaltgerollt <i>cold rolled – grade 120 FS</i>										
	Schalungstechnik <i>formwork ties</i>	12,5	99	116	132,5	961,5	1,04	2	5,5	
		15	142	165	189	675,7	1,48			
		20	245	285	326	390,6	2,56			

Zubehör für alle Abmessungen und Anwendungen lieferbar | accessories for all dimensions and applications available