

No.	Name	Material
1	Anchor	Zinc plated steel
2	Bolt	Zinc plated steel 8.8

Building materials



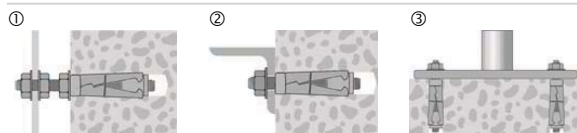
Qualities



Characteristics

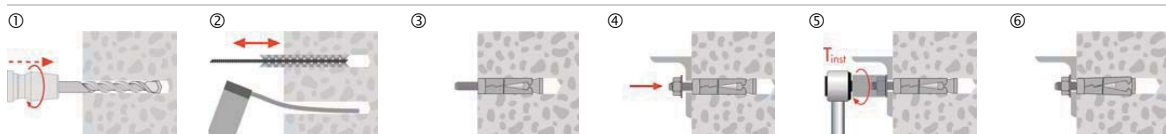
- Force-controlled anchor with bolt, washer and nut.
- Expansion sleeves and cone made of steel.
- Strong expansion throughout the depth of the drill hole.
- Assembling in almost concrete qualities, natural stone and solid brick with accordant firmnesses.
- Application also in some perforated materials.
- Disassembling possible.

Applications



- ① Gap fixing.
- ② Connection assembling.
- ③ Floor assembling.
- Application on metal, machines, scaffolds, facades and door constructions.

Installation



- ① Take drill hole-Ø and drill hole depth from the table.
- ② Clean the drill hole with a brush, then blow it out with a purging pump.
- ③ Insert the Shield Anchor into the building material.
- ④ Position the Building materials and insert the screw.
- ⑤ Tighten the screw with a torque spanner to the predetermined value T_{inst} .

All information detailed in our data sheets is based on technical approvals, formulas and site and laboratory testing under optimum conditions and include a stated safety factor. As we have no direct or indirect control over where or how our products are applied or installed, we do not accept any liability either directly or indirectly arising from the use of our products, whether or not in accordance with any advice, specification or recommendation given by us and we recommend site testing of all products for suitability.

Anchor size		M6	M8	M10	M12
Recommended tension loads: ¹⁾					
N _{Emp}	- Concrete uncracked C20/25 - C50/60	3.3	4.8	6.2	9.7
	- Solid brick, brick and sandstone	1.8	2.3	2.9	4.3
Recommended shear loads:					
V _{Emp}	- Concrete uncracked C20/25 -C50/60	6.8	8.7	13.7	19.9
	- Solid brick, brick and sandstone	1.8	2.3	2.9	4.3
M _{Emp}	Recommended bending moment	9.4	17.1	34.2	60
c	Nom. distance to edge for tension load	80	100	120	160
c	Nom. distance to edge for shear load	100	120	160	180
s	Nom. distance betw. anchors	120	150	180	250
h _{min}	Min. thickness of foundation	70	80	100	120
h _{ef}	Effective anchorage depth	42	43	50	62
d _s	Bolt-Ø	6	8	10	12
SW	Spanner size	10	13	17	19
T _{inst}	Torque at anchoring in concrete	6.5	15	27	50
T _{inst}	Torque at anchoring in solid brick, brick and sandstone	5	7.5	13	23
h ₁	Drill hole depth	55	65	85	105
d ₀	Drill hole-Ø in the building material	12	14	16	20
d _{cut}	Max. drill cut-Ø	12.5	14.5	16.5	20.5
d _f	Hole-Ø in the attached part	7	9	12	14
l	Anchor length	65 80	90 125	90 105 135	125 170
d _{nom}	Anchor-Ø	12	14	16	20
t _{fix}	Assembling length usable	10 25	25 60	15 30 60	30 75



Shield Anchor, steel

1) Without influence of anchor and edge distance / safety factor: breakage of concrete 3, breakage of steel 2.2

Reduction factors

Distance to edge for tension loads

		M6	M8	M10	M12	M16
Distance to edge	50 mm	0.7				
	60 mm	0.8	0.7			
	70 mm	0.9	0.8	0.7		
	80 mm	1	0.9	0.8	0.7	
	100 mm		1	0.9	0.78	0.7
	120 mm			1	0.85	0.78
	140 mm				0.93	0.85
	160 mm				1	0.93
	190 mm					1

Distance to edge for shear loads

		M6	M8	M10	M12	M16
Distance to edge	60 mm	0.5				
	70 mm	0.64				
	80 mm	0.76	0.5			
	100 mm	1	0.75	0.5		
	120 mm		1	0.69	0.5	
	160 mm			1	0.85	
	170 mm				0.93	0.5
	180 mm				1	0.55
	220 mm					0.76
	260 mm					1

Distance betw. anchors for tension and shear loads

		M6	M8	M10	M12	M16
Distance betw. anchors	60 mm	0.7				
	80 mm	0.8	0.7			
	100 mm	0.9	0.8	0.7		
	120 mm	1	0.9	0.8	0.7	
	150 mm		1	0.9	0.78	0.7
	180 mm			1	0.85	0.78
	210 mm				0.93	0.85
	250 mm				1	0.93
	290 mm					1