GFC Structa™ 4

Concrete Screw Anchor **316 Stainless Steel** or **Mechanical Galvanised Carbon Steel** (ETA Option 1 / Fire Rated).

Applications:

- Structural steel applications, framework and bracing
- For use in H3.2 CCA treated timbers
- Infrastructure & civil engineering e.g. bridges
- Heavy duty machinery and heavy HVAC
- High-risk applications
- For use in concrete, brick block and timber
- Base plate fastening in steel and metal construction
- Bottom and top plate fixing

Advantages:

- ETA Option 1 for cracked and non-cracked concrete
- Corrosion resistant – Salt spray tested
- Carbon steel tip (**Structa™ 4** 316 Stainless Steel) - for hardness when tapping a thread into concrete
- Fire rated R120
- Simply drill and drive - Time efficient installation through streamlined procedure
- Integrated washer ensures a neat overall appearance
- Unique design with patented thread form ensures high performance
- Non-expansion functioning ensures low risk of damage to base material

Structa™ 4
316 Stainless Steel

Structa™ 4
Mechanical Galvanised Carbon Steel

Structa™

Specifications may be subject to change. We endeavour to ensure data is correct at time of publication.

GFC Structa™4

Concrete Screw Anchor **316 Stainless Steel** or **Mechanical Galvanised Carbon Steel** (ETA Option 1 / Fire Rated).

Structa™4

316 Stainless Steel

Item Code	Description (mm)	Head Type	Drill Diam (mm)	Wrench Size (mm)	Embedment Depth (mm)
S4H06080S	6 x 80	Hex	6	10	70
S4H08090S	8 x 90	Hex	8	13	85
S4H10105S	10 x 105	Hex	10	17	100
S4H10120S	10 x 120	Hex	10	17	100
S4H10140S	10 x 140	Hex	10	17	100
S4H12150S	12 x 150	Hex	12	19	120

Mechanical Galvanised Carbon Steel

Item Code	Description (mm)	Head Type	Drill Diam (mm)	Wrench Size (mm)	Embedment Depth (mm)
S4H12105G	12 x 105	Hex	12	19	95
S4H12130G	12 x 130	Hex	12	19	95

Structa™4 BiMetal

ETA CE

European Technical Assessment
Option 1: for cracked and non-cracked concrete.

OPTION 1

FIRE RATING R120

gfc DS DESIGN SOFTWARE

Specifications may be subject to change. We endeavour to ensure data is correct at time of publication.

GFC Structa™ 4

GFC Structa™ 4 Countersunk

GFC Structa™ 4 316 Stainless Steel or **Mechanical Galvanised Carbon Steel** Countersunk Screw Anchor
ETA Option 1 / Fire Rated.

GFC Structa™ 4 Dome

GFC Structa™ 4 316 Stainless Steel Dome Head Screw Anchor
ETA Option 1 / Fire Rated.

Applications:

- High corrosion resistant environments
- Kitchen and food facilities
- Chemical and petrochemical plants
- Concrete applications

Advantages:

- Quick and simple installation
- Immediate loading of medium to heavy fixtures
- Removeable
- Suitable for small anchor spacing and edge distance applications

Structa™

Structa™ 4 Countersunk
316 Stainless Steel or Mechanical Galvanised Carbon Steel

Structa™ 4 Dome

Specifications may be subject to change. We endeavour to ensure data is correct at time of publication.

GFC Structa™ 4

GFC Structa™ 4 Countersunk

GFC Structa™ 4 316 Stainless Steel or **Mechanical Galvanised Carbon Steel** Countersunk Screw Anchor
ETA Option 1 / Fire Rated.

GFC Structa™ 4 Dome

GFC Structa™ 4 316 Stainless Steel Dome Head Screw Anchor
ETA Option 1 / Fire Rated.

Structa™ 4 Countersunk

316 Stainless

Item Code	Description (mm)	Head Type	Drill Diam (mm)	Driver Size	Embedment Depth (mm)	Finish
S4C06080S	6 x 80	Csk	6	Torx 40	25	316 SS
S4C08095S	8 x 95	Csk	8	Torx 40	40	316 SS
S4C08100S	8 x 100	Csk	8	Torx 40	40	316 SS

Mechanical Galvanised Carbon Steel

S4C12150G	12 x 150	Csk	12	Torx 40	75	Mech Galvanised

Structa™ 4 Dome

Item Code	Description (mm)	Head Type	Drill Diam (mm)	Driver Size	Embedment Depth (mm)	Finish
S4D06080S	6 x 80	Dome	6	Torx 40	25	316 SS
S4D08090S	8 x 90	Dome	8	Torx 40	40	316 SS
S4D08100S	8 x 100	Dome	8	Torx 40	40	316 SS

Structa™

FIRE RATING R120

ETA CE

European Technical Assessment Option 1: for cracked and non-cracked concrete.

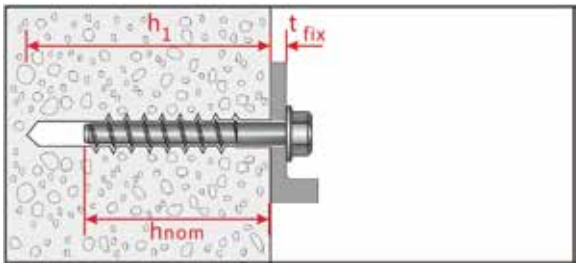
Specifications may be subject to change. We endeavour to ensure data is correct at time of publication.

GFC Structa™ 4 Technical Data

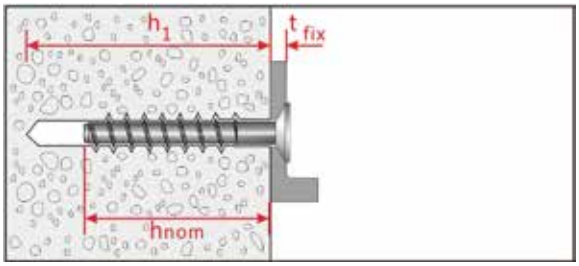
Product in the installed condition

Steel 10B21

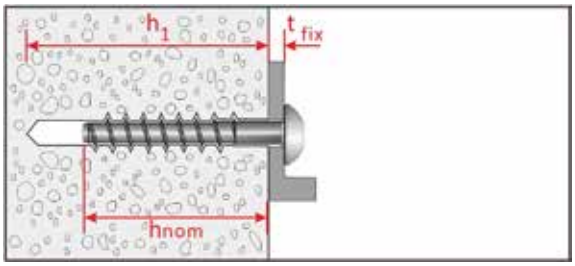
Stainless Steel A4



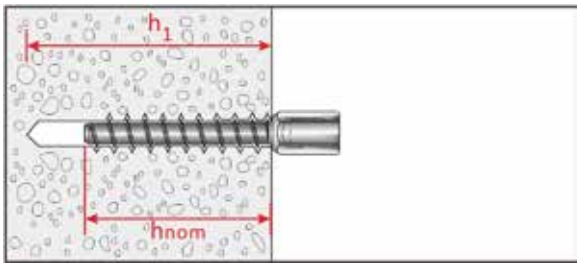
Hexagon Head : TH-H, TH-HF
10B21 (TH8, TH10, TH12)
A4 (TH8, TH10, TH12)



Countersunk Head : TH-CS
10B21 (TH8, TH10)
A4 (TH8, TH10)



Dome Head : TH-PH
10B21 (TH8, TH10)
A4 (TH8, TH10)



Hanger Bolt : TH-HB
A4 (TH10-M12)

Specifications may be subject to change. We endeavour to ensure data is correct at time of publication.

Table A1: Materials and screw types

Name	Material
Screw fastener	

Head marking	material
TH	Steel 10B21 acc. to SAE-J403 zinc coating: electroplated (> 5 µm) or mechanical plated (> 30 µm) (only head type –H and –HF)
TH A4	Stainless steel 1.4401, 1.4404 (both A4)

Anchor size / head types			M8			M10			M12	
			-H -HF -CS -PH	-H -HF	-CS -PH	-H -HF -CS -PH	-H -HF -HB	-CS -PH	-H -HF	
Material			10B21	A4		10B21	A4		10B21	A4
Characteristic yield strength	f_{yk}	N/mm²	780	640	432	750	640	432	750	640
Characteristic tensile strength	f_{uk}	N/mm²	870	800	540	850	800	540	850	800
Elongation at rupture	As	[%]	≤ 8							

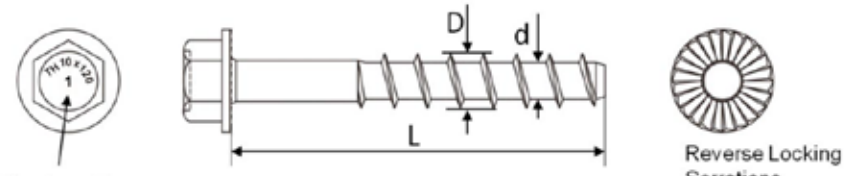
	Hexagon washer head 1) TH-H size 8,10,12 (10B21 steel) 2) TH-H A4 size 8,10,12 (stainless A4)
	Hexagon washer head 3) TH-HF size 8,10,12 (10B21 steel) 4) TH-HF A4 size 8,10,12 (stainless A4)
	Countersunk head 5) TH-CS size 8,10 (10B21 steel) 6) TH-CS A4 size 8,10 (stainless A4)
	Dome head 7) TH-PH size 8,10 (10B21 steel) 8) TH-PH A4 size 8,10 (stainless A4)
	Hanger Bolt head 9) TH-HB A4 size 10 with M12 internal thread (stainless A4)

Specifications may be subject to change. We endeavour to ensure data is correct at time of publication.

Table A2: Dimensions and markings

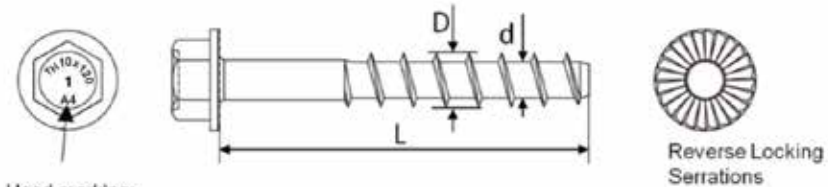
Fastener size			M8				M10				M12	
Head type			H, HF, PH		CS		H, HF, PH, HB		CS		H, HF	
Material			10B21	A4	10B21	A4	10B21	A4	10B21	A4	10B21	A4
Embedment depth	h_{nom}	[mm]	65	85	65	85	75	100	75	100	95	120
Length of fastener	min L	[mm]	70	90	75	95	80	105	85	110	100	125
	max L	[mm]	150				150				150	
Thread diameter	D	[mm]	9,9				12,5				14,3	
Shaft diameter	d	[mm]	7,4				9,4				11,3	
Thread pitch	p	[mm]	5,8				7,7				8,1	

Steel
10B21



Head marking:
Identifying mark of producer: **TH**
Nominal size: e.g. 12 mm
Length L: e.g. 120 mm

Stainless Steel
A4



Head marking:
Identifying mark of producer: **TH**
Nominal size: e.g. 12mm
Length L: 120mm
Material: A4

Specifications may be subject to change. We endeavour to ensure data is correct at time of publication.

Intended use

Anchorages subject to:

- Static and quasi-static loads:
  All sizes.

Base materials:

- Reinforced or unreinforced normal weight concrete according to EN 206-1:2000,
- Strength classes C20/25 to C50/60 according to EN 206-1:2000,
- Uncracked or cracked concrete: all sizes.

Use conditions (Environmental conditions)

- Anchorages subject to dry internal conditions.
- Anchorages subject to external atmospheric exposure (including industrial and marine environment) or exposure in permanently damp internal conditions if no particular aggressive conditions exist. Screw types made of stainless steel with marking A4.

Design:

- Anchorages are designed under the responsibility of an engineer experienced in anchorages and concrete work.
- Verifiable calculation notes and drawings are prepared taking account of the loads to be anchored. The position of the anchor is indicated on the design drawings (e. g. position of the anchor relative to reinforcement or to supports, etc.).
- Anchorages are designed for design method A in accordance with:
  - FprEN 1992-4:2016 in addition with TR 055, Edition December 2016

Installation:

- Hammer drilling only: all sizes and all embedment depths.
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- In case of aborted hole: new drilling at a minimum distance away of twice the depth of the aborted hole or smaller distance if the aborted hole is filled with high strength mortar and if under shear or oblique tension load it is not the direction of the load application.
- After installation further turning of the anchor shall not be possible.
- The head of the anchor must be fully engaged on the fixture and show no signs of damage.

Specifications may be subject to change. We endeavour to ensure data is correct at time of publication.

Table B1: Installation parameters (Steel 10B21)

Fastener size			M8			M10			M12
Head type			H HF	CS	PH	H HF	CS	PH	H HF
Material			Steel 10B21						
Diameter of drill bit	d_0	[mm]	8			10			12
Embedment depth	h_{nom}	[mm]	65			75			95
Min. hole depth in concrete	$h_1 \geq$	[mm]	75			85			105
Effective anchorage depth	h_{ef}	[mm]	50,6			58,1			75,4
Clearance hole in the fixture	d_f	[mm]	11			13			15
Thickness of fixture	t_{fix}	[mm]	5-85	10-85	5-85	5-75	10-75	5-75	5-55
Installation torque	T_{inst}	[Nm]	40	-[1]	-[1]	60	-[1]	-[1]	80
Wrench size (types: H, HF, HI)	WS	[mm]	13	-	-	17	-	-	19
Torx size (types: CS, PH)	TX	-	-	45		-	50		-
Max. power output, machine setting	$T_{max} \leq$	[Nm]	185	120	120	350	120	120	350

1) For the installation of the CS and PH head types only impact screw driver can be used.

Table B2: Installation parameters (Stainless Steel A4)

Fastener size			M8			M10				M12
Head type			H HF	CS	PH	H HF	HB	CS	PH	H HF
Material			Stainless A4							
Diameter of drill bit	d_0	[mm]	8			10				12
Embedment depth	h_{nom}	[mm]	85			100				120
Min. hole depth in concrete	$h_1 \geq$	[mm]	95			110				130
Effective anchorage depth	h_{ef}	[mm]	51,9			58,7				75,6
Clearance hole	d_f	[mm]	11			13				15
Thickness of fixture	t_{fix}	[mm]	5-65	10-65	5-65	5-50	5-50	10-50	5-50	5-30
Installation torque	T_{inst}	[Nm]	-[1]	-[1]	-[1]	-[1]	-[1]	-[1]	-[1]	-[1]
Wrench size (types: H, HF, HI)	WS	[mm]	13	-	-	17	19	-	-	19
Torx size (types: CS, PH)	TX	-	-	45		-	-	50		-
Max. torque moment, machine setting	$T_{max} \leq$	[Nm]	120	120	120	185	185	185	185	185

1) For the installation of the CS and PH head types only impact screw driver can be used.

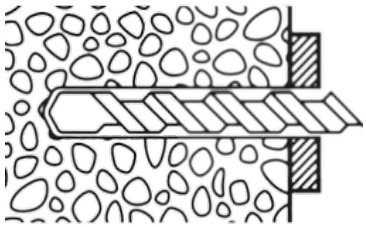
Specifications may be subject to change. We endeavour to ensure data is correct at time of publication.

Table B3: Minimum thickness of member, Minimum spacing and edge distance

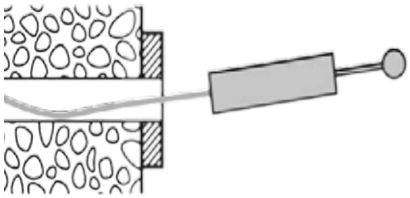
Fastener size			M8		M10		M12	
Head type			H, HF, CS, PH		H, HF, CS, PH, HB		H,HF	
Material			10B21	A4	10B21	A4	10B21	A4
Minimum member thickness	h_{min}	[mm]	110	125	130	140	160	170
Minimum edge distance	c_{min}	[mm]	50	50	60	60	70	70
Minimum spacing	s_{min}	[mm]	50	50	60	60	70	70

Specifications may be subject to change. We endeavour to ensure data is correct at time of publication.

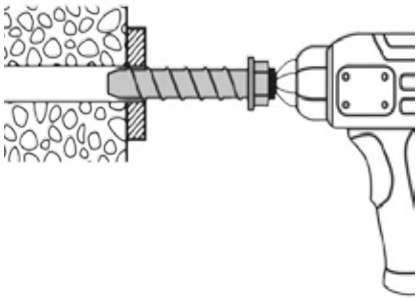
Installation instructions



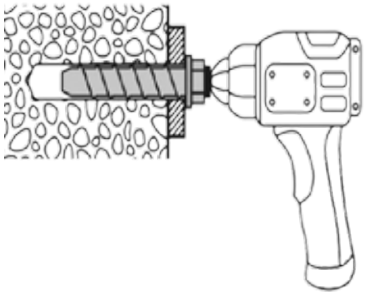
1.**Drill**
Using the correct diameter drill bit, drill a hole to the required embedment depth into the base material.



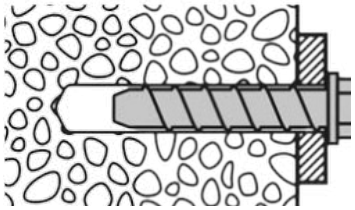
2.**Clean and blow**
Clean and remove dust and debris from the drilled hole with the *Blower Pump* or a vacuum.



3.**Install**
Hold the screw anchor in at a perpendicular angle and insert the pointed end through the fixture and into the hole in the base material



4.**Apply Torque**
Select a power impact wrench e.g *Bosch GDS 18E* and slowly drive the screw, allowing the threads to tap the base material. Continue to tighten screw anchor until head is flush against fixture.



5.**Check**
The head must be undamaged and firmly in contact with the fixture or concrete surface. Further turning of the screw anchor is unnecessary. Installation complete!

Specifications may be subject to change. We endeavour to ensure data is correct at time of publication.

Table C1:
Characteristic resistance under tension loading, Design method A (Steel 10B21)

Fastener size			M8			M10			M12
Head type			H HF	CS	PH	H HF	CS	PH	H HF
Material			Steel 10B21						
Steel failure									
Characteristic resistance	$N_{Rk,s}$	[kN]	35,9			57,0			83,0
Partial factor	γ_{Ms} 2)	[-]	1,4			1,4			1,4
Pull-out failure									
Characteristic resistance in cracked concrete C20/25	$N_{Rk,p}$	[kN]	4,5			10,0			12,0
Characteristic resistance in uncracked concrete C20/25	$N_{Rk,p}$	[kN]	9,0	9,0	6,5	16,0	16,0	11	25,0
Increasing factors for $N_{Rk,p}$ in cracked or uncracked concrete	ψ_c	C30/37	1,22						
		C40/50	1,41						
		C50/60	1,58						
Robustness to installation	γ_{inst}	[-]	1,4			1,0			1,2
Concrete cone failure									
Effective anchorage depth	h_{ef}	[mm]	50,6			58,1			75,4
Characteristic edge distance	$c_{cr,N}$	[mm]	$1,5h_{ef}$						
Characteristic spacing	$s_{cr,N}$	[mm]	$3h_{ef}$						
Factor for cracked concrete	k_{cr}	[-]	7,7 1)						
Factor for uncracked concrete	k_{ucr}	[-]	11,0 1)						
Splitting failure									
Characteristic edge distance for splitting	$c_{cr,sp}$	[mm]	$1,5h_{ef}$						
Characteristic anchor spacing for splitting	$s_{cr,sp}$	[mm]	$3h_{ef}$						

1) Based on concrete strength measured on cylinders.
2) In absence of other national regulations.

Specifications may be subject to change. We endeavour to ensure data is correct at time of publication.

Table C2: Characteristic resistance under tension loading, Design method A (Stainless Steel A4)

Fastener size			**M8**			**M10**				**M12**
Head type			**H HF**	**CS**	**PH**	**H HF**	**HB**	**CS**	**PH**	**H HF**
Material			**Stainless steel A4**							
Steel failure										
Characteristic resistance	$N_{Rk,s}$	[kN]	33,0	22,3	22,3	53,7	53,7	36,2	36,2	78,1
Partial factor	γ_{Ms} 2)	[-]	1,5			1,5				1,5
Pull-out failure										
Characteristic resistance in cracked concrete C20/25	$N_{Rk,p}$	[kN]	4,5	4,5	4,0	7,0	7,0	7,0	7,0	12,0
Characteristic resistance in uncracked concrete C20/25	$N_{Rk,p}$	[kN]	9,0	5,5	4,0	16,0	16,0	10	7,0	25,0
Increasing factors for $N_{Rk,p}$ in cracked or uncracked concrete	ψ_c	C30/37	1,22							
		C40/50	1,41							
		C50/60	1,58							
Robustness to installation	γ_{inst}	[-]	1,4			1,0				1,2
Concrete cone failure										
Effective anchorage depth	h_{ef}	[mm]	51,9			58,7				75,6
Characteristic edge distance	$c_{cr,N}$	[mm]	$1{,}5h_{ef}$							
Characteristic spacing	$s_{cr,N}$	[mm]	$3h_{ef}$							
Factor for cracked concrete	k_{cr}	[-]	7,7 1)							
Factor for uncracked concrete	k_{ucr}	[-]	11,0 1)							
Splitting failure										
Characteristic edge distance for splitting	$c_{cr,sp}$	[mm]	$1{,}5h_{ef}$							
Characteristic anchor spacing for splitting	$s_{cr,sp}$	[mm]	$3h_{ef}$							

1) Based on concrete strength measured on cylinders.
2) In absence of other national regulations.

Specifications may be subject to change. We endeavour to ensure data is correct at time of publication.

Table C3: Displacements under tension loads for non-cracked and cracked concrete

Fastener size	Material	Head type	Concrete	Tension load N	Displacement	
					δ_{N0}	$\delta_{N\infty}$
[-]	[-]	[-]	[-]	[kN]	[mm]	[mm]
TH 8	Steel 10B21	H/HF	cracked C20/25	1,5	0,1	0,8
		CS				
		PH				
TH 10		H/HF		4,8	0,2	1,0
		CS				
		PH				
TH 12		H/HF		4,8	0,3	1,2
TH 8	Stainless steel A4	H/HF	cracked C20/25	1,5	0,1	0,8
		CS		1,5		
		PH		1,4		
TH 10		H/HF/HB		3,3	0,2	1,0
		CS				
		PH				
TH 12		H/HF		4,8	0,3	1,2
TH 8	Steel 10B21	H/HF	uncracked C20/25	3,1	0,1	0,8
		CS				
		PH		2,2		
TH 10		H/HF		7,6	0,1	1,0
		CS				
		PH		5,2		
TH 12		H/HF		9,9	0,3	1,2
TH 8	Stainless steel A4	H/HF	uncracked C20/25	3,1	0,1	0,8
		CS		1,8		
		PH		1,4		
TH 10		H/HF/HB		7,6	0,1	1,0
		CS		4,8		
		PH		3,3		
TH 12		H/HF		9,9	0,3	1,2

Specifications may be subject to change. We endeavour to ensure data is correct at time of publication.

Table C4: Characteristic resistance under shear loading, Design method A

Fastener size			**M8**			**M10**			**M12**	
Head type			H HF CS PH	H HF	CS PH	H HF CS PH	H HF HB	CS PH	H HF	H HF
Material			10B21	A4		10B21	A4		10B21	A4
Setting depth	h_{nom}	[mm]	65	85		75	100		95	120
Effective embedment depth	h_{ef}	[mm]	50,6	51,9		58,1	58,7		75,4	75,6
Steel failure without level arm										
Characteristic resistance	$V^0_{Rk,s}$	[kN]	16,9	16,5	11,2	26,8	26,8	18,1	39,0	39,0
Factor for groups	k_7	[-]	0,8							
Partial factor	γ_{Ms} 1)	[-]	1,5	1,25		1,5	1,25		1,5	1,25
Steel failure with level arm										
Characteristic resistance	$M^0_{Rk,s}$	[Nm]	39,1	35,9	24,2	79,0	74,4	50,2	138,8	130.6
Partial factor	γ_{Ms} 1)	[-]	1,5	1,25		1,5	1,25		1,5	1,25
Concrete pryout failure										
k-factor	k_8	[-]	1,0						2,0	
Partial factor	γ_{Mcp} 1)	[-]	1,5							
Concrete edge failure										
Effective length of anchor	l_f	[mm]	50,6	51,9		58,1	58,7		75,4	75,6
Outside diameter of anchor	d_{nom}	[mm]	7,25			9,24			11,15	
Partial factor	γ_{Mc} 1)	[-]	1,5							

1) In absence of other national regulations.

Specifications may be subject to change. We endeavour to ensure data is correct at time of publication.

Table C5: Displacements under shear loads for non-cracked and cracked concrete

Fastener size	Material	Head type	Concrete	Shear load V	Displacement	
					δ_{V0}	$\delta_{V\infty}$
[-]	[-]	[-]	[-]	[kN]	[mm]	[mm]
TH 8	Steel 10B21	H/HF	Cracked and uncracked C20/25	1,5	1,8	2,7
		CS				
		PH				
TH 10		H/HF		12,8		
		CS				
		PH				
TH 12		H/HF		18,6		
TH 8	Stainless steel A4	H/HF	Cracked and uncracked C20/25	9,4	1,8	2,7
		CS		6,4		
		PH				
TH 10		H/HF/HB		15,3		
		CS		10,3		
		PH				
TH 12		H/HF		22,3		

Specifications may be subject to change. We endeavour to ensure data is correct at time of publication.

Table C6: Characteristic tension resistance values for resistance to fire

Fastener size				M8			M10		M12	
Head type				H HF CS PH	H HF CS	PH	H HF CS PH	H HF HB CS PH	H HF	H/HF
Material				10B21	A4		10B21	A4	10B21	A4
Steel failure										
Characteristic resistance	R30	$N_{Rk,s,fi}$	[kN]	0,41	0,8		1,0	1,7	2,0	2,9
	R60	$N_{Rk,s,fi}$	[kN]	0,37	0,7		0,9	1,3	1,5	2,4
	R90	$N_{Rk,s,fi}$	[kN]	0,29	0,5		0,7	1,0	1,3	2,0
	R120	$N_{Rk,s,fi}$	[kN]	0,21	0,4		0,5	0,9	1,0	1,6
Pull-out failure										
Characteristic resistance in concrete ≥ C20/25	R30 R60 R90	$N_{Rk,p,fi}$	[kN]	1,1	1,1	1,0	2,5	1,8	3,0	3,0
	R120	$N_{Rk,p,fi}$	[kN]	0,9	0,9	0,8	2,0	1,4	2,4	2,4
Concrete cone failure										
Characteristic resistance in concrete ≥ C20/25	R30 R60 R90	$N^0_{Rk,c,fi}$	[kN]	3,1	3,3		4,4	4,5	8,5	8,6
	R120	$N^0_{Rk,c,fi}$	[kN]	2,5	2,7		3,5	3,6	6,8	6,8
Effective embedment depth		h_{ef}	[mm]	50,6	51,9		58,1	58,7	75,4	75,6
Minimum member thickness		h_{min}	[mm]	110	125		130	140	160	170
Spacing		$s_{cr,N,fi}$	[mm]	$4h_{ef}$						
		s_{min}	[mm]	50			60		70	
Edge distance		$c_{cr,N,fi}$	[mm]	$2h_{ef}$						
Fire exposure from one side only		c_{min}	[mm]	50			60		70	
Fire exposure from more than one side				≥ 300 mm						

1) In absence of other national regulations.

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Table C7: Characteristic shear resistance values for resistance to fire

Fastener size				M8		M10		M12	
Head type				all	all	all	all	all	all
Material				10B21	A4	10B21	A4	10B21	A4
Steel failure without level arm									
Characteristic resistance	R30	$V_{Rk,s,fi}$	[kN]	0,41	0,8	1,0	1,7	2,0	2,9
	R60	$V_{Rk,s,fi}$	[kN]	0,37	0,7	0,9	1,3	1,5	2,4
	R90	$V_{Rk,s,fi}$	[kN]	0,29	0,5	0,7	1,0	1,3	2,0
	R120	$V_{Rk,s,fi}$	[kN]	0,21	0,4	0,5	0,9	1,0	1,6
Steel failure with level arm									
Characteristic resistance	R30	$M^0_{Rk,p,fi}$	[Nm]	0,45	0,9	1,4	2,3	3,4	4,9
	R60	$M^0_{Rk,p,fi}$	[Nm]	0,40	0,7	1,2	1,9	2,5	4,0
	R90	$M^0_{Rk,p,fi}$	[Nm]	0,31	0,5	0,9	1,5	2,1	3,3
	R120	$M^0_{Rk,p,fi}$	[Nm]	0,22	0,45	0,7	1,3	1,6	2,6
Pry-out failure									
k_8			[-]	1		1		2	
Characteristic resistance	R30	$V_{Rk,cp,fi}$	[kN]	3,1	3,3	4,4	4,5	17,0	17,1
	R60								
	R90								
	R120	$V_{Rk,cp,fi}$	[kN]	2,5	2,7	3,5	3,6	13,6	13,7
Concrete edge failure									
Characteristic resistance	≤ R90	$V_{Rk,c,fi}$	[kN]	$V^0_{Rk,c,fi} = 0.25 * V^0_{Rk,c}$ [2)]					
	R120	$V_{Rk,c,fi}$	[kN]	$V^0_{Rk,c,fi} = 0.20 * V^0_{Rk,c}$ [2)]					

1) In absence of other national regulations.

2) $V^0_{Rk,c}$ = characteristic resistance for concrete edge failure in cracked concrete C20/C25 under normal temperature calculated acc. to EN 1992-4.

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Option 1: for cracked and non-cracked concrete.

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