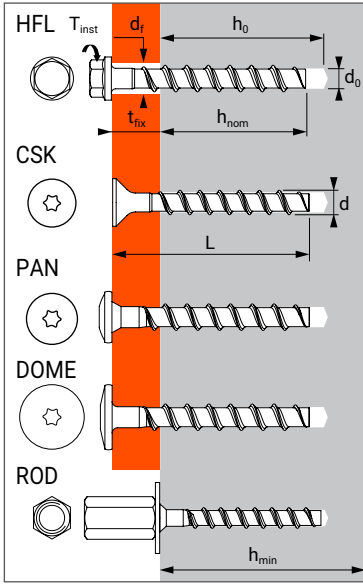




Concrete screw anchor, for use in cracked and non-cracked concrete, and hollow concrete slab



TECHNICAL DATA										
VERSION	RANGE	Embedment depth (mm) h_{nom}	Max. thick. of part to be fixed (mm) t_{fix}	Drilling depth (mm) h_0	Min. thick. of base material (mm) h_{min}	Thread \emptyset (mm) d	Drilling \emptyset (mm) d_0	Total anchor length (mm) L	Tighten torque (Nm) T_{inst}	Code
HFL	5X40/5		5					40		058726
	5X50/15	35	15	40	80	6,5	5	50	8	058727
	5X60/25		25					60		058728
CSK	6X40/5	35	5	40	80	7,5	6	40	10	058729
	5X40/5		5					40		058770
	5X60/25	35	25	40	80	6,5	5	60	8	058771
PAN	6X40/5	35	5	40	80	7,5	6	40	10	058772
	5X40/5		5					40		058779
	5X50/15	35	15	40	80	6,5	5	50	8	058780
DOME	5X60/25		25					60		058781
	6X30/5*	25	3	28	80	7,0	6	28	10	058787
	6X40/5	35	5	40		7,5		40		058782
ROD	6X40/5	35	5	40	80	7,5	6	40	10	058783
	6X60/5		25					60		058784
	6X35/M6-M8	35	-	40	80			35		058788
	6X35/M8-M10	35	-	40	80	7,5	6	35	10	058785
	6X55/M8-M10	55	-	60	100			55		058786

CHARACTERISTICS



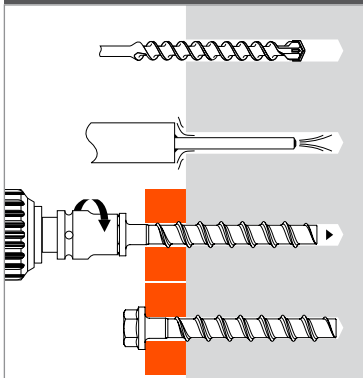
ANCHOR MECHANICAL PROPERTIES

SIZE		$\emptyset 5$	$\emptyset 6$
As	[mm ²] Stressed cross-section	33,0	44,2
W _{el}	[mm ³] Elastic section modulus	27,0	41,4
M ⁰ _{Rk,s}	[Nm] Characteristic bending moment	5,3	10,0
M	[Nm] Recommended bending moment	7,2	5,0
SW	[mm] Key size	10	13

APPLICATION

- Channel, cable tray
- Brackets
- E-Clips, cowhorn
- Rod hanging

INSTALLATION





TAPCON

MINIMUM THICKNESS OF CONCRETE, CHARACTERISTIC & MINIMUM DISTANCES FOR SPACING, EDGE

SIZE			Ø5	Ø6X30	Ø6	Ø6
Embedment depth	h_{nom}	[mm]	35	25	35	55
Minimum thickness of base material	h_{min}	[mm]	80	80	80	100
Characteristic edge and spacing distances for full anchor capacity	$C_{cr} \geq$	[mm]	52,5	150	52,5	82,5
	$S_{cr} \geq$	[mm]	105	200	105	165
Minimum distances for cracked and non-cracked concrete	C_{min}	[mm]	35	150	35	40
	$S \geq$	[mm]				
	S_{min}	[mm]	35	200	35	40
	$C \geq$	[mm]				
Minimum distances for hollow concrete slab	C_{min}	[mm]	-	-	100	100
	$S \geq$	[mm]				
	S_{min}	[mm]	-	-	100	100
	$C \geq$	[mm]				

CHARACTERISTIC RESISTANCES [kN]

Characteristic resistances are shown as informative, and have to be used by application of safety factors.

TENSILE

CRACKED AND NON-CRACKED CONCRETE - C20/25

SIZE		Ø5	Ø6X30	Ø6	Ø6
h_{nom}	[mm]	35	25	35	55
$N_{Rk,p}$	[kN]	1,5	0,9	3,0	7,5

HOLLOW CONCRETE SLAB

DIMENSIONS		Ø5	Ø6X30	Ø6	Ø6
Bottom flange thickness	[mm]	-	-	≥ 25	≥ 35
$N_{Rk,p}$	[kN]	-	-	1,0	3,0

SHEAR

CRACKED AND NON-CRACKED CONCRETE - C20/25 to C50/60

SIZE		Ø5	Ø6X30	Ø6	Ø6
h_{nom}	[mm]	35	25	35	55
$V_{Rk,s}$	[kN]	<u>4,4</u>	<u>0,9</u>	<u>7,0</u>	<u>7,0</u>

HOLLOW CONCRETE SLAB

DIMENSIONS		Ø5	Ø6X30	Ø6	Ø6
Bottom flange thickness	[mm]	-	-	≥ 25	≥ 35
$V_{Rk,p}$	[kN]	-	-	1,0	3,0

RECOMMENDED LOADS OF ONE ANCHOR WITHOUT INFLUENCE OF SPACING & CONCRETE EDGE [kN]

Recommended values are determined from performances given in the ETA, and are guaranteed for spacing $\geq S_{cr}$ and edge distance $\geq C_{cr}$.

TENSILE

CRACKED AND NON-CRACKED CONCRETE - C20/25

SIZE		Ø5	Ø6X30	Ø6	Ø6
h_{nom}	[mm]	35	25	35	55
N_{Rec}	[kN]	0,6	0,4	1,4	3,6

$$N_{Rec} = \min [N_{Rd,p}; N_{Rd,c}; N_{Rd,s}] / \gamma_F; \gamma_F = 1,4$$

HOLLOW CONCRETE SLAB

DIMENSIONS		Ø5	Ø6X30	Ø6	Ø6
Bottom flange thickness	[mm]	-	-	≥ 25	≥ 35
N_{Rec}	[kN]	-	-	0,5	1,4

$$N_{Rec} = \min [N_{Rd,p}; N_{Rd,c}; N_{Rd,s}] / \gamma_F; \gamma_F = 1,4$$

SHEAR

CRACKED AND NON-CRACKED CONCRETE - C20/25 to C50/60

SIZE		Ø5	Ø6X30	Ø6	Ø6
h_{nom}	[mm]	35	25	35	55
V_{Rec}	[kN]	<u>2,5</u>	<u>0,4</u>	<u>4,0</u>	<u>4,0</u>

$$V_{Rec} = V_{Rd,s} / \gamma_F; \gamma_F = 1,4$$

HOLLOW CONCRETE SLAB

DIMENSIONS		Ø5	Ø6X30	Ø6	Ø6
Bottom flange thickness	[mm]	-	-	≥ 25	≥ 35
V_{Rec}	[kN]	-	-	0,5	1,4

$$V_{Rec} = V_{Rd,s} / \gamma_F; \gamma_F = 1,4$$



Nota: The values indicated *in italics and underlined* correspond to steel failure



Design resistances for static and fire loads are determined from performances given in the ETA, and are guaranteed for spacing $\geq S_{cr}$ and edge distance $\geq C_{cr}$. For project with reduced spacing and edge distance, we recommend to use SPIT i-Expert software to design your project according to EN 1992-4.

DESIGN RESISTANCE FOR STATIC LOADS IN CRACKED AND NON CRACKED CONCRETE [kN]

TENSILE					
SIZE		Ø5	Ø6X30	Ø6	Ø6
h_{nom}	[mm]	35	25	35	55
$N_{Rd,uncr}$	[kN]				
	C20/25	0,8	0,6	2,0	5,0
	C40/50	1,2	0,6	2,8	7,1

Distances S_{cr} and C_{cr} must be fulfilled
 $N_{Rd,uncr} = \min[N_{Rk,p,uncr} / \gamma_{Mc}; N_{Rk,s} / \gamma_{Ms,N}]$
 $\gamma_{Mc} = 1,5; \gamma_{Ms,N} = 1,5$

SHEAR					
SIZE		Ø5	Ø6X30	Ø6	Ø6
h_{nom}	[mm]	35	25	35	55
$V_{Rd,s}$	[kN]	<u>$\geq C20/25$</u>	<u>3,5</u>	<u>0,6</u>	<u>5,6</u>

$V_{Rd,s} = V_{Rk,s} / \gamma_{Ms,V}$
 $\gamma_{Ms,V} = 1,25; \text{Ø6X30: } \gamma_{Ms,V} = 1,5$

DESIGN RESISTANCE FOR STATIC LOADS IN HOLLOW CONCRETE SLAB [kN]

TENSILE					
SIZE		Ø5	Ø6X30	Ø6	Ø6
Bottom flange thickness	[mm]	-	-	≥ 25	≥ 35
N_{Rd}	[kN]	-	-	0,7	2,0

Distances S_{cr} and C_{cr} must be fulfilled
 $N_{Rd} = \min[N_{Rk,p} / \gamma_{Mc}; N_{Rk,s} / \gamma_{Ms,N}]$
 $\gamma_{Mc} = 1,5; \gamma_{Ms,N} = 1,5$

SHEAR					
SIZE		Ø5	Ø6X30	Ø6	Ø6
Bottom flange thickness	[mm]	-	-	≥ 25	≥ 35
$V_{Rd,s}$	[kN]	-	-	0,7	2,0

$V_{Rd,s} = V_{Rk,s} / \gamma_{Ms,V}$
 $\gamma_{Ms,V} = 1,25$

DESIGN RESISTANCE FOR FIRE EXPOSURE [kN]

TENSILE					
SIZE		Ø5	Ø6X30	Ø6	Ø6
h_{nom}	[mm]	35	25	35	55
$N_{Rd,fi}$	[kN]				
	R30	-	0,27	0,75	0,90
	R60	-	0,27	0,75	0,80
	R90	-	0,22	0,60	0,60
	R120	-	0,17	0,40	0,40

$N_{Rd,fi} = N_{Rk,s,fi} / \gamma_{M,fi}$
 $\gamma_{M,fi} = 1,0$

SHEAR					
SIZE		Ø5	Ø6X30	Ø6	Ø6
h_{nom}	[mm]	35	25	35	55
$V_{Rd,fi}$	[kN]				
	R30	-	0,27	0,75	0,90
	R60	-	0,27	0,75	0,80
	R90	-	0,22	0,60	0,60
	R120	-	0,17	0,40	0,40

$V_{Rd,fi} = V_{Rk,s,fi} / \gamma_{M,fi}; \gamma_{M,fi} = 1,0$
 $\gamma_{M,fi} = 1,0$