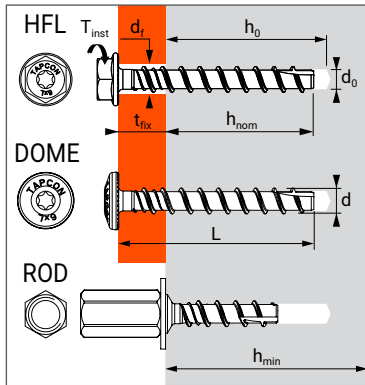


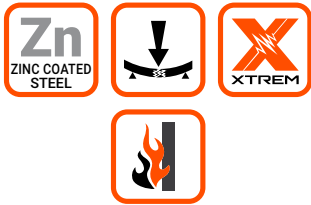
TAPCON 5 XTREM



Concrete screw anchor for use in cracked and non-cracked concrete and seismic performance category C1 & C2



CHARACTERISTICS



TECHNICAL DATA

VERSION	RANGE	Anchorage depth h _{nom,1}			Anchorage depth h _{nom,2}			Anchorage depth h _{nom,3}			Thread Ø	Drilling depth	Drilling Ø	Total anchor length	Code
		Embed. depth	Max. thick. of part to be fixed	Min. thick. of base material	Embed. depth	Max. thick. of part to be fixed	Min. thick. of base material	Embed. depth	Max. thick. of part to be fixed	Min. thick. of base material					
		(mm) h _{nom,1}	(mm) t _{fix}	(mm) h _{min}	(mm) h _{nom,2}	(mm) t _{fix}	(mm) h _{min}	(mm) h _{nom,3}	(mm) t _{fix}	(mm) h _{min}					
HFL	6X40/5	35	5		-	-		-	-					40	058661
	6X50/15	35	15		40	10		-	-					50	058663
	6X60/25-5	35	25	80	40	20	80	55	5	100	7,5	h _{nom} + 10 mm	6	60	058664
	6X80/45-25	35	45		40	40		55	25					80	058665
	6X100/65-45	35	65		40	60		55	45					100	058666
	8X50/5	45	5		-	-		-	-					50	058667
	8X60/15	45	15		-	-		-	-					60	058668
	8X70/25-5	45	25	90	65	5	115	-	-	-		h _{nom} + 10 mm	8	70	058669
	8X80/35-15	45	35		65	15		-	-					80	058670
	8X100/55-35	45	55		65	35		-	-					100	058671
DOME	6X40/5	35	5	80	-	-		-	-	100	7,5	h _{nom} + 10 mm	6	40	058680
	6X60/25-5	35	25		40	20	80	55	5					60	058681
ROD	6X35/M8-M10	35	-	80	-	-	-	-	-	100	7,5	h _{nom} + 10 mm	6	35	058678
	6X55/M8-M10	-	-		-	-		55	-					55	058679

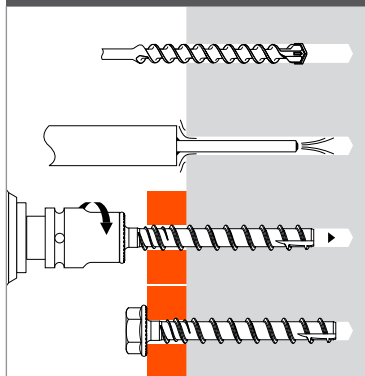
APPLICATION

- Channel, cable tray
- Brackets
- E-Clips, cowhorn
- Trunking
- Safety barriers

ANCHOR MECHANICAL PROPERTIES

SIZE			$\emptyset 6$	$\emptyset 8$
$M^0_{Rk,s}$	[Nm]	Characteristic bending moment	22,9	54,2
M	[Nm]	Recommended bending moment	11,0	26,1

INSTALLATION



	HFL	DOME	ROD
$\emptyset$	SW13/TX30	TX30	SW13
6	SW15/TX40	-	-

MAX. TORQUE IMPACT SCREW DRIVER

SIZE		Ø6	Ø6	Ø6	Ø8	Ø8
h _{nom}	[mm]	35	40	55	45	65
Max. T impact	[Nm]	160	170	210	400	450

Installation with torque impact screw driver - Stop screwing when the head of the screw is in contact with the fixture.



TAPCON 5 XTREM

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

SIZE			Ø6	Ø6	Ø6	Ø8	Ø8
Embedment depth	h_{nom}	[mm]	35	40	55	45	65
Minimum thickness of base material	h_{min}	[mm]	80	80	100	90	115
Characteristic edge and spacing distances for full anchor capacity	$C_{cr} \geq$	[mm]	40,5	46	66	52,5	78
	$S_{cr} \geq$	[mm]	81	93	132	105	156
Minimum distances for cracked and non-cracked concrete	C_{min}	[mm]	35	40	40	40	50
	S_{min}	[mm]	35	40	40	40	50

CHARACTERISTIC RESISTANCES [kN]

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

----- INDIVIDUAL FASTENERS FOR STRUCTURAL SYSTEMS -----

TENSILE

NON CRACKED CONCRETE - C20/25

SIZE		Ø6	Ø6	Ø8	Ø8
h_{nom}	[mm]	40	55	45	65
$N_{Rk,p}$	[kN]	7,0	10,0	12,1	18,3

CRACKED CONCRETE - C20/25

SIZE		Ø6	Ø6	Ø8	Ø8
h_{nom}	[mm]	40	55	45	65
$N_{Rk,p}$	[kN]	2,5	5,5	4,5	11,2

SHEAR

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

SIZE		Ø6	Ø6	Ø8	Ø8
h_{nom}	[mm]	40	55	45	65
$V_{Rk,s}$	[kN]	<u>8,5</u>	<u>8,5</u>	<u>12,2</u>	<u>17,9</u>

----- FASTENERS FOR REDUNDANT NON-STRUCTURAL SYSTEMS -----

TENSILE

CRACKED AND NON CRACKED CONCRETE - C20/25

SIZE		Ø6	Ø6
h_{nom}	[mm]	35	55
$N_{Rk,p}$	[kN]	3,0	10,0

HOLLOW CONCRETE SLAB $\geq$ C30/37

SIZE		Ø6
h_{nom}	[mm]	≥ 25
$N_{Rk,p}$	[kN]	2,5

SHEAR

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

SIZE		Ø6	Ø6
h_{nom}	[mm]	35	55
$V_{Rk,s}$	[kN]	<u>3,4</u>	<u>8,5</u>

HOLLOW CONCRETE SLAB $\geq$ C30/37

SIZE		Ø6
h_{nom}	[mm]	≥ 25
$V_{Rk,s}$	[kN]	2,5

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 $\geq C_{cr}$.

----- INDIVIDUAL FASTENERS FOR STRUCTURAL SYSTEMS -----

TENSILE

NON CRACKED CONCRETE - C20/25

SIZE		Ø6	Ø6	Ø8	Ø8
h_{nom}	[mm]	40	55	45	65
N_{Rec}	[kN]	2,4	4,0	4,8	7,3

CRACKED CONCRETE - C20/25

SIZE		Ø6	Ø6	Ø8	Ø8
h_{nom}	[mm]	40	55	45	65
N_{Rec}	[kN]	0,9	2,2	1,8	4,4

SHEAR

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

SIZE		Ø6	Ø6	Ø8	Ø8
h_{nom}	[mm]	40	55	45	65
V_{Rec}	[kN]	<u>4,0</u>	<u>4,0</u>	<u>5,8</u>	<u>8,5</u>

----- FASTENERS FOR REDUNDANT NON-STRUCTURAL SYSTEMS -----

TENSILE

CRACKED AND NON CRACKED CONCRETE - C20/25

SIZE		Ø6	Ø6
h_{nom}	[mm]	35	55
N_{Rec}	[kN]	1,2	4,0

HOLLOW CONCRETE SLAB $\geq$ C30/37

SIZE		Ø6
h_{nom}	[mm]	≥ 25
N_{Rec}	[kN]	1,0

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

SHEAR

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

SIZE		Ø6	Ø6
h_{nom}	[mm]	35	55
V_{Rec}	[kN]	<u>1,35</u>	<u>4,0</u>

HOLLOW CONCRETE SLAB $\geq$ C30/37

SIZE		Ø6
h_{nom}	[mm]	≥ 25
V_{Rec}	[kN]	1,0

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

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



Design resistances for static, seismic 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.

----- INDIVIDUAL FASTENERS FOR STRUCTURAL SYSTEMS -----

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

TENSILE				
SIZE		Ø6	Ø6	Ø8
h_{nom} [mm]		40	55	45
$N_{Rd,uncr}$ [kN]	C20/25	3,3	5,6	6,7
	C40/50	3,8	7,0	7,8

Distances S_{cr} and C_{cr} must be fulfilled ; $N_{Rd,uncr} = \min[N_{Rk,p,uncr} / \gamma_{Mc} ; N_{Rk,s} / \gamma_{Ms,N}]$
 $\gamma_{Mc} = 2,1$ for $h_{nom} = 40$ mm ; $\gamma_{Mc} = 1,8$ for $h_{nom} \geq 45$ mm ; $\gamma_{Ms,N} = 1,4$

SHEAR				
SIZE		Ø6	Ø6	Ø8
h_{nom} [mm]		40	55	45
$V_{Rd,s}$ [kN]	$\geq C20/25$	<u>5,7</u>	<u>5,7</u>	<u>8,1</u>
		<u>11,9</u>		

$V_{Rd,s} = V_{Rk,s} / \gamma_{Ms,V}$
 $\gamma_{Ms,V} = 1,5$

DESIGN RESISTANCE FOR STATIC LOADS IN CRACKED CONCRETE [kN]

TENSILE				
SIZE		Ø6	Ø6	Ø8
h_{nom} [mm]		40	55	45
$N_{Rd,cr}$ [kN]	C20/25	1,2	3,1	2,5
	C40/50	1,3	3,9	3,4

Distances S_{cr} and C_{cr} must be fulfilled ; $N_{Rd,cr} = \min[N_{Rk,p,cr} / \gamma_{Mc} ; N_{Rk,s} / \gamma_{Ms,N}]$
 $\gamma_{Mc} = 2,1$ for $h_{nom} = 40$ mm ; $\gamma_{Mc} = 1,8$ for $h_{nom} \geq 45$ mm ; $\gamma_{Ms,N} = 1,4$

SHEAR				
SIZE		Ø6	Ø6	Ø8
h_{nom} [mm]		40	55	45
$V_{Rd,s}$ [kN]	$\geq C20/25$	<u>5,7</u>	<u>5,7</u>	<u>8,1</u>
		<u>11,9</u>		

$V_{Rd,s} = V_{Rk,s} / \gamma_{Ms,V}$
 $\gamma_{Ms,V} = 1,5$

DESIGN RESISTANCE FOR SEISMIC LOADS CATEGORY C1 [kN]

TENSILE				
SIZE		Ø6	Ø6	Ø8
h_{nom} [mm]		40	55	65
$N_{Rd,C1}$ [kN]	C20/25	1,0	2,4	5,6
	C40/50	1,5	3,1	7,1

Distances S_{cr} and C_{cr} must be fulfilled ; $N_{Rd,C1} = \min[N_{Rk,p,eq,C1} / \gamma_{Mc} ; N_{Rk,s,eq,C1} / \gamma_{Ms,N}]$
 $\gamma_{Mc} = 2,1$ for $h_{nom} = 40$ mm ; $\gamma_{Mc} = 1,8$ for $h_{nom} \geq 45$ mm ; $\gamma_{Ms,N} = 1,4$

SHEAR				
SIZE		Ø6	Ø6	Ø8
h_{nom} [mm]		40	55	65
$V_{Rd,s,C1}$ [kN]	$\geq C20/25$	2,9	4,9	7,2

$V_{Rd,s,C1} = V_{Rk,s,eq,C1} / \gamma_{Ms,V} ; \gamma_{Ms,V} = 1,5$

DESIGN RESISTANCE FOR SEISMIC LOADS CATEGORY C2 [kN]

TENSILE				
SIZE		Ø8		
h_{nom} [mm]		65		
$N_{Rd,C2}$ [kN]	C20/25	1,6		
	C40/50	1,8		

Distances S_{cr} and C_{cr} must be fulfilled ; $N_{Rd,C2} = \min[N_{Rk,p,eq,C2} / \gamma_{Mc} ; N_{Rk,s,eq,C2} / \gamma_{Ms,N}]$
 $\gamma_{Mc} = 2,1$ for $h_{nom} = 40$ mm ; $\gamma_{Mc} = 1,8$ for $h_{nom} \geq 45$ mm ; $\gamma_{Ms,N} = 1,4$

SHEAR				
SIZE		Ø8		
h_{nom} [mm]		65		
$V_{Rd,s,C2}$ [kN]	$\geq C20/25$	<u>6,1</u>		

$V_{Rd,s,C2} = V_{Rk,s,eq,C2} / \gamma_{Ms,V} ; \gamma_{Ms,V} = 1,5$

----- FASTENERS FOR REDUNDANT NON-STRUCTURAL SYSTEMS -----

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

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

Distances S_{cr} and C_{cr} must be fulfilled ; $N_{Rd} = \min[N_{Rk,p} / \gamma_{Mc} ; N_{Rk,s} / \gamma_{Ms,N}]$
 $\gamma_{Mc} = 1,8$; $\gamma_{Ms,N} = 1,4$

SHEAR				
SIZE		Ø6	Ø6	
h_{nom} [mm]		35	55	
$V_{Rd,s}$ [kN]	$\geq C20/25$	<u>2,25</u>	<u>5,7</u>	

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

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

TENSILE				
SIZE		Ø6		
h_{nom} [mm]		≥ 25		
N_{Rd} [kN]	$\geq C30/37$	1,4		

Distances S_{cr} and C_{cr} must be fulfilled ; $N_{Rd} = F_{Rk} / \gamma_{Mc} ; \gamma_{Mc} = 1,8$

SHEAR				
SIZE		Ø6		
h_{nom} [mm]		≥ 25		
$V_{Rd,s}$ [kN]	$\geq C30/37$	1,4		

$V_{Rd,s} = F_{Rk} / \gamma_{Mc} ; \gamma_{Mc} = 1,8$

DESIGN RESISTANCE FOR FIRE EXPOSURE [kN]

TENSILE	Hollow slab	Concrete			
SIZE		Ø6	Ø6	Ø8	Ø8
h_{nom} [mm]	≥ 25	35-40	55	45	65
$N_{Rd,fi}$ R30 [kN]	0,72	1,0	1,5	0,5	0,5
$N_{Rd,fi}$ R60 [kN]	0,62	1,0	1,3	0,5	0,5
$N_{Rd,fi}$ R90 [kN]	0,53	0,7	0,84	0,4	0,4
$N_{Rd,fi}$ R120 [kN]	0,48	0,54	0,62	0,3	0,3

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

SHEAR	Hollow slab	Concrete			
SIZE		Ø6	Ø6	Ø8	Ø8
h_{nom} [mm]	≥ 25	35-40	55	45	65
$V_{Rd,fi}$ R30 [kN]	0,72	1,0	1,5	0,5	0,5
$V_{Rd,fi}$ R60 [kN]	0,62	1,0	1,3	0,5	0,5
$V_{Rd,fi}$ R90 [kN]	0,53	0,7	0,84	0,4	0,4
$V_{Rd,fi}$ R120 [kN]	0,48	0,54	0,62	0,3	0,3

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

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