

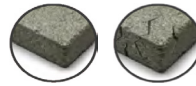
## TAB HE CONCRETE BOLT

### Features:

- Through fixing
- Approved for cracked or non-cracked concrete
- Rapid Installation
- Hardened Steel with Zinc Plating, minimum 5um
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### Benefits:

- Quick and simple installation
- One anchor for concrete from C20/25 to C50/60
- Adjustable fixture thickness
- Removable for use with temporary structures



Concrete Ranges: C20/C25 according to EN 206:2013+A1:2016

Certification: European technical assessment 19/0774

## Product Range

### TAB HE Concrete Screw

Product Code	Thread Diameter	Anchor Length	Drill Hole Diameter	Drill Hole Depth	Maximum Fixture Thickness	Fixture Clearance Hole	Hex Head
	d	L	d <sub>o</sub>	h <sub>nom</sub>	t <sub>fix</sub>	d <sub>f</sub>	A/F
	mm	mm	mm	mm	mm	mm	mm
TAB08080HE	10	75	8	75	5	12	15
TAB08100HE		100			25		
TAB08130HE		130			55		
TAB08150HE		150			75		
TAB10100HE	12	100	10	85	15	14	17
TAB10130HE		130			45		
TAB10150HE		150			65		
TAB12100HE	14	100	12	105	5	16	19
TAB12130HE		130			35		
TAB12150HE		150			55		
TAB12200HE		200			105		
TAB14150HE	16	150	14	125	40	18	24

## Installation Data

Anchor Diameter			M8	M10	M12	M14
Nominal Anchorage Depth	h <sub>nom</sub>	[mm]	75	85	95	110
Effectice Anchorage Depth	h <sub>eff</sub>	[mm]	55	62	69	79
Minimum Concrete Thickness	h <sub>min</sub>	[mm]	120	125	140	170
Minimum Spacing	s <sub>min</sub>	[mm]	50	60	70	80
Minimum Edge Distance	c <sub>min</sub>	[mm]	50	60	70	80
Setting Torque	T <sub>inst</sub>	[Nm]	40	60	80	90
<b>Uncracked concrete</b>						
Design Spacing Spacing- Tension	S <sub>cr,N,ucr</sub>	[mm]	50	60	80	230
Design Spacing Spacing- Shear	S <sub>cr,V,ucr</sub>	[mm]	170	190	210	240
Design Edge Distance - Tension	C <sub>cr,N,ucr</sub>	[mm]	50	60	70	130
Design Edge Distance - Shear	C <sub>cr,V,ucr</sub>	[mm]	130	330	360	390
<b>Cracked concrete</b>						
Design Spacing Spacing- Tension	S <sub>cr,N,cr</sub>	[mm]	50	70	120	140
Design Spacing Spacing- Shear	S <sub>cr,V,cr</sub>	[mm]	170	190	210	240
Design Edge Distance - Tension	C <sub>cr,N,cr</sub>	[mm]	50	60	80	90
Design Edge Distance - Shear	C <sub>cr,V,cr</sub>	[mm]	130	330	360	390

For reductions in Spacing and Edge Distance refer to DesignFix for calculations

## Load Data

### Characteristics Resistance

Anchor Diameter			M8	M10	M12	M14
Non-Cracked Concrete						
N <sub>Rk</sub>		[kN]	12.0	16.0	20.0	35.0
V <sub>Rk</sub>		[kN]	20.5	49.3	57.8	70.9
Cracked Concrete						
N <sub>Rk</sub>		[kN]	7.5	12.0	16.0	20.0
V <sub>Rk</sub>		[kN]	14.6	35.1	41.2	50.5

### Design Resistance

Anchor Diameter			M8	M10	M12	M14
Non-Cracked Concrete						
N <sub>Rd</sub>		[kN]	6.6	8.8	11.1	19.4
V <sub>Rd</sub>		[kN]	11.3	27.3	32.1	39.3
Cracked Concrete						
N <sub>Rd</sub>		[kN]	4.1	6.6	8.8	11.1
V <sub>Rd</sub>		[kN]	8.1	19.5	22.8	28.0

### Recommended Resistance

Anchor Diameter			M8	M10	M12	M14
Non-Cracked Concrete						
N <sub>rec</sub>		[kN]	4.7	6.2	7.9	13.8
V <sub>rec</sub>		[kN]	8.0	19.5	22.9	28.0
Cracked Concrete						
N <sub>rec</sub>		[kN]	2.9	4.7	6.2	7.9
V <sub>rec</sub>		[kN]	5.7	13.9	16.2	20.0

*Includes Partial Safety Factor  $\gamma = 1.4$  in the absence of national regulations and type of loading Data is for Static and Quasi Static Loads for a single anchor*

## Increasing Concrete Factors

Anchor Diameter			M8	M10	M12	M14
$\Psi_c$ C30/37		[-]	1.17			1.22
$\Psi_c$ C40/50		[-]	1.32			1.41
$\Psi_c$ C50/60		[-]	1.42			1.55

*When using increasing factors care must be taken not to exceed steel limits*

## Steel Limits

Characteristic Steel limits			M8	M10	M12	M14
Tensile	N <sub>Rk,s</sub>	[kN]	44.2	70.1	101.2	140.0
Partial Safety Factor	$\gamma_{MsN}$	[-]	1.4			
Shear - without lever arm	V <sub>Rk,s</sub>	[kN]	28.5	46.4	57.2	80.4
Shear - with lever arm	M <sup>0</sup> <sub>Rk,s</sub>	[Nm]	40.0	80.0	138.0	224.0
Partial Safety Factor	$\gamma_{MsV}$	[-]	1.5			

## Characteristic resistance for fire loads

### Characteristic Tensile Resistance for Fire Loads

Anchor Diameter			M8	M10	M12	M14
$N_{Rk,s,fi,30}$		[kN]	0.4	1.1	2.0	2.8
$N_{Rk,s,fi,60}$		[kN]	0.4	0.9	1.50	2.10
$N_{Rk,s,fi,90}$		[kN]	0.3	0.7	1.3	1.8
$N_{Rk,s,fi,120}$		[kN]	0.2	0.6	1.00	1.4

### Characteristic Shear Resistance without lever arm for Fire Loads

Anchor Diameter			M8	M10	M12	M14
$V_{Rk,s,fi,30}$		[kN]	0.4	1.1	2.0	2.8
$V_{Rk,s,fi,60}$		[kN]	0.4	0.9	1.5	2.1
$V_{Rk,s,fi,90}$		[kN]	0.3	0.7	1.3	1.8
$V_{Rk,s,fi,120}$		[kN]	0.2	0.6	1.0	1.4

### Characteristic Shear Resistance with lever arm for Fire Loads

Anchor Diameter			M8	M10	M12	M14
$M^0_{Rk,s,fi,30}$		[Nm]	0.5	1.5	3.4	5.6
$M^0_{Rk,s,fi,60}$		[Nm]	0.4	1.3	2.6	4.2
$M^0_{Rk,s,fi,90}$		[Nm]	0.3	1.0	2.2	3.6
$M^0_{Rk,s,fi,120}$		[Nm]	0.2	0.8	1.7	2.8

For fire exposure cracked concrete is usually assumed in the absence of other national regulations the partial safety for resistance under fire exposure = 1.0

## Fire Installation Data

Anchor Diameter			M8	M10	M12	M14
Characteristic Spacing	$S_{cr,N,fi}$	[mm]	220	248	276	316
Characteristic Edge Distance	$C_{cr,N,fi}$	[mm]	110	124	138	158
Minimum Concrete Thickness	$h_{cr,N,fi}$	[mm]	120	125	140	170

