Screw Anchor THD

Opis:

The high-strength screw anchor for use in cracked and non-cracked concrete. The THD offers low installation torque and outstanding performance. The THD is designed and tested in dry, interior, non-corrosive environments.

Features:

- Thread design undercuts to efficiently transfer the load to the base material
- Specialized heat-treating process creates tip hardness for better cutting without compromising the ductility
- No special drill bit required — designed to install using standard-sized drill bits
- Hex-washer head requires no separate washer and provides a clean installed appearance
- Removable — ideal for temporary anchoring (e.g., formwork, bracing) or applications where fixtures may need to be moved
- Reuse of the anchor to achieve listed load values is not recommended

Materials:

Carbon steel, hardened

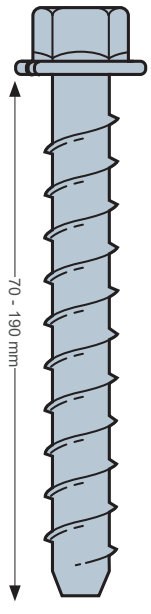
Coating:

Zinc electroplated ≥ 5µm acc. EN ISO 4042 and passivated. Not suitable for permanent exterior use or highly corrosive environments.

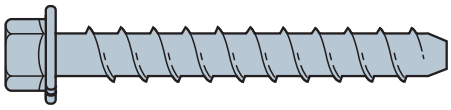
Cracked Concrete | Non-cracked Concrete | Sprinkler Systems | Fire-resistancy (120 min.) | Civil Defense | Undercut Anchor System | Zinc Electroplated | Indoor use

Available Sizes

Type	Item code	Ø Depth of Drilled Hole	Max. Fixture Thickness	Ø Clearance Hole Diameter in the Fixture	Hexagon Drive	Nominal Anchorage Depth	Length
		$d_0 \times h_1$	t_{fix}	$d_f \leq$	SW	$h_{nom} \geq$	L
		[mm]			-	[mm]	
THD8 x 70/5	THD08070	8x75	5	12	SW13	65	70
THD8 x 80/15	THD08080		15				80
THD8 x 100/35	THD08100		35				100
THD8 x 120/55	THD08120		55				120
THD8 x 140/75	THD08140		75				140
THD8 x 160/95	THD08160		95				160
THD10 x 80/5	THD10080	10x85	5	14	SW15	75	80
THD10 x 90/15	THD10090		15				90
THD10 x 100/25	THD10100		25				100
THD10 x 120/45	THD10120		45				120
THD10 x 140/65	THD10140		65				140
THD10 x 160/85	THD10160		85				160
THD10 x 170/95	THD10170		95				170
THD12 x 110/15	THD12110	12x105	15	16	SW17	95	110
THD12 x 130/35	THD12130		35				130
THD12 x 150/55	THD12150		55				150
THD12 x 190/95	THD12190		95				190
THD16 x 130/15	THD16130	16x130	15	22	SW24	115	130
THD16 x 150/35	THD16150		35				150



Screw Anchor THD



Basic load data for a single anchor with no influence of edge distances and spacing [4]

Type				THD 8	THD 10	THD 12	THD 16
Material				Steel			
Effective Embedment Depth			h_{ef} [mm]	47	55	70	86

Design Resistance [1) 4)]

Cracked concrete	C20/25	Tension	N_{Rd}	[kN]	3,3	4,2	6,7	13,9
	C30/37				4,1	5,1	8,1	16,9
	C40/50				4,7	5,9	9,4	19,6
	C50/60				5,2	6,5	10,3	21,5
	C20/25	Shear	V_{Rd}	[kN]	11,7	18,3	25,2	38,3
	C30/37							46,7
	C40/50							
	C50/60							
Non-cracked concrete	C20/25	Tension	N_{Rd}	[kN]	4,2	5,8	13,9	16,7
	C30/37				5,1	7,1	16,9	20,3
	C40/50				5,9	8,2	19,6	23,5
	C50/60				6,5	9,0	21,5	25,8
	C20/25	Shear	V_{Rd}	[kN]	11,7	18,3	25,2	46,7
	C30/37							
	C40/50							
	C50/60							
Bending moments			M_{Rd}	[Nm]	26,7	52,7	85,3	214,9

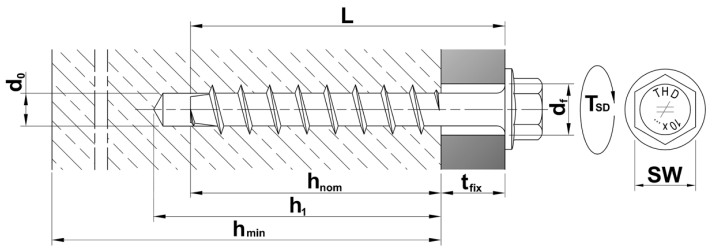
Recommended Loads [2) 3) 4)]

Cracked concrete	C20/25	Tension	N_{Rd}	[kN]	2,4	3,0	4,8	9,9
	C30/37				2,9	3,6	5,8	12,1
	C40/50				3,4	4,2	6,7	14,0
	C50/60				3,7	4,6	7,4	15,4
	C20/25	Shear	V_{Rd}	[kN]	8,3	13,0	18,0	27,3
	C30/37							33,3
	C40/50							
	C50/60							
Non-cracked concrete	C20/25	Tension	N_{Rd}	[kN]	3,0	4,2	9,9	11,9
	C30/37				3,6	5,1	12,1	14,5
	C40/50				4,2	5,9	14,0	16,8
	C50/60				4,6	6,5	15,4	18,5
	C20/25	Shear	V_{Rd}	[kN]	8,3	13,0	18,0	33,3
	C30/37							
	C40/50							
	C50/60							
Bending moments			M_{Rd}	[Nm]	19,0	37,6	61,0	153,5

Screw Anchor THD

Spacing, Edge Distance and Member Thickness

Effective Embedment Depth	h_{ef}	[mm]	47	55	70	70
Characteristic Spacing	$S_{cr,N}$	[mm]	141	165	210	210
Minimum Spacing	S_{min}	[mm]	50	60	80	80
Characteristic Edge Distance	$C_{cr,N}$	[mm]	70,5	82,5	105	105
Minimum Edge Distance	C_{min}	[mm]	50	60	80	80
Minimum Member Thickness	h_{min}	[mm]	105	125	150	150



Installation Data:

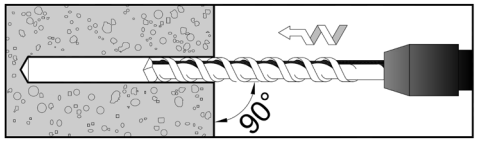
Drill hole diameter	d_0	[mm]	8	10	12	16
Drill hole depth	$h_1 \geq$		75	85	105	130
Nominal anchorage depth	$h_{nom} \geq$		65	75	95	115
Screw length (min...max)	L		70…200	80…200	100…400	120…400
Outer thread diameter	d_s		10,3	12,5	14,4	19,6
Inner thread diameter	d_k		7,6	9,6	11,3	15,3
Clearance hole diameter in the fixture	d_f		12	14	16	22
Width across flats	SW		13	15	18	24
Installation Torque - Torque Wrench	T_{inst}	[Nm]	n/	75	n/a	280
Installation Torque - Impact Screw Driver	$T_{SD} \leq$	[Nm]	200	515	515	515

Use conditions: Structures subject to dry indoor conditions!

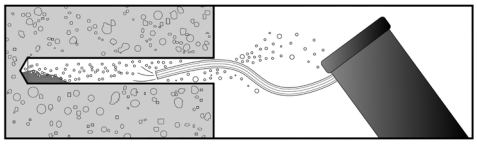
1. The design resistances have been calculated using the partial safety factors for resistances stated in ETA-12/0060.
2. The recommended loads have been calculated using the partial safety factors for resistances stated in ETA-12/0060 and with a partial safety factor for actions of $\gamma_F = 1.4$.
3. The load figures are valid for unreinforced concrete and reinforced concrete with a rebar spacing $s \geq 15$ cm (any diameter) or with a rebar spacing $s \geq 10$ cm, if the rebar diameter is 10 mm or smaller.
4. "For combined tension and shear loads or anchor groups and/or in case of edge influence, a calculation per ETAG 001, Annex C, design method A or according to CEN/TS 1992-4:2009 design method A shall be performed. Anchors under fire exposures are to be designed in accordance with EOTA -TR 020:2004 or CEN/TS 1992-4:2009 Annex D.

For details see ETA-12/0060.

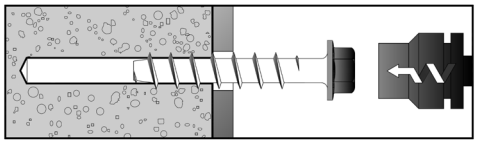
1. Drill hole



2. Clean hole



3. Setting screw anchor with an impact screw driver



4. Visual inspection