



#### Denomination: THDEX ANCHOR

## Reference: FT THDEX-en

# **CHARACTERISTICS** • Pilot hole needed; thread is created by the anchor during the installation process. • Functioning by thread concrete mechanical interlock. Use for medium loads. • Direct installation, not torque wrench needed. • It can be removed, leaving concrete surface flat. • Use in cracked and uncracked concrete. • Use for static or cuasi-static loads. • Suitable when reduced edge distances or anchor spacing THDEX THDAV required Approved for fire resistance R30 to R120 Silver ruspert coating THPAN THTRU **BASE MATERIALS**

## Codes: THDEX, THDAV, THPAN, THTRU

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## APPLICATIONS

- Structural fixings in cracked and uncracked concrete in indoor conditions.
- Glazing, windows and storefronts
- Racking and shelving
- Attaching railings, handrails and ledgers (inside environment).
- Fixings of steel beams, channels, machinery, boilers, signals, stadium seatings, façade substructures, channels, etc.
- Fixings of wood structures to concrete.

View web profile:













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## **APPLICATION EXAMPLES**



## 1. RANGE

ITEM	CÓDE	SIZE	PICTURE	COMPONENT	MATERIAL
1	THDEX	#6 to #16		Hexagonal concrete screw	Carbon steel, silver ruspert coating
2	THDAV	#7.5	atatatatatata	Countersunk concrete screw	Carbon steel, silver ruspert coating
3	THPAN	#7.5	entintintintintintin	Pan head concrete screw	Carbon steel, silver ruspert coating
4	THTRU	#7.5		Truss head concrete screw	Carbon steel, silver ruspert coating

## 2. INSTALLATION DATA



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Code	Head version	ETA approved	d₀: drill bit	d₁: clearance hole in fixture	sw: spanner / drill bit	h <sub>min</sub> : minim thickness of concrete member	h1: depth drill hole	h <sub>nom</sub> : embedment depth	h <sub>ef</sub> : effective depth	T <sub>ins</sub> : installation torque	t <sub>fix</sub> : fixture thickness	s <sub>er</sub> : critical spacing	c <sub>er</sub> : critical edge distance	s <sub>min</sub> : minimum spacing	C <sub>min</sub> : minimum edge distance
			[mm]	[mm]	[-]	[mm]	[mm]	[mm]	[mm]	[Nm]	[mm]	[mm]	[mm]	[mm]	[mm]
THDEX06030           THDEX06040           THDEX06050	Hexagonal		5	7	8	100	40	33	20	7	2 12 5	102	51	45	45
THDEX06060							55	45	54		15				
THDEX07035 THDEX07045 THDEX07060	Hevagonal	~	6	٩	10	100	43	33	20	20	2 12 5	126	63	45	45
THDEX07080 THDEX07100	TEXagonal		U	3	10	100	65	55	42	20	25 45	120	05	13	.0
THDEX10055							60	50	35		5				
THDEX10065 THDEX10075 THDEX10090 THDEX10110 THDEX10130	Hexagonal	✓ ✓ ✓ ✓ ✓	8	12	13	100	70	60	45	50	5 15 30 50 70	135	67	50	50
THDEX12065						100	75	60	42		5				
THDEX12075 THDEX12085 THDEX12100 THDEX12120 THDEX12140	Hexagonal	<ul> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> </ul>	10	14	15	105	85	70	52	80	5 15 30 50 70	156	78	60	60
THDEX16080						102	95	75	51		5	-			
THDEX16115 THDEX16135 THDEX16160	Hexagonal	✓ ✓ ✓	14	18	18	175	130	110	86	120	5 25 50	258	129	100	100
THDAV07072		<b>√</b>									17				
THDAV07092 THDAV07112 THDAV07132 THDAV07152	Countersunk		6	9	Т30	100	65	55	42	20	37 57 77 97	126	63	45	45
THPAN07050	Pan		6	9	T40	100	43	33	20	20	17	126	63	45	45
THTRU07050	Truss		6	9	T30	100	43	33	20	20	17	126	63	45	45

Critical distances are those where anchors in an anchor group are not influenced by one another with regard to tension load effects. For smaller distances, down to minimum distances, corresponding reduction coefficients must be applied.



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## **4. PRODUCT INSTALLATION**



TUDEV

## 1. DRILLING

Check the concrete base is compact and porosity is insignificant. Suitable for wet, dry or flooded drill holes. Use drill in hammer mode. Drill to the specified diameter and depth values



## 2. BLOW AND CLEAN

Clear the drill holes completely of dust and fragments Use air pump and brush.



#### 3. INSTALL

The installation shall be done through the fixture baseplate.



Anchor could be installed using a toque wrench applying the nominal installation torque or by using an electrical impact driven; power input: 500 W, torque 50 - 250 Nm (e.g: Bosch GDS 18E). Once installed it can be verified the total length of the anchor through the letter on bolt tip

#### **5. RESISTANCES**

Characteristic resistances for C20/25 concrete for an isolated anchor (without considering anchor-to-anchor or anchor-to-edge distance effects).



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Code	Head version	ETA approved	Tension resistance in C20/25 concrete		Coeffi cor	cient for hcrete typ	higher oes	Tension partial safety factor	Shear resistance in concrete		Shear partial safety factor	
			Uncracked	Cracked	C30/37	C40/45	C50/60		Uncracked	Cracked	Uncracked	Cracked
			N <sub>Rk</sub> [kN]	N <sub>Rk</sub> [kN]	Ψ[-]	Ψ[-]	Ψ[-]	γм [-]	V <sub>Rk</sub> [kN]	V <sub>Rk</sub> [kN]	γм [-]	γ <sub>М</sub> [-]
THDEX06030 THDEX06040	Hexagonal		3.2		1 22	1 41	1 55	1.8	4.5		1.50	
THDEX06050 THDEX06060	Tienagenai		5.5				1.00	1.0	7.1		1.25	
THDEX07035 THDEX07045			4.3						4.5		1.50	
THDEX07060 THDEX07080 THDEX07100	Hexagonal		9	6	1.22	1.41	1.55	1.8	7.5	7.5	1.25	1.25
THDEX10055			9,3						10,4		1,50	
THDEX10065 THDEX10075 THDEX10090	Hexagonal		12	9	Uncrack: 1.08 Cracked:	Uncrack: 1.15 Cracked:	Uncrack: 1.19 Cracked:	1.8	15,2	10,9	1.50	1.50
THDEX10110 THDEX10130		$\checkmark$			1.22	1.41	1.55					
THDEX12065			16.1						13.7		1.50	
THDEX12075 THDEX12085 THDEX12100 THDEX12120 THDEX12140	Hexagonal		20	12	Uncrack: 1.04 Cracked: 1.22	Uncrack: 1.07 Cracked: 1.41	Uncrack: 1.09 Cracked: 1.55	1.8	18,9	13,5	1.50	1.50
THDEX16080			23.7		Uncrack:	Uncrack:	Uncrack:		36.7		1.50	
THDEX16115 THDEX16135 THDEX16160	Hexagonal		40	30	1.04 Cracked: 1.12	1.07 Cracked: 1.23	1.09 Cracked: 1.30	1.5	57.9	57.4	1.25	1.50
THDAV07072 THDAV07092 THDAV07112	Countersunk	✓ ✓ ✓	9	6	1.22	1.41	1.55	1.8	7.5	7.5	1.25	1.25
THDAV07132 THDAV07152	✓ ✓	✓ ✓										
THPAN07050	Pan		4.3		1.22	1.41	1.55	1.8	4.5		1.50	
THTRU07050	Truss		4.3		1.22	1.41	1.55	1.8	4.5		1.50	

1 KN ≈ 100 kg

A load safety factor of  $\gamma_F = 1,4$  is recommended

Design example:

Fixing a tension load of 500 kg (= 4,91 kN) in C30/37 cracked concrete using a THDEX #12 anchor.

Check to be done: Design load < Design resistance

Design load = service load \* load safety factor = 4,91 \* 1,4 = 6,87 kN

Design resistance = characteristic resistance \* concrete coefficient / tension partial safety coefficient = 12 \* 1,22 / 1,8 = 8.13 kN

Check: 6,87 < 8.13 kN: anchorage is safe

For complex anchor designs we recommend our anchor design software CLOVERcal



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## 6. OFFICIAL DOCUMENTATION

The following documents are available through our Sales Department or on our official website: www.cloverfix.es

- European Technical Assessment ETA 15/0017 for use in concrete, according to ETAG 001 guideline, option 1, from #7.5 to #16
- Declaration of Performances: DoP THDEX-en
- Certificate of constancy of performances: 1219-CPR-0091.
- CLOVERcal: anchor calculation software.