

TFY

CHARACTERISTICS

- Works by mechanical interlock between thread and concrete.
- Use for high loads.
- Use in cracked and non-cracked concrete.
- Suitable when reduced edge distances or spacing required.
- For static and quasi-static loads
- Easy installation.
- Pilot hole in concrete needed, thread is created by the anchor during the Installation process
- Se necesita el útil de instalación DO-TFY para realizar una correcta instalación.
- Possibility of installation by drill bit cleaning
- Reusable
- Removable, leaving concrete surface flat.

APPLICATION

- Non-structural fixings in cracked and uncracked concrete subject to dry internal conditions.
- Valid for fixing safety nets.
- Suitable for temporary installation, lets rows, cables or other elements to go through the eyebolt.



DO-TFY

BASE MATERIAL



SIZE RANGE

Ø8 - Ø12

DRILL CONDITION



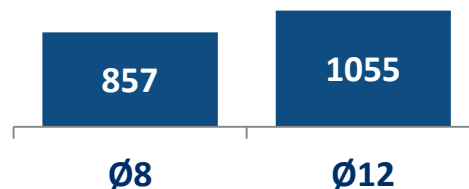
DRY

WET

FLOODED

MAXIMUMUM RECOMMENDED LOADS FOR
UNCRAKED CONCRETE [kg]

TFY

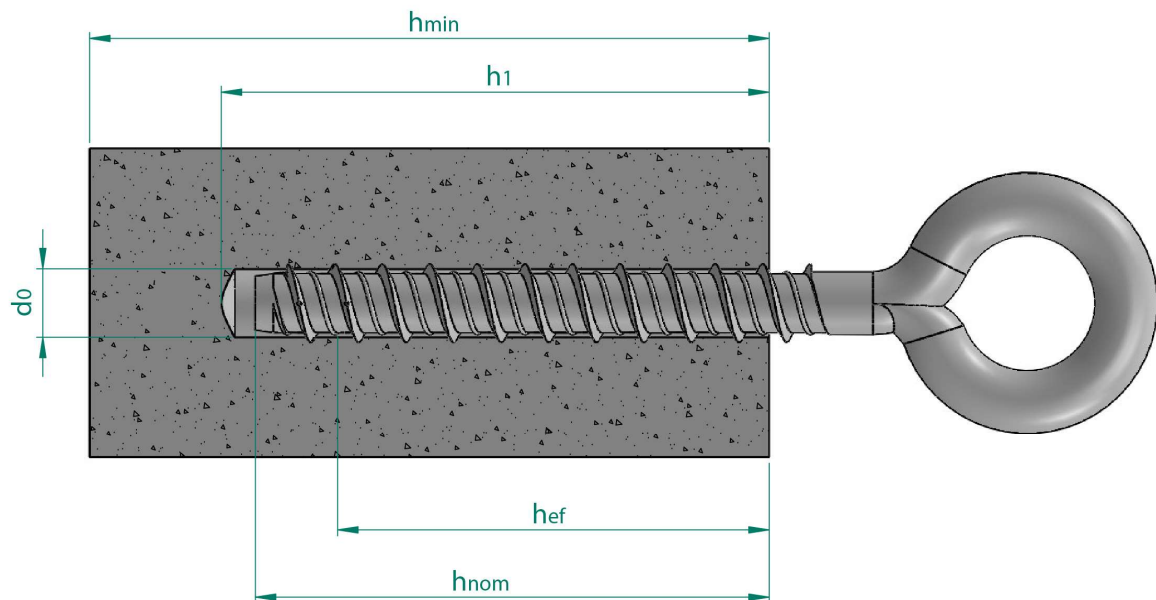


1. GAMA

ITEM	CODE	SIZES	PHOTO	DESCRIPTION	MATERIAL	COATING
1	TFY	Ø8 - Ø12		Eyebolt head	Carbon steel, zinc plated coating ≥ 5 µm	
2	DO-TFY	Ø8 - Ø12		Installation tool for Ø8 and Ø12 screws. Valid for both sizes	Stamped carbon steel, phosphated coating	

2. INSTALLATION DATA

2.1. INSTALLATION DRAWING



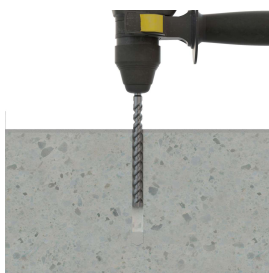
- d_0 : Nominal diameter of drill bit
- h_{ef} : Effective anchorage depth
- h_1 : Depth of drilled hole
- h_{nom} : Overall fastener embedment depth in the concrete
- h_{min} : Minimum thickness of concrete member

3. INSTALLATION PARAMETERS

General Installation parameters										Standard Installation depth (h _{ef, std})									Reduced Installation depth (h _{ef, red})								
Family	Code	Size (Letter)	Assessed	Drill bit diameter	Fixture clearance hole	Spanner	Maximum torque	Minimum allowable spacing	Minimum allowable edge distance	Minimum concrete thickness	Depth of drill hole/ Depth for drill bit cleaning	Installation depth	Effective anchorage depth	Thickness of fixture	Critical spacing (concrete cone)	Critical edge distance (cone)	Critical spacing (splitting)	Critical edge distance (splitting)	Minimum concrete thickness	Depth of drill hole/ Depth for drill bit cleaning	Installation depth	Effective anchorage depth	Thickness of fixture	Critical spacing (concrete cone)	Critical edge distance (cone)	Critical spacing (splitting)	Critical edge distance (splitting)
[--]	[--]	[--]	ETA	d ₀ [mm]	d _f [mm]	SW/Tx [--]	T _{inst} [Nm]	S _{min} [mm]	C _{min} [mm]	h _{min} [mm]	h ₁ / h _{1,bit} [mm]	h _{nom} [mm]	h _{ef} [mm]	t _{fix} [mm]	S _{cr,N} [mm]	C _{cr,N} [mm]	S _{cr,sp} [mm]	C _{cr,sp} [mm]	h _{min} [mm]	h ₁ / h _{1,bit} [mm]	h _{nom} [mm]	h _{ef} [mm]	t _{fix} [mm]	S _{cr,N} [mm]	C _{cr,N} [mm]	S _{cr,sp} [mm]	C _{cr,sp} [mm]
TFY	TFY08055	Ø8 x 55	--	8	--	DOFTY0812	20	35	35	--	--	--	--	--	--	--	--	--	100	60/76	50	37,5	--	113	57	130	65
	TFY08075	Ø8 x 75	--							100	75/91	65	50,5	--	152	76	65	50,5									
	TFY12075	Ø12 x 75	--	12	--	DOFTY0812	50	75	45	--	--	--	--	--	--	--	--	--	120	90/114	75	58,0	--	174	87	190	95

4. INSTALLATION PROCEDURE

4.1. CONCRETE INSTALLATION



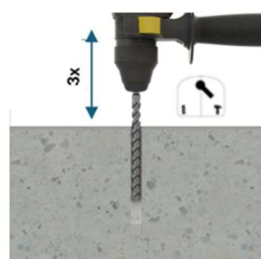
1. DRILLING

Check the concrete is well compacted and without significant porosity.
Suitable for dry, wet and flooded holes.
Use drill in hammer mode.
Drill according to specified depths in previous tables.



2. BLOW AND CLEAN

Clean the hole from dust and concrete remains.
Use blow pump and brush.



2. b) CLEAN WITH DRILL BIT

Alternatively, to 2.a):

- Upward installation direction: no cleaning is needed.
- Downward or horizontal installation direction: no cleaning is needed if drilling depth is h_1 , bit, and after the drilling process the drill bit is moved in and out of the hole for 3 times with both rotary and hammer modes of the drilling machine activated.



3. PLACE THE INSTALLATION TOOL

Place the installation tool DO-TFY for installing properly the product.
Use an impact wrench that doesn't exceeds the maximum installation torque specified in the previous table.



4. INSTALL

Drive the anchor with an impact driver using the installation tool DO-TFY till the installation depth specified in the previous table.
The anchor may need to be adjusted afterwards.

5. RESISTANCES*

Resistances in concrete class C20/25 for an isolated anchor without spacing or concrete edge distance effects are indicated in the following table:

Values underlined and in italics show Steel failure, **bold** values concrete failure and other indicate pull out failure.
1 kN ≈ 100 kg

5.1 CHARACTERISTIC RESISTANCE [kN]

General Parameter				Non-cracked concrete				Cracked concrete			
Family	Code	Size	ETA Assessed	Tension $N_{Rk, ucr}$		Shear $V_{Rk, ucr}$		Tension $N_{Rk, cr}$		Shear $V_{Rk, cr}$	
				($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)
TFY	TFY08055	Ø8 x 55	--	--	11,30	--	--	--	7,91	--	--
	TFY08075	Ø8 x 75	--	17,65	11,30	--	--	12,36	7,91	--	--
	TFY12075	Ø12 x 75	--	--	21,73	--	--	--	15,21	--	--

5.1 DESIGN RESISTANCE [kN]

General Parameter				Non-cracked concrete				Cracked concrete			
Family	Code	Size	ETA Assessed	Tension $N_{Rk, ucr}$		Shear $V_{Rk, ucr}$		Tension $N_{Rk, cr}$		Shear $V_{Rk, cr}$	
				($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)
TFY	TFY08055	Ø8 x 55	--	--	6,28	--	--	--	4,39	--	--
	TFY08075	Ø8 x 75	--	11,77	6,28	--	--	8,24	4,39	--	--
	TFY12075	Ø12 x 75	--	--	14,49	--	--	--	10,14	--	--

5.3 MAXIMUM RECOMMENDED LOAD (with $\gamma_F=1.4$) [kN]

General Parameter				Non-cracked concrete				Cracked concrete			
Family	Code	Size	ETA Assessed	Tension $N_{rec, ucr}$		Shear $V_{rec, ucr}$		Tension $N_{rec, cr}$		Shear $V_{rec, cr}$	
				($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)
TFY	TFY08055	Ø8 x 55	--	--	4,48	--	--	--	3,14	--	--
	TFY08075	Ø8 x 75	--	8,41	4,48	--	--	5,88	3,14	--	--
	TFY12075	Ø12 x 75	--	--	10,35	--	--	--	7,24	--	--

*The TFY anchor is designed for use in non-safety critical applications only. The TFY anchor is NOT designed for use in Fall Arrest Systems or as a lifting anchor

PULL OUT INCREASING FACTOR FOR TENSION LOADS IN HIGH RESISTANCE CONCRETE ψ_c

Diameter	Ø8		Ø12	
Installation depth	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)
C30/37	1,21	1,22	1,16	--
C40/50	1,39	1,41	1,29	--
C50/60	1,54	1,58	1,40	--