



TXE



TXA



TXT



TXP



TXF



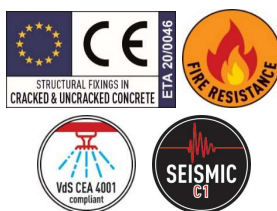
TXD

CHARACTERISTICS

- Pilot hole in concrete needed, thread is created by the anchor during the Installation process.
- Use for high loads.
- Assessed for 2 installation depths.
- Use in cracked and non-cracked concrete.
- Comply with guideline VdS CEA 4001:2021-01(07) "Guidelines for sprinklers systems. Planning and installation" Ø8 to Ø12.
- Suitable when reduced edge distances or spacing required.
- Qualified for static or quasi-static and seismic C1 loads.
- Easy installation.
- Installation through the fixture.
- Possibility of installation by drill bit cleaning
- Reusable
- Removable, leaving concrete surface flat.
- Variety of lengths and sizes, assembly flexibility.
- Base material temperature range: -40°C to +80 °C
- Available in INDEXcal

APPLICATION

- Structural fixings in cracked and uncracked concrete for indoor and outdoor conditions.
- Glazing, windows and storefronts
- Racking and shelving
- Attaching railings, handrails and ledgers
- Fixings wood structures in concrete



ASSESSMENTS

BASE MATERIAL



SIZE RANGE

Ø6 - Ø12

DRILL CONDITION

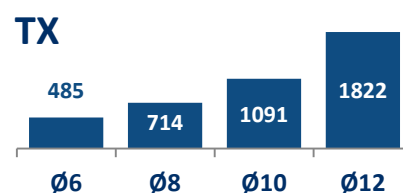


SECO

HUMEDO

INUNDADO

MAXIMUM LOADS RECOMMENDED
FOR CRACKED AND UNCRACKED
CONCRETE [kg]



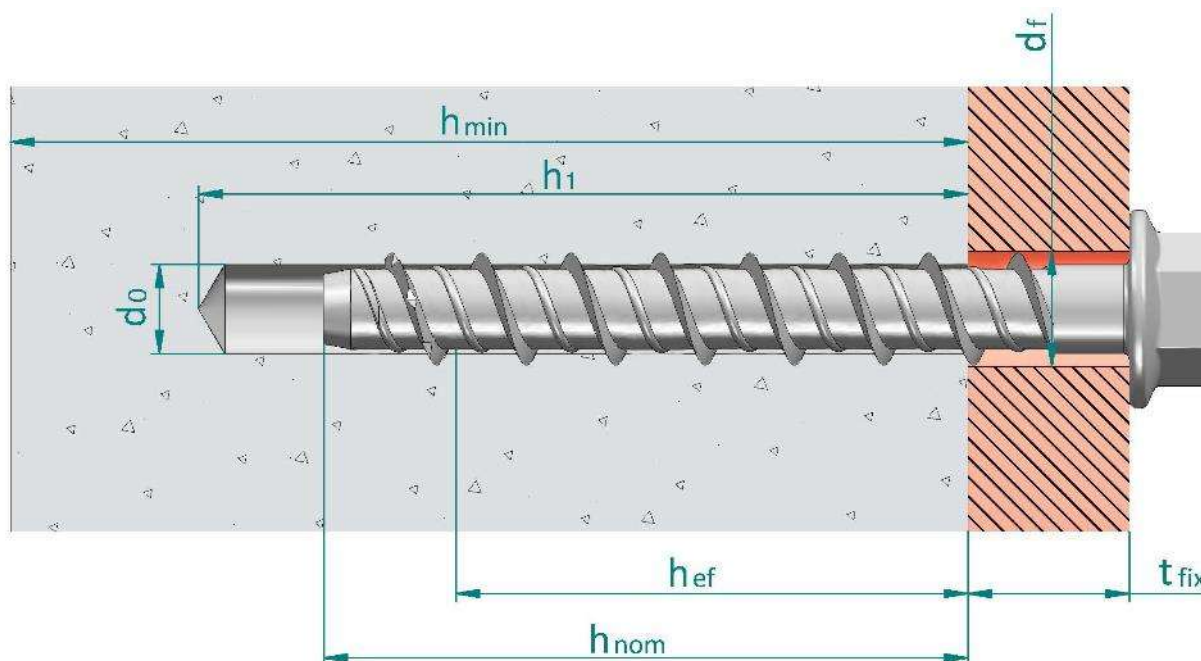
APPLICATION EXAMPLES



1. RANGE						
ITEM	CODE	SIZES	PHOTO	DESCRIPTION	MATERIAL	COVERING
1	TXE	Ø6 - Ø12		Hexagonal head with flange screw anchor	Stainless steel A4	
2	TXA	Ø6 - Ø10		Countersunk head	Stainless steel A4	
3	TXT	Ø6		"Truss" head	Stainless steel A4	
4	TXP	Ø6 - Ø8		"Pan" head	Stainless steel A4	
5	TXF	Ø6		Rod hanger internal thread	Stainless steel A4	
6	TXD	Ø6 - Ø12		"Dome" head	Stainless steel A4	

2. INSTALLATION DATA

2.1. INSTALLATION DRAWING



- d_0 : Nominal diameter of drill bit
- d_f : Fixture clearance hole diameter
- 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
- t_{fix} : Fixture thickness

2.2. SEISMIC LOAD ASSESSMENT

Family	Code	Size	Assessed	C1	C2
[--]	[--]	[--]	ETA	[--]	[--]
TXE	TXE06040	Ø6 x 40	✓	--	--
	TXE06060	Ø6 x 60	✓	✓	--
	TXE08070	Ø8 x 70	✓	✓	--
	TXE08080	Ø8 x 80	✓	✓	--
	TXE08090	Ø8 x 90	✓	✓	--
	TXE08105	Ø8 x 105	✓	✓	--
	TXE10070	Ø10 x 70	✓	✓	--
	TXE10090	Ø10 x 90	✓	✓	--
	TXE10100	Ø10 x 100	✓	✓	--
	TXE10120	Ø10 x 120	✓	✓	--
	TXE12080	Ø12 x 80	✓	✓	--
	TXE12110	Ø12 x 110	✓	✓	--
TXA	TXA06050	Ø6 x 50	✓	--	--
	TXA06060	Ø6 x 60	✓	✓	--
	TXA06080	Ø6 x 80	✓	✓	--
	TXA06100	Ø6 x 100	✓	✓	--
	TXA08060	Ø8 x 60	✓	✓	--
	TXA08080	Ø8 x 80	✓	✓	--
	TXA08120	Ø8 x 120	✓	✓	--
	TXA10070	Ø10 x 70	✓	✓	--
	TXA10090	Ø10 x 90	✓	✓	--
	TXA10120	Ø10 x 120	✓	✓	--
TXT	TXT06040	Ø6 x 40	✓	--	--
	TXT06050	Ø6 x 50	✓	--	--
	TXT06060	Ø6 x 60	✓	✓	--
	TXT06080	Ø6 x 80	✓	✓	--
	TXT06100	Ø6 x 100	✓	✓	--
TXP	TXP06050	Ø6 x 50	✓	--	--
	TXP06060	Ø6 x 60	✓	✓	--
	TXP06080	Ø6 x 80	✓	✓	--
	TXP06100	Ø6 x 100	✓	✓	--
	TXP08060	Ø8 x 60	✓	✓	--
TXF	TXF06040C	Ø6 x 40 (M8-M10)	✓	--	--
	TXD06050	Ø6 x 50	✓	--	--
TXD	TXD08075	Ø8 x 75	✓	✓	--
	TXD10075	Ø10 x 75	✓	✓	--
	TXD12100	Ø12 x 100	✓	✓	--

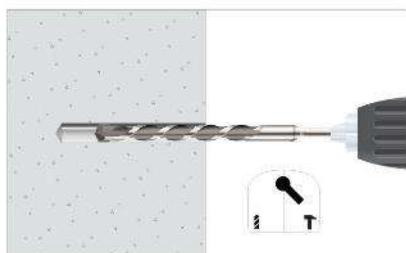
3. INSTALLATION PARAMETERS

General Installation parameters										Standard Installation depth (h _{ef, std})									Reduced Installation depth (h _{ef, red})												
Family	Code	Size	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]				
TXE	TXE06040	Ø6 x 40	✓	6	7,5 - 9	SW 10	10	35	35	--	--	--	--	--	--	--	--	--	--	80	40/52	35	26,0	5	78	39	90	45			
	TXE06060	Ø6 x 60	✓							80	60/72	55	43,0	5	129	65	190	95	25												
	TXE08070	Ø8 x 70	✓	8	10,1 - 12	SW 13	20	35	35	80	75/91	65	50,5	5	152	76	220	110	80	60/76	50	37,5	20	113	57	130	65				
	TXE08080	Ø8 x 80	✓											15									30								
	TXE08090	Ø8 x 90	✓											25									40								
	TXE08105	Ø8 x 105	✓											40									55								
	TXE10070	Ø10 x 70	✓	10	12,3 - 14	SW 15	30	50	40	--	--	--	--	--	--	--	--	--	--	80	65/85	55	41,5	15	125	63	140	70			
	TXE10090	Ø10 x 90	✓							5	35																				
	TXE10100	Ø10 x 100	✓							15	45																				
	TXE10120	Ø10 x 120	✓							35	65																				
TXE12080	Ø12 x 80	✓	12	14,4 - 16	SW 18	50	75	45	--	--	--	--	--	--	--	--	--	--	90	90/114	75	58,0	5	174	87	190	95				
TXE12110	Ø12 x 110	✓							160	120/144	105	83,5	5	251	126	240	120	35													
TXA	TXA06050	Ø6 x 50	✓	6	7,5 - 9	TX30	10	35	35	--	--	--	--	--	--	--	--	--	--	80	40/52	35	26,0	15	78	39	90	45			
	TXA06060	Ø6 x 60	✓							80	60/72	55	43,0	5	129	65	190	95						25							
	TXA06080	Ø6 x 80	✓											25										45							
	TXA06100	Ø6 x 100	✓											45										65							
	TXA08060	Ø8 x 60	✓	8	10,1 - 12	TX45	20	35	35	--	--	--	--	--	--	--	--	--	--	80	60/76	50	37,5	10	113	57	130	65			
	TXA08080	Ø8 x 80	✓							80	75/91	65	50,5	15	152	76	220	110						30							
	TXA08120	Ø8 x 120	✓											25										40							
	TXA10070	Ø10 x 70	✓							10	12,3 - 14	TX50	30	50	40	--	--	--	--					--					--	--	--
	TXA10090	Ø10 x 90	✓	100	95/115	85	67,0	5	201							101	230	115					35								
	TXA10120	Ø10 x 120	✓					35															65								
TXT	TXT06040	Ø6 x 40	✓	6	7,5 - 9	TX30	10	35	35							--	--	--	--	--	--	--	--	--	--	80	40/52	35	26,0	5	78
	TXT06050	Ø6 x 50	✓							--	--	--	--	--	--	--	--	--	15												
	TXT06060	Ø6 x 60	✓							80	60/72	55	43,0	5	129	65	190	95					25								
	TXT06080	Ø6 x 80	✓											25									45								
	TXT06100	Ø6 x 100	✓											45									65								

General Installation parameters										Standard Installation depth ($h_{ef, std}$)									Reduced Installation depth ($h_{ef, red}$)									
Family	Code	Size	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]	
TXP	TXP06050	Ø6 x 50	✓	6	7,5 - 9	TX40	10	35	35	--	--	--	--	--	--	--	--	--	80	40/52	35	26,0	5	78	39	90	45	
	TXP06060	Ø6 x 60	✓							5	129	65	190	95	15													
	TXP06080	Ø6 x 80	✓							25					35													
	TXP06100	Ø6 x 100	✓							45					55													
	TXP08060	Ø8 x 60	✓	8	10,1 - 12	TX45	20	35	35	80	75/91	65	50,5	5	152	76	220	110	80	60/76	50	37,5	20	113	57	130	65	
	TXP08080	Ø8 x 80	✓											25									40					
TXF	TXF06040C	Ø6 x 40 (M8-M10)	✓	6	--	SW 13	10	35	35	--	--	--	--	--	--	--	--	--	80	40/52	35	26,0	5	78	39	90	45	
TXD	TXD06050	Ø6 x 50	✓	6	7,5 - 9	SW 10	10	35	35	--	--	--	--	--	--	--	--	--	80	40/52	35	26,0	15	78	39	90	45	
	TXD08075	Ø8 x 75	✓	8	10,1 - 12	SW 13	20	35	35	80	75/91	65	50,5	10	152	76	220	110	80	60/76	50	37,5	25	113	57	130	65	
	TXD10075	Ø10 x 75	✓	10	12,3 - 14	SW 15	30	50	40	--	--	--	--	--	--	--	--	--	80	65/85	55	41,5	20	125	63	140	70	
	TXD12100	Ø12 x 100	✓	12	14,4 - 16	SW 18	50	75	45	--	--	--	--	--	--	--	--	--	120	90/114	75	58,0	25	174	87	190	95	

4. INSTALLATION PROCEDURE

4.1. CONCRETE INSTALLATION



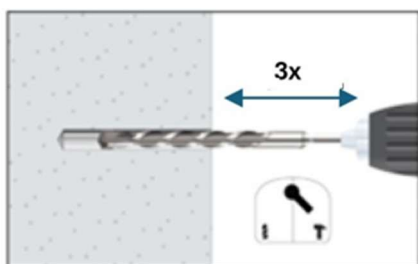
1. DRILLING

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

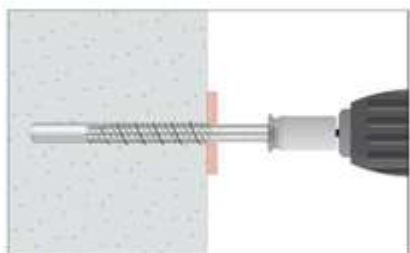
Clean the hole from dust and concrete remains.
Use blow pump and brush.



2. b) CLEAN WITH DRILL BIT

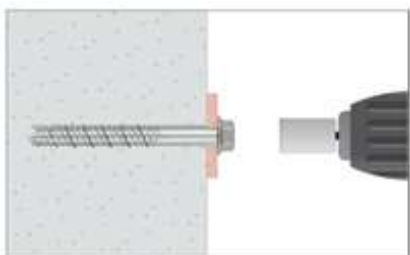
Alternatively, to 2.a):

- 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. INSTALL

Select a powered impact wrench or a torque wrench that does not exceed the maximum torque indicated in previous tables.
Attach an appropriate size hex socket to the wrench.
Mount the screw anchor head in the socket.



4. APPLY THE TORQUE

Drive the anchor with an impact driver or a torque wrench through the fixture and into the hole until the anchor head washer comes in contact with the fixture. The anchor must be snug after installation. Do not spin the hex socket off the anchor to disengage.

5. RESISTANCES

The resistances stated below have been determined under the following conditions:

- The load values are only valid if the installation has been carried out correctly (see installation procedure) by qualified personnel
- Isolated anchor, with no edge effects ($c \geq 1.5 \times h_{ef}$) or anchor group effects ($s \geq 3.0 \times h_{ef}$). For further information, please refer to the relevant ETA.
- C20/25 Steel Fibre Reinforced Concrete (SFRC)
- Resistance for the ultimate limit state in accordance with EN 1992-4:2018 for static or quasi-static loads. With a partial installation factor for design resistances in accordance with the relevant ETA. With a partial safety factor of 1.4 included for the recommended maximum loads.
- In the event of a combination of tensile and shear loads, moments, anchor spacings or edge distances that are less than those indicated above, the calculation must be carried out in accordance with the information set out in the relevant ETA and in accordance with the calculation method laid down in EN 1992-4:2018. We recommend that you use the calculation program INDEXcal which is available free of charge on our website: www.indexfix.com
- For structures or installations subject to exposure to the elements and/or a permanently damp indoor environment, A4 stainless steel must be used.
- The values which are underlined and in italics indicate steel failure; values in bold indicate concrete failure, while the rest indicate extraction failure.

1 kN $\approx$ 100 kg

5.1 CHARACTERISTIC RESISTANCE (STRUCTURAL APPLICATIONS) [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 $V_{Rk, cr}$	
				($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)
TXE	TXE06040	$\varnothing 6 \times 40$	✓	--	5,50	--	<u>8,79</u>	--	1,00	--	8,54
	TXE06060	$\varnothing 6 \times 60$	✓	12,00	5,50	<u>8,79</u>	<u>8,79</u>	7,50	1,00	10,20	8,54
	TXE08070	$\varnothing 8 \times 70$	✓	17,65	10,00	<u>14,65</u>	<u>14,65</u>	12,36	5,00	17,18	13,52
	TXE08080	$\varnothing 8 \times 80$	✓								
	TXE08090	$\varnothing 8 \times 90$	✓								
	TXE08105	$\varnothing 8 \times 105$	✓	26,98	13,15	<u>24,06</u>	24,07	18,89	9,21	<u>24,06</u>	16,85
	TXE10070	$\varnothing 10 \times 70$	✓								
	TXE10090	$\varnothing 10 \times 90$	✓								
	TXE10100	$\varnothing 10 \times 100$	✓								
	TXE10120	$\varnothing 10 \times 120$	✓								
TXA	TXA12080	$\varnothing 12 \times 80$	✓	--	21,73	--	<u>34,84</u>	--	14,10	--	33,31
	TXA12110	$\varnothing 12 \times 110$	✓	37,54	21,73	<u>34,84</u>	<u>34,84</u>	26,27	14,10	<u>34,84</u>	33,31
	TXA06050	$\varnothing 6 \times 50$	✓	--	5,50	--	<u>8,79</u>	--	1,00	--	8,54
	TXA06060	$\varnothing 6 \times 60$	✓	12,00	5,50	<u>8,79</u>	<u>8,79</u>	7,50	1,00	10,20	8,54
	TXA06080	$\varnothing 6 \times 80$	✓								
	TXA06100	$\varnothing 6 \times 100$	✓								
	TXA08060	$\varnothing 8 \times 60$	✓	--	10,00	--	<u>14,65</u>	--	5,00	--	13,52
	TXA08080	$\varnothing 8 \times 80$	✓	17,65	10,00	<u>14,65</u>	<u>14,65</u>	12,36	5,00	17,18	13,52
	TXA08120	$\varnothing 8 \times 120$	✓								
	TXA10070	$\varnothing 10 \times 70$	✓	--	13,15	--	24,07	--	9,21	--	16,85
TXT	TXA10090	$\varnothing 10 \times 90$	✓	26,98	13,15	<u>24,06</u>	24,07	18,89	9,21	<u>24,06</u>	16,85
	TXA10120	$\varnothing 10 \times 120$	✓								
	TXA10120	$\varnothing 10 \times 120$	✓								
	TXT06040	$\varnothing 6 \times 40$	✓	--	5,50	--	<u>8,79</u>	--	1,00	--	8,54
	TXT06050	$\varnothing 6 \times 50$	✓	12,00	5,50	<u>8,79</u>	<u>8,79</u>	7,50	1,00	10,20	8,54
	TXT06060	$\varnothing 6 \times 60$	✓								
	TXT06080	$\varnothing 6 \times 80$	✓								
	TXT06100	$\varnothing 6 \times 100$	✓								
TXP	TXP06050	$\varnothing 6 \times 50$	✓	--	5,50	--	<u>8,79</u>	--	1,00	--	8,54
	TXP06060	$\varnothing 6 \times 60$	✓	12,00	5,50	<u>8,79</u>	<u>8,79</u>	7,50	1,00	10,20	8,54
	TXP06080	$\varnothing 6 \times 80$	✓								
	TXP06100	$\varnothing 6 \times 100$	✓								
	TXP08060	$\varnothing 8 \times 60$	✓	--	10,00	--	<u>14,65</u>	--	5,00	--	13,52
	TXP08080	$\varnothing 8 \times 80$	✓	17,65	10,00	<u>14,65</u>	<u>14,65</u>	12,36	5,00	17,18	13,52
TXF	TXF06040C	$\varnothing 6 \times 40$ (M8-M10)	✓	--	5,50	--	--	--	1,00	--	--
TXD	TXD06050	$\varnothing 6 \times 50$	✓	--	5,50	--	<u>8,79</u>	--	1,00	--	8,54
	TXD08075	$\varnothing 8 \times 75$	✓	17,65	10,00	<u>14,65</u>	<u>14,65</u>	12,36	5,00	17,18	13,52
	TXD10075	$\varnothing 10 \times 75$	✓	--	13,15	--	24,07	--	9,21	--	16,85
	TXD12100	$\varnothing 12 \times 100$	✓	--	21,73	--	<u>34,84</u>	--	14,10	--	33,31

5.2 DESIGN RESISTANCE (STRUCTURAL APPLICATIONS) [kN]

General Parameter				Non-cracked concrete				Cracked concrete			
Family	Code	Size	ETA Assessed	Tension $N_{Rd, ucr}$		Shear $V_{Rd, ucr}$		Tension $N_{Rd, cr}$		Shear $V_{Rd, cr}$	
				($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)
TXE	TXE06040	Ø6 x 40	✓	--	3,06	--	<u>7,03</u>	--	0,56	--	5,69
	TXE06060	Ø6 x 60	✓	6,67	3,06	<u>7,03</u>	<u>7,03</u>	4,17	0,56	6,80	5,69
	TXE08070	Ø8 x 70	✓	9,81	5,56	<u>11,72</u>	<u>11,72</u>	6,87	2,78	11,45	9,01
	TXE08080	Ø8 x 80	✓								
	TXE08090	Ø8 x 90	✓								
	TXE08105	Ø8 x 105	✓	14,99	7,31	<u>19,25</u>	16,04	10,49	5,11	<u>19,25</u>	11,23
	TXE10070	Ø10 x 70	✓								
	TXE10090	Ø10 x 90	✓								
	TXE10100	Ø10 x 100	✓	25,02	12,07	<u>27,87</u>	<u>27,87</u>	17,52	7,83	<u>27,87</u>	22,21
	TXE10120	Ø10 x 120	✓								
	TXE12080	Ø12 x 80	✓								
TXA	TXA06050	Ø6 x 50	✓	--	3,06	--	<u>7,03</u>	--	0,56	--	5,69
	TXA06060	Ø6 x 60	✓	6,67	3,06	<u>7,03</u>	<u>7,03</u>	4,17	0,56	6,80	5,69
	TXA06080	Ø6 x 80	✓								
	TXA06100	Ø6 x 100	✓								
	TXA08060	Ø8 x 60	✓	--	5,56	--	--	--	2,78	--	9,01
	TXA08080	Ø8 x 80	✓	9,81	5,56	<u>11,72</u>	<u>11,72</u>	6,87	2,78	11,45	9,01
	TXA08120	Ø8 x 120	✓								
	TXA10070	Ø10 x 70	✓	--	7,31	--	16,04	--	5,11	--	11,23
TXT	TXA10090	Ø10 x 90	✓	14,99	7,31	<u>19,25</u>	16,04	10,49	5,11	<u>19,25</u>	11,23
	TXA10120	Ø10 x 120	✓								
	TXT06040	Ø6 x 40	✓	--	3,06	--	<u>7,03</u>	--	0,56	--	5,69
	TXT06050	Ø6 x 50	✓	6,67	3,06	<u>7,03</u>	<u>7,03</u>	4,17	0,56	6,80	5,69
	TXT06060	Ø6 x 60	✓								
TXP	TXT06080	Ø6 x 80	✓								
	TXT06100	Ø6 x 100	✓	6,67	3,06	<u>7,03</u>	<u>7,03</u>	4,17	0,56	6,80	5,69
	TXP06050	Ø6 x 50	✓								
	TXP06060	Ø6 x 60	✓								
	TXP06080	Ø6 x 80	✓	9,81	5,56	<u>11,72</u>	<u>11,72</u>	6,87	2,78	11,45	9,01
	TXP06100	Ø6 x 100	✓								
TXF	TXP08060	Ø8 x 60	✓	--	5,56	--	<u>11,72</u>	--	2,78	--	9,01
	TXP08080	Ø8 x 80	✓	9,81	5,56	<u>11,72</u>	<u>11,72</u>	6,87	2,78	11,45	9,01
TXD	TXF06040C	Ø6 x 40 (M8-M10)	✓	--	3,06	--	--	--	0,56	--	--
	TXD06050	Ø6 x 50	✓	--	3,06	--	<u>7,03</u>	--	0,56	--	5,69
	TXD08075	Ø8 x 75	✓	9,81	5,56	<u>11,72</u>	<u>11,72</u>	6,87	2,78	11,45	9,01
	TXD10075	Ø10 x 75	✓	--	7,31	--	16,04	--	5,11	--	11,23
	TXD12100	Ø12 x 100	✓	--	12,07	--	<u>27,87</u>	--	7,83	--	22,21

5.3 MAXIMUM LOADS RECOMMENDED (STRUCTURAL APPLICATIONS) [kN] (with $\gamma_F = 1.4$)

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 $V_{rec, cr}$	
				($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)
TXE	TXE06040	Ø6 x 40	✓	--	2,18	--	<u>5,02</u>	--	0,40	--	4,07
	TXE06060	Ø6 x 60	✓	4,76	2,18	<u>5,02</u>	<u>5,02</u>	2,98	0,40	4,85	4,07
	TXE08070	Ø8 x 70	✓	7,01	3,97	<u>8,37</u>	<u>8,37</u>	4,90	1,98	8,18	6,44
	TXE08080	Ø8 x 80	✓								
	TXE08090	Ø8 x 90	✓								
	TXE08105	Ø8 x 105	✓	10,71	5,22	<u>13,75</u>	11,46	7,49	3,65	<u>13,75</u>	8,02
	TXE10070	Ø10 x 70	✓								
	TXE10090	Ø10 x 90	✓								
	TXE10100	Ø10 x 100	✓	17,87	8,62	<u>19,91</u>	<u>19,91</u>	12,51	5,60	<u>19,91</u>	15,86
	TXE10120	Ø10 x 120	✓								
	TXE12080	Ø12 x 80	✓								
TXA	TXA06050	Ø6 x 50	✓	--	2,18	--	<u>5,02</u>	--	0,40	--	4,07
	TXA06060	Ø6 x 60	✓	4,76	2,18	<u>5,02</u>	<u>5,02</u>	2,98	0,40	4,85	4,07
	TXA06080	Ø6 x 80	✓								
	TXA06100	Ø6 x 100	✓								
	TXA08060	Ø8 x 60	✓	--	3,97	--	<u>8,37</u>	--	1,98	--	6,44
	TXA08080	Ø8 x 80	✓	7,01	3,97	<u>8,37</u>	<u>8,37</u>	4,90	1,98	8,18	6,44
	TXA08120	Ø8 x 120	✓								
	TXA10070	Ø10 x 70	✓								
	TXA10090	Ø10 x 90	✓	10,71	5,22	<u>13,75</u>	11,46	7,49	3,65	<u>13,75</u>	8,02
	TXA10120	Ø10 x 120	✓								
TXT	TXT06040	Ø6 x 40	✓	4,76	2,18	<u>5,02</u>	<u>5,02</u>	2,98	0,40	4,85	4,07
	TXT06050	Ø6 x 50	✓								
	TXT06060	Ø6 x 60	✓								
	TXT06080	Ø6 x 80	✓	10,71	5,22	<u>13,75</u>	11,46	7,49	3,65	<u>13,75</u>	8,02
	TXT06100	Ø6 x 100	✓								
TXP	TXP06050	Ø6 x 50	✓	--	2,18	--	<u>5,02</u>	--	0,40	--	4,07
	TXP06060	Ø6 x 60	✓	4,76	2,18	<u>5,02</u>	<u>5,02</u>	2,98	0,40	4,85	4,07
	TXP06080	Ø6 x 80	✓								
	TXP06100	Ø6 x 100	✓								
	TXP08060	Ø8 x 60	✓	--	3,97	--	<u>8,37</u>	--	1,98	--	6,44
	TXP08080	Ø8 x 80	✓	7,01	3,97	<u>8,37</u>	<u>8,37</u>	4,90	1,98	8,18	6,44
TXF	TXF06040C	Ø6 x 40 (M8-M10)	✓	--	2,18	--	--	--	0,40	--	--
TXD	TXD06050	Ø6 x 50	✓	--	2,18	--	<u>5,02</u>	--	0,40	--	4,07
	TXD08075	Ø8 x 75	✓	7,01	3,97	<u>8,37</u>	<u>8,37</u>	4,90	1,98	8,18	6,44
	TXD10075	Ø10 x 75	✓	--	5,22	--	11,46	--	3,65	--	8,02
	TXD12100	Ø12 x 100	✓	--	8,62	--	<u>19,91</u>	--	5,60	--	15,86

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

Diameter	Ø6		Ø8		Ø10		Ø12	
Installation depth	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, red}$)	($h_{ef, std}$)	($h_{ef, 1}$)	($h_{ef, 3}$)	($h_{ef, red}$)	($h_{ef, std}$)
C30/37	1,12	1,06	1,10	1,08	1,08	1,08	1,10	1,08
C40/50	1,21	1,10	1,17	1,15	1,14	1,14	1,18	1,15
C50/60	1,29	1,14	1,23	1,19	1,19	1,18	1,25	1,19

6. OFFICIAL DOCUMENTATION

The following documents are available on our official website www.indexfix.com:

- European assessment ETA 20/0046 for Installation in cracked and non-cracked concrete according to guideline EAD 330232-02-0601, option 1, from Ø6 to Ø12.
- Declaration of performance DoP THE.
- VdS certificate CEA 4001:2021-01(07) *Guidelines for sprinklers systems. Planning and installation for applications of water extinguishing systems on concrete elements* from Ø8 to Ø12.
- Available in the anchor design software INDEXcal.