

TRUTEK TCM 500 INJECTION RESIN

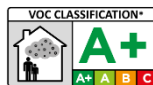
Pure Epoxy

Usage:

- Installation of threaded studs
- Approved for cracked and non-cracked concrete
- Can be used in dry wet and flooded holes
- Class A1 reaction to fire
- High loading capacity
- C1 & C2 Seismic performance

Advantages:

- Suitable for high loads featuring large diameters and deep embedments.
- Longer working times make it suitable for large holes, and high temperatures.
- No shrinkage, good for large diameter fixings.
- Use in wet or flooded environments and fixing holes, or underwater.
- High durability, resistance to chemicals.
- Used for diamond drilled holes.
- Solvent free resin.
- Fixings in concrete, wood, or other high strength materials.



Concrete Temperature	Gel / working time	Minimum Curing time
+5°C	70 min	60 hrs
+10°C	32 min	40 hrs
+15°C	28 min	30 hrs
+20°C	25 min	18 hrs
+25°C	22 min	17 hrs
+30°C	20 min	16 hrs
+40°C	18 min	12 hrs

Concrete Ranges:	C20/25 to C0/60 according to EN 206:2013+A1:2016
Certification:	European Technical Assessment ETA 20/0059 & 20/0150

Installation Data

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24	M30
Nominal drill hole diameter	d_o	[mm]	10	12	14	18	22	24	35
Diameter of steel brush	d_b	[mm]	12	14	16	20	26	30	37
Minimum Effective Anchorage Depth	$h_{ef,min}$	[mm]	60	60	70	80	90	96	120
Maximum Effective Anchorage Depth	$h_{ef,max}$	[mm]	160	200	240	320	400	480	600
Standard Effective Anchorage Depth	$h_{ef,std}$	[mm]	80	90	110	125	170	210	280
Fixture Clearance Hole	d_f	[mm]	9	12	14	18	22	26	33
Minimum Concrete Thickness	h_{min}	[mm]	$h_{ef} + 30mm \geq 100mm$				$h_{ef} + 2d_o$		
Spacing - Tension (Standard Embedment) 5.8 studs	S_{std}	[mm]	90	175	245	375	510	630	840
Spacing - Tension (Standard Embedment) 8.8 studs	S_{std}	[mm]	225	270	330	375	510	630	840
Spacing - Tension (Standard Embedment) A4 studs	S_{std}	[mm]	145	235	315	375	510	630	625
Edge Distance - Tension (Standard Embedment) 5.8 Studs	c_{std}	[mm]	70	105	140	190	255	315	420
Edge Distance - Tension (Standard Embedment) 8.8 Studs	c_{std}	[mm]	115	135	165	190	255	315	420
Edge Distance - Tension (Standard Embedment) A4 Studs	c_{std}	[mm]	90	125	160	190	255	315	355
Edge Distance - Shear (Standard Embedment) 5.8 Studs	$c_{V,std}$	[mm]	70	95	115	160	205	290	420
Edge Distance - Shear (Standard Embedment) 8.8 Studs	$c_{V,std}$	[mm]	100	130	165	250	330	465	740
Edge Distance - Shear (Standard Embedment) A4 Studs	$c_{V,std}$	[mm]	75	100	130	190	250	315	230
Minimum Spacing	s_{min}	[mm]	40	40	60	75	95	115	140
Minimum Edge Distance	c_{min}	[mm]	35	40	45	50	60	65	80
Maximum Torque Moment	T_{inst}	[Nm]	10	20	40	60	120	160	300

Load Data

Standard Embedment Depth		Grade 5.8 Studs		(Non-Cracked concrete, Hammer Drilling and Compressed Air Drilling)						
Threaded Stud Diameter				M8	M10	M12	M16	M20	M24	M30
Tensile Characteristics Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	18.0	29.0	42.0	78.0	122.0	176.0	281.0
40°C/24°C	Flooded bore holes		[kN]	18.0	29.0	42.0	78.0	122.0	176.0	257.7
Temperature range 2:	Dry and wet concrete		[kN]	18.0	29.0	42.0	78.0	122.0	176.0	281.00
60°C/40°C	Flooded bore holes		[kN]	18.0	29.0	42.0	78.0	122.0	167.4	222.6
Tensile Design Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	12.0	19.3	28.0	52.0	81.3	117.3	187.3
40°C/24°C	Flooded bore holes		[kN]	12.0	19.3	28.0	52.0	81.3	117.3	171.8
Temperature range 2:	Dry and wet concrete		[kN]	12.0	19.3	28.0	52.0	81.3	117.3	187.3
60°C/40°C	Flooded bore holes		[kN]	12.0	19.3	28.0	52.0	81.3	111.6	148.4
Tensile Recommended Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	8.6	13.8	20.0	37.1	58.1	83.8	133.8
40°C/24°C	Flooded bore holes		[kN]	8.6	13.8	20.0	37.1	58.1	83.8	122.7
Temperature range 2:	Dry and wet concrete		[kN]	8.6	13.8	20.0	37.1	58.1	83.8	133.8
60°C/40°C	Flooded bore holes		[kN]	8.6	13.8	20.0	37.1	58.1	79.7	106.0

Standard Embedment Depth		Grade 8.8 Studs		(Non-Cracked concrete, Hammer Drilling and Compressed Air Drilling)						
Tensile Characteristics Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	29.0	46.0	67.0	70.5	111.9	153.6	236.6
40°C/24°C	Flooded bore holes		[kN]	29.0	46.0	67.0	62.8	101.4	134.5	184.7
Temperature range 2:	Dry and wet concrete		[kN]	29.0	46.0	67.0	104.8	166.2	213.0	328.0
60°C/40°C	Flooded bore holes		[kN]	29.0	46.0	67.0	104.8	144.1	167.4	222.6
Tensile Design Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	19.3	30.7	44.7	39.2	53.3	73.1	112.6
40°C/24°C	Flooded bore holes		[kN]	19.3	30.7	44.7	29.9	48.3	64.0	87.9
Temperature range 2:	Dry and wet concrete		[kN]	19.3	30.7	44.7	58.2	92.3	118.3	182.2
60°C/40°C	Flooded bore holes		[kN]	19.3	21.3	31.0	48.5	57.2	66.4	88.3
Tensile Recommended Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	13.8	21.9	31.9	28.0	38.1	52.2	80.4
40°C/24°C	Flooded bore holes		[kN]	13.8	21.9	31.9	21.4	34.5	45.7	62.8
Temperature range 2:	Dry and wet concrete		[kN]	13.8	21.9	31.9	41.6	66.0	84.5	130.2
60°C/40°C	Flooded bore holes		[kN]	13.8	15.2	22.2	34.7	40.8	47.4	63.1

Standard Embedment Depth		A4/70/50(M27&M30)		(Non-Cracked concrete, Hammer Drilling and Compressed Air Drilling)						
Tensile Characteristics Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	26.0	41.0	59.0	70.5	111.9	153.6	281.0
40°C/24°C	Flooded bore holes		[kN]	26.0	41.0	59.0	62.8	101.4	134.5	148.7
Temperature range 2:	Dry and wet concrete		[kN]	26.0	41.0	59.0	104.8	166.2	213.0	328.0
60°C/40°C	Flooded bore holes		[kN]	26.0	41.0	59.0	104.8	144.1	167.4	222.6
Tensile Design Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	17.3	27.3	39.3	39.2	53.3	73.1	98.2
40°C/24°C	Flooded bore holes		[kN]	17.3	27.3	39.3	29.9	48.3	64.0	87.9
Temperature range 2:	Dry and wet concrete		[kN]	17.3	27.3	39.3	58.2	66.0	84.5	130.2
60°C/40°C	Flooded bore holes		[kN]	17.3	27.3	39.3	58.2	57.2	66.4	88.3
Tensile Recommended Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	12.4	19.5	28.1	28.0	38.1	52.2	70.1
40°C/24°C	Flooded bore holes		[kN]	12.4	19.5	28.1	21.4	34.5	45.7	62.8
Temperature range 2:	Dry and wet concrete		[kN]	12.4	19.5	28.1	41.6	47.1	60.4	93.0
60°C/40°C	Flooded bore holes		[kN]	12.4	19.5	28.1	41.6	40.8	47.4	63.1

Recommended Resistance 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

Load Data

Standard Embedment Depth

Grade 5.8 Studs

(Cracked concrete, Hammer Drilling and Compressed Air Drilling)

Threaded Stud Diameter				M8	M10	M12	M16	M20	M24	M30
Tensile Characteristics Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	18.0	29.0	42.0	59.4	94.2	121.7	175.7
40°C/24°C	Flooded bore holes		[kN]	18.0	29.0	42.0	59.4	88.7	98.9	128.8
Temperature range 2:	Dry and wet concrete		[kN]	18.0	29.0	42.0	52.4	83.1	114.1	164.0
60°C/40°C	Flooded bore holes		[kN]	18.0	29.0	42.0	52.4	77.6	91.3	117.1
Tensile Design Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	12.0	19.3	28.0	33.0	52.3	67.6	97.6
40°C/24°C	Flooded bore holes		[kN]	12.0	16.1	23.3	33.0	35.2	39.2	51.1
Temperature range 2:	Dry and wet concrete		[kN]	12.0	16.1	23.3	29.1	33.0	45.3	65.1
60°C/40°C	Flooded bore holes		[kN]	12.0	16.1	23.3	29.1	30.8	36.2	46.5
Tensile Recommended Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	8.6	13.8	20.0	23.6	37.4	48.3	69.7
40°C/24°C	Flooded bore holes		[kN]	8.6	11.5	16.7	23.6	25.1	28.0	36.5
Temperature range 2:	Dry and wet concrete		[kN]	8.6	11.5	16.7	20.8	23.6	32.3	46.5
60°C/40°C	Flooded bore holes		[kN]	8.6	11.5	16.7	20.8	22.0	25.9	33.2

Standard Embedment Depth

Grade 8.8 Studs

(Cracked concrete, Hammer Drilling and Compressed Air Drilling)

Temperature range 1:	Dry and wet concrete		[kN]	29.0	40.6	51.9	59.4	94.2	121.7	175.7
40°C/24°C	Flooded bore holes		[kN]	29.0	40.6	51.9	59.4	88.7	98.9	128.8
Temperature range 2:	Dry and wet concrete		[kN]	29.0	38.4	46.1	52.4	83.1	114.1	164.0
60°C/40°C	Flooded bore holes		[kN]	29.0	38.4	46.1	52.4	77.6	91.3	117.1
Tensile Design Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	19.3	22.6	28.8	33.0	52.3	67.6	97.6
40°C/24°C	Flooded bore holes		[kN]	19.3	18.8	24.0	27.5	35.2	39.2	51.1
Temperature range 2:	Dry and wet concrete		[kN]	12.9	12.5	16.0	18.3	29.1	37.6	54.2
60°C/40°C	Flooded bore holes		[kN]	12.9	8.7	11.1	12.7	14.0	15.6	20.3
Tensile Recommended Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	13.8	16.1	20.6	23.6	37.4	48.3	69.7
40°C/24°C	Flooded bore holes		[kN]	13.8	13.4	17.2	19.6	25.1	28.0	36.5
Temperature range 2:	Dry and wet concrete		[kN]	9.2	9.0	11.4	13.1	20.8	26.8	38.7
60°C/40°C	Flooded bore holes		[kN]	9.2	6.2	7.9	9.1	10.0	11.1	14.5

Standard Embedment Depth

A4/70/50(M27&M30)

(Cracked concrete, Hammer Drilling and Compressed Air Drilling)

Temperature range 1:	Dry and wet concrete		[kN]	26.0	40.6	51.9	59.4	94.2	121.7	175.7
40°C/24°C	Flooded bore holes		[kN]	26.0	40.6	51.9	59.4	88.7	98.9	128.8
Temperature range 2:	Dry and wet concrete		[kN]	26.0	38.4	46.1	52.4	83.1	114.1	164.0
60°C/40°C	Flooded bore holes		[kN]	26.0	38.4	46.1	52.4	77.6	91.3	117.1
Tensile Design Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	17.3	22.6	28.8	33.0	52.3	67.6	97.6
40°C/24°C	Flooded bore holes		[kN]	17.3	18.8	24.0	27.5	35.2	39.2	51.1
Temperature range 2:	Dry and wet concrete		[kN]	17.3	21.3	25.6	29.1	46.2	63.4	91.1
60°C/40°C	Flooded bore holes		[kN]	17.3	17.8	21.3	24.3	30.8	36.2	46.5
Tensile Recommended Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	12.4	16.1	20.6	23.6	37.4	48.3	69.7
40°C/24°C	Flooded bore holes		[kN]	12.4	13.4	17.2	19.6	25.1	28.0	36.5
Temperature range 2:	Dry and wet concrete		[kN]	12.4	15.2	18.3	20.8	33.0	45.3	65.1
60°C/40°C	Flooded bore holes		[kN]	12.4	12.7	15.2	17.3	22.0	25.9	33.2

Recommended Resistance 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

Load Data

SEISMIC C1 LOADS

Standard Embedment Depth **Grade 5.8 Studs** *(Cracked / Non-cracked concrete, Hammer Drilling and Compressed Air Drilling)*

Threaded Stud Diameter				M8	M10	M12	M16	M20	M24	M30
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Tensile Characteristics Resistance

Temperature range 1:	Dry and wet concrete		[kN]	18.0	29.0	42.0	58.0	90.9	117.2	138.2
40°C/24°C	Flooded bore holes		[kN]	18.0	29.0	42.0	58.0	86.4	95.9	100.7
Temperature range 2:	Dry and wet concrete		[kN]	18.0	29.0	42.0	51.0	80.9	109.6	128.8
60°C/40°C	Flooded bore holes		[kN]	18.0	29.0	42.0	51.0	80.9	109.6	128.8

Tensile Design Resistance

Temperature range 1:	Dry and wet concrete		[kN]	12.0	19.3	28.0	32.2	50.5	65.1	76.8
40°C/24°C	Flooded bore holes		[kN]	12.0	16.1	23.3	32.2	34.3	38.1	40.0
Temperature range 2:	Dry and wet concrete		[kN]	12.0	16.1	23.3	28.3	32.1	43.5	51.1
60°C/40°C	Flooded bore holes		[kN]	12.0	16.1	23.3	28.3	32.1	43.5	51.1

Tensile Recommended Resistance

Temperature range 1:	Dry and wet concrete		[kN]	8.6	13.8	20.0	23.0	36.1	46.5	54.8
40°C/24°C	Flooded bore holes		[kN]	8.6	11.5	16.7	23.0	24.5	27.2	28.5
Temperature range 2:	Dry and wet concrete		[kN]	8.6	11.5	16.7	20.2	22.9	31.1	36.5
60°C/40°C	Flooded bore holes		[kN]	8.6	11.5	16.7	20.2	22.9	31.1	36.5

Standard Embedment Depth Tensile
Characteristics Resistance

Grade 8.8 Studs

(Cracked / Non-cracked concrete, Hammer Drilling and Compressed Air Drilling)

Temperature range 1:	Dry and wet concrete		[kN]	29.0	36.7	51.9	58.0	90.9	117.2	138.2
40°C/24°C	Flooded bore holes		[kN]	29.0	36.7	51.9	58.0	86.4	95.9	100.7
Temperature range 2:	Dry and wet concrete		[kN]	29.0	35.0	46.1	51	80.9	109.6	128.8
60°C/40°C	Flooded bore holes		[kN]							

Tensile Design Resistance

Temperature range 1:	Dry and wet concrete		[kN]	19.3	20.4	28.8	32.2	50.5	65.1	76.8
40°C/24°C	Flooded bore holes		[kN]	19.3	17.0	24.0	26.9	34.3	38.1	40.0
Temperature range 2:	Dry and wet concrete		[kN]	12.9	11.3	16.0	17.9	28.1	36.2	42.7
60°C/40°C	Flooded bore holes		[kN]	12.9	7.9	11.1	12.4	13.6	15.1	15.9

Tensile Recommended Resistance

Temperature range 1:	Dry and wet concrete		[kN]	13.8	14.6	20.6	23.0	36.1	46.5	54.8
40°C/24°C	Flooded bore holes		[kN]	13.8	12.1	17.2	19.2	24.5	27.2	28.5
Temperature range 2:	Dry and wet concrete		[kN]	9.2	8.1	11.4	12.8	20.0	25.8	30.5
60°C/40°C	Flooded bore holes		[kN]	9.2	5.6	7.9	8.9	9.7	10.8	11.3

Standard Embedment Depth Tensile
Characteristics Resistance

A4/70/50(M27&M30)

(Cracked / Non-cracked concrete, Hammer Drilling and Compressed Air Drilling)

Temperature range 1:	Dry and wet concrete		[kN]	26.0	36.7	51.9	58.0	90.9	117.2	138.2
40°C/24°C	Flooded bore holes		[kN]	26.0	36.7	51.9	58.0	86.4	95.9	100.7
Temperature range 2:	Dry and wet concrete		[kN]	26.0	35.0	46.1	51	80.9	109.6	128.8
60°C/40°C	Flooded bore holes		[kN]	26.0	35.0	46.1	51	75.4	88.3	91.4

Tensile Design Resistance

Temperature range 1:	Dry and wet concrete		[kN]	17.3	20.4	28.8	32.2	50.5	65.1	76.8
40°C/24°C	Flooded bore holes		[kN]	17.3	17.0	24.0	26.9	34.3	38.1	40.0
Temperature range 2:	Dry and wet concrete		[kN]	17.3	19.4	25.6	28.3	44.9	60.9	71.6
60°C/40°C	Flooded bore holes		[kN]	17.3	16.2	21.3	23.6	29.9	35.0	36.3

Tensile Recommended Resistance

Temperature range 1:	Dry and wet concrete		[kN]	12.4	14.6	20.6	23.0	36.1	46.5	54.8
40°C/24°C	Flooded bore holes		[kN]	12.4	12.1	17.2	19.2	24.5	27.2	28.5
Temperature range 2:	Dry and wet concrete		[kN]	12.4	13.9	18.3	20.2	32.1	43.5	51.1
60°C/40°C	Flooded bore holes		[kN]	12.4	11.6	15.2	16.9	21.4	25.0	25.9

Recommended Resistance 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

Load Data

SEISMIC C2 LOADS

Standard Embedment Depth

Grade 5.8 Studs

(Cracked / Non-cracked concrete, Hammer Drilling and Compressed Air Drilling)

Threaded Stud Diameter				M8	M10	M12	M16	M20	M24	M30
Tensile Characteristics Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	-	-	23.7	16.8	28.8	65.4	-
40°C/24°C	Flooded bore holes		[kN]	-	-	23.7	16.8	25.5	50.2	-
Temperature range 2:	Dry and wet concrete		[kN]	-	-	21.3	15.4	26.6	59.3	-
60°C/40°C	Flooded bore holes		[kN]	-	-	21.3	15.4	26.6	59.3	-
Tensile Design Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	-	-	15.8	9.3	16.0	36.3	-
40°C/24°C	Flooded bore holes		[kN]	-	-	13.2	9.3	10.1	19.9	-
Temperature range 2:	Dry and wet concrete		[kN]	-	-	11.8	8.6	10.6	23.5	-
60°C/40°C	Flooded bore holes		[kN]	-	-	11.8	8.6	10.6	23.5	-
Tensile Recommended Resistance										
Temperature range 1:	Dry and wet concrete		[kN]	-	-	11.3	6.7	11.4	26.0	-
40°C/24°C	Flooded bore holes		[kN]	-	-	9.4	6.7	7.2	14.2	-
Temperature range 2:	Dry and wet concrete		[kN]	-	-	8.5	6.1	7.5	16.8	-
60°C/40°C	Flooded bore holes		[kN]	-	-	8.5	6.1	7.5	16.8	-

Standard Embedment Depth

Grade 8.8 Studs

(Cracked / Non-cracked concrete, Hammer Drilling and Compressed Air Drilling)

Temperature range 1:	Dry and wet concrete	[kN]	-	-	23.7	16.8	28.8	65.4	-
40°C/24°C	Flooded bore holes	[kN]	-	-	23.7	16.8	25.5	50.2	-
Temperature range 2:	Dry and wet concrete	[kN]	-	-	21.3	15.4	26.6	59.3	-
60°C/40°C	Flooded bore holes	[kN]	-	-	21.3	15.4	23.3	45.6	-
Tensile Design Resistance									
Temperature range 1:	Dry and wet concrete	[kN]	-	-	13.2	9.3	16.0	36.3	-
40°C/24°C	Flooded bore holes	[kN]	-	-	11.0	7.8	10.1	19.9	-
Temperature range 2:	Dry and wet concrete	[kN]	-	-	7.3	5.2	8.9	20.2	-
60°C/40°C	Flooded bore holes	[kN]	-	-	5.1	3.6	4.0	7.9	-
Tensile Recommended Resistance									
Temperature range 1:	Dry and wet concrete	[kN]	-	-	9.4	6.7	11.4	26.0	-
40°C/24°C	Flooded bore holes	[kN]	-	-	7.8	5.6	7.2	14.2	-
Temperature range 2:	Dry and wet concrete	[kN]	-	-	5.2	3.7	6.3	14.4	-
60°C/40°C	Flooded bore holes	[kN]	-	-	3.6	2.6	2.9	5.6	-

Standard Embedment Depth

A4/70/50(M27&M30)

(Cracked / Non-Cracked concrete, Hammer Drilling and Compressed Air Drilling)

Temperature range 1:	Dry and wet concrete	[kN]	-	-	23.7	16.8	28.8	65.4	-
40°C/24°C	Flooded bore holes	[kN]	-	-	23.7	16.8	28.8	65.4	-
Temperature range 2:	Dry and wet concrete	[kN]	-	-	21.3	15.4	26.6	59.3	-
60°C/40°C	Flooded bore holes	[kN]	-	-	21.3	15.4	23.3	45.6	-
Tensile Design Resistance									
Temperature range 1:	Dry and wet concrete	[kN]	-	-	13.2	9.3	16.0	36.3	-
40°C/24°C	Flooded bore holes	[kN]	-	-	11.0	7.8	11.4	26.0	-
Temperature range 2:	Dry and wet concrete	[kN]	-	-	11.8	8.6	14.8	32.9	-
60°C/40°C	Flooded bore holes	[kN]	-	-	9.9	7.1	9.2	18.1	-
Tensile Recommended Resistance									
Temperature range 1:	Dry and wet concrete	[kN]	-	-	9.4	6.7	11.4	26.0	-
40°C/24°C	Flooded bore holes	[kN]	-	-	7.8	5.6	8.2	18.5	-
Temperature range 2:	Dry and wet concrete	[kN]	-	-	8.5	6.1	10.6	23.5	-
60°C/40°C	Flooded bore holes	[kN]	-	-	7.0	5.1	6.6	12.9	-

Recommended Resistance 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 Factor

Increasing factor for non-cracked concrete

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24	M30
ψc C25/30	[-]		1.05						1.11
ψc C30/37	[-]		1.10						1.21
ψc C35/45	[-]		1.15						1.3
ψc C40/50	[-]		1.18						1.38
ψc C45/55	[-]		1.22						1.45
ψc C50/60	[-]		1.25						1.52

Increasing factor for cracked concrete

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24	M30
ψc C25/30	[-]		1.05	1.07					1.11
ψc C30/37	[-]		1.09	1.13					1.22
ψc C35/45	[-]		1.13	1.18					1.32
ψc C40/50	[-]		1.16	1.23					1.41
ψc C45/55	[-]		1.19	1.28					1.49
ψc C50/60	[-]		1.22	1.32					1.58

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

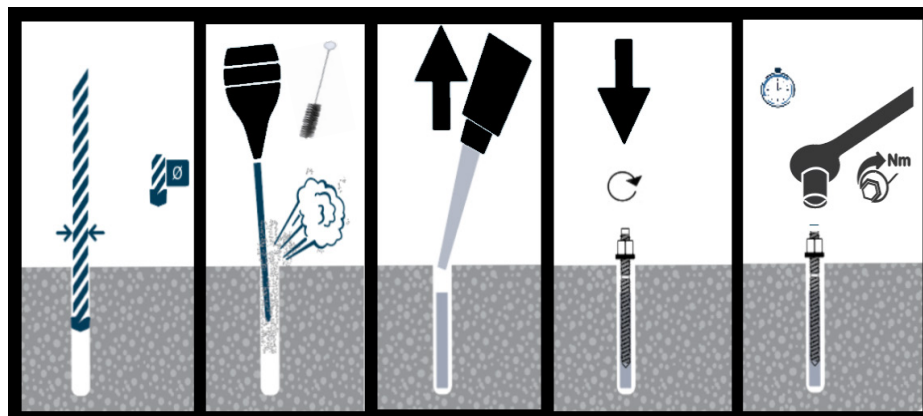
Threaded Stud Diameter			M8	M10	M12	M16	M20	M24	M30
Characteristic Tensile Resistance	$N_{Rk,S}$	[kN]	18.0	29.0	42.0	78.0	122.0	176.0	280.0
Partial safety factor	γ_{MsN}	[-]	1.5						
Characteristic Shear Resistance	$V_{Rk,S}$	[kN]	9.0	15.0	21.0	39.0	61.0	88.0	140
Partial Safety Factor	γ_{MsV}	[-]	1.25						

Grade 8.8

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24	M30
Characteristic Tensile Resistance	$N_{Rk,S}$	[kN]	29.0	46.0	67.0	125.0	196.0	282.0	449.0
Partial safety factor	γ_{MsN}	[-]	1.5						
Characteristic Shear Resistance	$V_{Rk,S}$	[kN]	15.0	23.0	34.0	63.0	98.0	141.0	
Partial Safety Factor	γ_{MsV}	[-]	1.25						

Stainless Steel A4-70/50

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24	M30
Characteristic Tensile Resistance	$N_{Rk,S}$	[kN]	26.0	41.0	59.0	110.0	171.0	247.0	281.0
Partial safety factor	γ_{MsN}	[-]	1.87						
Characteristic Shear Resistance	$V_{Rk,S}$	[kN]	13.0	20.0	30.0	55.0	86.0	124.0	140.0
Partial Safety Factor	γ_{MsV}	[-]	1.56						



Accessories:



Cartridge Nozzle
& Extension
TCN01 & TCN03



TCM31BTP

