

TRUTEK TCM585 RE INJECTION RESIN

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

Advantages:

- Long cure time to allow deep embedment installation
- Suitable for concrete from C20/25 to C50/60
- Range of embedment depths
- High adhesion and low shrinkage ensures maximum bond



Resin setting times

Substrate temperature	°C	5 - 9	10 - 19	20 - 29	30 - 39	40+
Gel time	min.	120	90	30	20	12
Cure time in dry concrete	hour.	50	30	10	6	4

The temperature of the resin container must be $\geq 20^{\circ}\text{C}$

Concrete Ranges:	C20/25 to C0/60 according to EN 206:2013+A1:2016
Certification:	European Technical Assessment ETA 19/0371 Issued 06/06/2016

Installation Data

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24	M27	M30
Nominal drill hole diameter	d_o	[mm]	10	12	14	18	24	28	32	35
Diameter of steel brush	d_b	[mm]	12	14	16	20	26	30	34	37
Minimum Effective Anchorage Depth	$h_{ef,min}$	[mm]	60	60	70	80	90	96	108	120
Maximum Effective Anchorage Depth	$h_{ef,max}$	[mm]	96	120	144	192	240	288	324	360
Standard Effective Anchorage Depth	$h_{ef,std}$	[mm]	80	90	110	125	170	210	270	280
Fixture Clearance Hole	d_f	[mm]	9	12	14	18	22	26	30	33
Minimum Concrete Thickness	h_{min}	[mm]	$h_{ef} + 30\text{mm} \geq 100\text{mm}$				$h_{ef} + 2d_o$			
Spacing - Tension (Standard Embedment) 5.8 studs	S_{std}	[mm]	90	175	245	375	510	630	810	840
Spacing - Tension (Standard Embedment) 8.8 studs	S_{std}	[mm]	225	270	330	375	510	630	810	240
Spacing - Tension (Standard Embedment) A4 studs	S_{std}	[mm]	145	235	315	375	510	630	415	625
Edge Distance - Shear (Standard Embedment) 5.8 Studs	c_{std}	[mm]	70	105	140	190	255	315	405	420
Edge Distance - Shear (Standard Embedment) 8.8 Studs	c_{std}	[mm]	115	135	165	190	255	315	405	420
Edge Distance - Shear (Standard Embedment) A4 Studs	c_{std}	[mm]	90	125	160	190	255	315	275	355
Edge Distance - Shear (Standard Embedment) 5.8 Studs	$c_{v,std}$	[mm]	70	95	115	160	205	290	335	420
Edge Distance - Shear (Standard Embedment) 8.8 Studs	$c_{v,std}$	[mm]	100	130	165	250	330	465	600	740
Edge Distance - Shear (Standard Embedment) A4 Studs	$c_{v,std}$	[mm]	75	100	130	190	250	315	200	230
Minimum Spacing	s_{min}	[mm]	40	50	60	80	100	120	135	150
Minimum Edge Distance	c_{min}	[mm]	40	50	60	80	100	120	135	150
Torque Moment	T_{inst}	[Nm]	10	20	40	80	120	160	180	200

Spacing and Edge distances are based on Temperature Range 1 and dry and wet concrete. For other variations refer to DesignFix calculation program Edge

Distances are based on minimum concrete thickness

For variations in Concrete Thickness, Spacing and Edge Distance refer to DesignFix for calculations

Load Data

Threaded Stud Diameter	M8	M10	M12	M16	M20	M24	M27	M30
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Standard Embedment Depth **Grade 5.8 Studs** *(Non-Cracked concrete, Hammer Drilling and Compressed Air Drilling)*

Tensile Characteristics Resistance

Temperature range 1:	Dry and wet concrete	[kN]	18.0	29.0	42.0	70.5	111.9	153.6	224	236.6
40°C/24°C	Flooded bore holes	[kN]	18.0	39.5	53.9	62.8	101.4	134.5	171.7	184.7
Temperature range 2:	Dry and wet concrete	[kN]	19.1	28.8	37.3	53.4	85.4	118.7	171.7	149.9
60°C/43°C	Flooded bore holes	[kN]	19.1	26.8	37.3	53.4	80.1	110.8	148.8	158.3
Temperature range 3:	Dry and wet concrete	[kN]	17.0	24	33.1	47.1	74.7	110.8	148.8	171.5
72°C/43°C	Flooded bore holes	[kN]	17.0	24.0	33.1	47.1	74.7	95	125.9	145.1

Tensile Design Resistance

Temperature range 1:	Dry and wet concrete	[kN]	12.0	19.3	28.0	39.2	53.3	73.1	106.6	112.6
40°C/24°C	Flooded bore holes	[kN]	12.0	18.8	25.6	29.9	48.3	64.0	81.7	87.9
Temperature range 2:	Dry and wet concrete	[kN]	10.6	14.9	20.7	29.6	40.6	56.5	81.7	94.2
60°C/43°C	Flooded bore holes	[kN]	9.0	12.7	17.7	25.4	38.1	52.7	70.8	75.4
Temperature range 3:	Dry and wet concrete	[kN]	9.4	13.3	18.4	26.1	35.6	52.7	70.8	81.6
72°C/43°C	Flooded bore holes	[kN]	8.1	11.4	15.8	22.4	35.6	45.2	59.9	69.1

Tensile Recommended Resistance

Temperature range 1:	Dry and wet concrete	[kN]	8.6	13.8	20.0	28.0	38.1	52.2	76.1	80.4
40°C/24°C	Flooded bore holes	[kN]	8.6	13.4	18.3	21.4	34.5	45.7	58.4	62.8
Temperature range 2:	Dry and wet concrete	[kN]	7.6	10.6	14.8	21.1	29.0	40.4	58.4	67.3
60°C/43°C	Flooded bore holes	[kN]	6.4	9.1	12.6	18.1	27.2	37.6	50.6	53.9
Temperature range 3:	Dry and wet concrete	[kN]	6.7	9.5	13.1	18.6	25.4	37.6	50.6	58.3
72°C/43°C	Flooded bore holes	[kN]	5.8	8.1	11.3	16.0	25.4	32.3	42.8	49.4

Standard Embedment Depth Tensile **Grade 8.8 Studs** *(Non-Cracked concrete, Hammer Drilling and Compressed Air Drilling)*

Characteristics Resistance

Temperature range 1:	Dry and wet concrete	[kN]	30.1	42.4	58.2	70.5	111.9	153.6	224.0	236.6
40°C/24°C	Flooded bore holes	[kN]	30.1	39.5	53.9	62.8	101.4	134.5	171.7	184.7
Temperature range 2:	Dry and wet concrete	[kN]	19.1	28.8	39.5	53.4	85.4	118.7	171.7	194.9
60°C/43°C	Flooded bore holes	[kN]	19.1	26.8	37.3	53.4	80.1	110.8	148.8	158.3
Temperature range 3:	Dry and wet concrete	[kN]	17.0	24.0	33.1	47.1	74.7	110.8	148.8	171.5
72°C/43°C	Flooded bore holes	[kN]	17.0	24.0	33.1	47.1	74.7	95.0	125.9	145.1

Tensile Design Resistance

Temperature range 1:	Dry and wet concrete	[kN]	16.7	23.5	32.3	39.2	53.3	73.1	106.6	112.6
40°C/24°C	Flooded bore holes	[kN]	14.3	18.8	25.3	29.9	48.3	64.0	81.7	87.9
Temperature range 2:	Dry and wet concrete	[kN]	10.6	14.9	20.7	29.6	40.6	56.5	81.7	94.2
60°C/43°C	Flooded bore holes	[kN]	9.0	12.7	17.7	25.4	38.1	52.7	70.8	75.4
Temperature range 3:	Dry and wet concrete	[kN]	9.4	13.3	18.4	26.1	35.6	52.7	70.8	81.6
72°C/43°C	Flooded bore holes	[kN]	8.1	11.4	15.8	22.4	35.6	45.2	59.9	69.1

Tensile Recommended Resistance

Temperature range 1:	Dry and wet concrete	[kN]	11.9	16.8	23.1	28.0	38.1	52.2	76.1	80.4
40°C/24°C	Flooded bore holes	[kN]	10.2	13.4	18.1	21.4	34.5	45.7	58.4	62.8
Temperature range 2:	Dry and wet concrete	[kN]	7.6	10.6	14.8	21.1	29.0	40.4	58.4	67.3
60°C/43°C	Flooded bore holes	[kN]	6.4	9.1	12.6	18.1	27.2	37.6	50.6	53.9
Temperature range 3:	Dry and wet concrete	[kN]	6.7	9.5	13.1	18.6	25.4	37.6	50.6	58.3
72°C/43°C	Flooded bore holes	[kN]	5.8	8.1	11.3	16.0	25.4	32.3	42.8	49.4

Standard Embedment Depth Tensile **A4/70/50(M27&M30)** *(Non-Cracked concrete, Hammer Drilling and Compressed Air Drilling)*

Characteristics Resistance

Temperature range 1:	Dry and wet concrete	[kN]	26.0	41.0	59.0	70.5	111.9	153.6	230.0	281.0
40°C/24°C	Flooded bore holes	[kN]	26.0	39.5	53.9	62.8	101.4	134.5	230.0	148.7
Temperature range 2:	Dry and wet concrete	[kN]	19.1	28.8	37.3	53.4	85.4	118.7	171.7	149.9
60°C/43°C	Flooded bore holes	[kN]	19.1	26.8	37.3	53.4	80.1	110.8	148.8	158.3
Temperature range 3:	Dry and wet concrete	[kN]	17.0	24.0	33.1	47.1	74.7	110.8	148.8	171.5
72°C/43°C	Flooded bore holes	[kN]	17.0	24.0	33.1	47.1	74.7	95.0	125.9	145.1

Tensile Design Resistance

Temperature range 1:	Dry and wet concrete	[kN]	13.9	21.9	31.5	39.2	53.3	73.1	80.4	98.2
40°C/24°C	Flooded bore holes	[kN]	13.9	18.8	25.6	29.9	48.3	64.0	80.4	87.9
Temperature range 2:	Dry and wet concrete	[kN]	10.6	14.9	20.7	29.6	40.6	56.5	81.7	94.2
60°C/43°C	Flooded bore holes	[kN]	9.0	12.7	17.7	25.4	38.1	52.7	70.8	75.4
Temperature range 3:	Dry and wet concrete	[kN]	9.4	13.0	18.4	26.1	35.6	52.4	70.8	81.6
72°C/43°C	Flooded bore holes	[kN]	8.1	11.4	15.8	22.4	35.6	45.2	59.9	69.1

Tensile Recommended Resistance

Temperature range 1:	Dry and wet concrete	[kN]	9.9	15.6	22.5	28.0	38.1	52.2	57.4	70.1
40°C/24°C	Flooded bore holes	[kN]	9.9	13.4	18.3	21.4	34.5	45.7	57.4	62.8
Temperature range 2:	Dry and wet concrete	[kN]	7.6	10.6	14.8	21.1	29.0	40.4	58.4	67.3
60°C/43°C	Flooded bore holes	[kN]	6.4	9.1	12.6	18.1	27.2	37.6	50.6	53.9
Temperature range 3:	Dry and wet concrete	[kN]	6.7	9.3	13.1	18.6	25.4	37.4	50.6	58.3
72°C/43°C	Flooded bore holes	[kN]	5.8	8.1	11.3	16.0	25.4	32.3	42.8	49.4

*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 / 8.8 / A4/70/50(M27&M30) Studs

(Cracked concrete, Hammer Drilling and Compressed Air Drilling)

Threaded Stud Diameter		M8	M10	M12	M16	M20	M24	M27	M30	
Tensile Characteristics Resistance										
Temperature range 1:	Dry and wet concrete	[kN]	-	-	31.1	40.8	64.0	87.0	125.9	145.1
40°C/24°C	Flooded bore holes	[kN]	-	-	31.1	37.7	53.4	71.2	91.6	105.5
Temperature range 2:	Dry and wet concrete	[kN]	-	-	18.6	25.1	37.3	55.4	80.1	92.3
60°C/43°C	Flooded bore holes	[kN]	-	-	18.6	25.1	37.3	55.4	80.1	92.3
Temperature range 3:	Dry and wet concrete	[kN]	-	-	16.5	21.9	32	47.5	68.7	79.1
72°C/43°C	Flooded bore holes	[kN]	-	-	16.5	21.9	32	47.5	68.7	79.1
Tensile Design Resistance										
Temperature range 1:	Dry and wet concrete	[kN]	-	-	17.2	22.6	30.5	41.4	59.9	69.1
40°C/24°C	Flooded bore holes	[kN]	-	-	14.8	17.9	25.4	33.9	43.6	50.2
Temperature range 2:	Dry and wet concrete	[kN]	-	-	10.3	13.9	17.8	26.3	38.1	43.9
60°C/43°C	Flooded bore holes	[kN]	-	-	8.8	11.9	17.8	26.3	38.1	43.9
Temperature range 3:	Dry and wet concrete	[kN]	-	-	9.2	12.2	15.2	22.6	32.7	37.7
72°C/43°C	Flooded bore holes	[kN]	-	-	7.9	10.4	15.2	22.6	32.7	37.7
Tensile Recommended Resistance										
Temperature range 1:	Dry and wet concrete	[kN]	-	-	12.3	16.1	21.8	29.6	42.8	49.4
40°C/24°C	Flooded bore holes	[kN]	-	-	10.6	12.8	18.1	24.2	31.1	35.9
Temperature range 2:	Dry and wet concrete	[kN]	-	-	7.4	9.9	12.7	18.8	27.2	31.4
60°C/43°C	Flooded bore holes	[kN]	-	-	6.3	8.5	12.7	18.8	27.2	31.4
Temperature range 3:	Dry and wet concrete	[kN]	-	-	6.6	8.7	10.9	16.1	23.4	26.9
72°C/43°C	Flooded bore holes	[kN]	-	-	5.6	7.4	10.9	16.1	23.4	26.9

Threaded Stud Diameter		M8	M10	M12	M16	M20	M24	M27	M30
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Standard Embedment Depth Shear

Grade 5.8 Studs

(Non-cracked and Cracked concrete, Hammer Drilling and Compressed Air Drilling)(All temperature ranges)

Characteristics Resistance

Dry and wet concrete & Flooded bore holes	[kN]	9*	15*	21.0	39.0	61.0	88.0	115.0	140.0
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Shear Design Resistance

Dry and wet concrete & Flooded bore holes	[kN]	7.2*	12*	16.8	27.2	42.4	70.4	92	112
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Shear Recommended Resistance

Dry and wet concrete & Flooded bore holes	[kN]	5.1*	8.6*	12.0	19.4	30.3	50.3	65.7	80.0
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Standard Embedment Depth Shear

Grade 8.8 Studs

(Non-cracked and Cracked concrete, Hammer Drilling and Compressed Air Drilling)(All temperature ranges)

Characteristics Resistance

Dry and wet concrete & Flooded bore holes	[kN]	15*	23*	34.0	63.0	98.0	141.0	184.0	224.0
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Shear Design Resistance

Dry and wet concrete & Flooded bore holes	[kN]	12*	18.4*	27.2	50.4	78.4	112.8	147.2	179.2
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Shear Recommended Resistance

Dry and wet concrete & Flooded bore holes	[kN]	8.6*	13.1*	19.4	36.0	56.0	80.6	105.1	128.0
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Standard Embedment Depth Shear

A4/70/50(M27&M30)

(Non-cracked and Cracked concrete, Hammer Drilling and Compressed Air Drilling)(All temperature ranges)

Characteristics Resistance

Dry and wet concrete & Flooded bore holes	[kN]	13*	20*	30.0	55.0	86.0	124.0	115.0	140.0
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Shear Design Resistance

Dry and wet concrete & Flooded bore holes	[kN]	8.3*	12.8*	19.2	35.2	55.1	79.5	48.3	58.8
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Shear Recommended Resistance

Dry and wet concrete & Flooded bore holes	[kN]	5.9*	9.1*	13.7	25.1	39.4	56.8	34.5	42.0
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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

* No Performance Determined for Cracked Concrete

Increasing Factor

Increasing factor for non-cracked concrete

Threaded Stud Diameter		M8	M10	M12	M16	M20	M24	M27	M30
ψc C30/37	[-]	1.04							
ψc C40/50	[-]	1.08							
ψc C50/60	[-]	1.10							

Increasing factor for cracked concrete

Threaded Stud Diameter		M8	M10	M12	M16	M20	M24	M27	M30
ψc C30/37	[-]	1.04							
ψc C40/50	[-]	1.08							
ψc C50/60	[-]	1.00							

Steel Limits

Grade 5.8

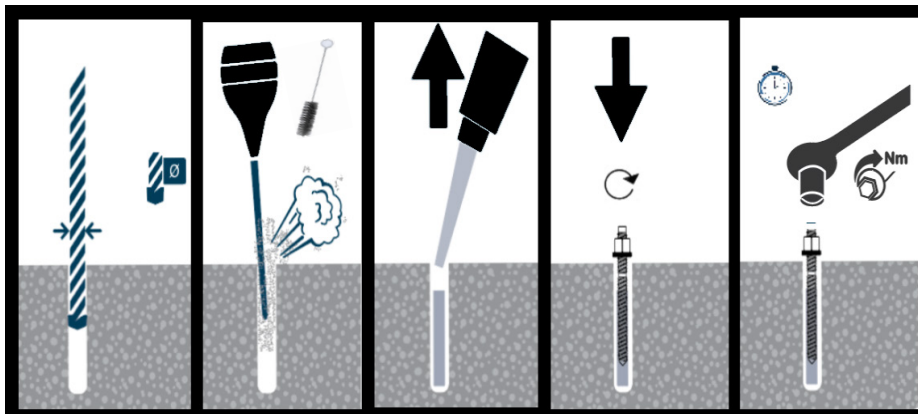
Threaded Stud Diameter		M8	M10	M12	M16	M20	M24	M27	M30
Characteristic Tensile Resistance	$N_{Rk,s}$ [kN]	18.0	29.0	42.0	78.0	122.0	176.0	230.0	280.0
Partial safety factor	γ_{MsN} [-]	1.5							
Characteristic Shear Resistance	$V_{Rk,s}$ [kN]	9.0	15.0	21.0	39.0	61.0	88.0	115	140
Partial Safety Factor	γ_{MsV} [-]	1.25							

Grade 8.8

Threaded Stud Diameter		M8	M10	M12	M16	M20	M24	M27	M30
Characteristic Tensile Resistance	$N_{Rk,s}$ [kN]	29.0	46.0	67.0	125.0	196.0	282.0	368.0	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	M27	M30
Characteristic Tensile Resistance	$N_{Rk,s}$ [kN]	26.0	41.0	59.0	110.0	171.0	247.0	230.0	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	115.0	140.0
Partial Safety Factor	γ_{MsV} [-]	1.56							



Accessories:

