

## TRUTEK TCM PRO INJECTION RESIN

### Usage:

- Installation of threaded studs
- Approved for cracked & non-crack concrete
- Can be used in dry wet and flooded holes
- Class A1 reaction to fire

### Advantages:

- Available in 420ml cartridge
- Suitable for concrete from c20/25 to c50/60
- Range of embedment depths

For use with:

- Cracked Concrete
- Non Cracked Concrete
- Flooded Holes



### Resin setting times

Substrate temperature	°C	0 - 10	10 - 20	20 - 30	30 - 40
Gel time	min.	25	17	12	6
Cure time in dry concrete	hour.	90	70	65	60

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 12/0129 Issued 04/06/2019

### Installation Data

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24
Nominal drill hole diameter	$d_o$	[mm]	10	12	14	18	24	28
Diameter of steel brush	$d_b$	[mm]	10	12	14	18	24	28
Minimum Effective Anchorage Depth	$h_{ef,min}$	[mm]	60	60	70	80	90	100
Maximum Effective Anchorage Depth	$h_{ef,max}$	[mm]	160	200	240	320	400	480
Standard Effective Anchorage Depth	$h_{ef,std}$	[mm]	80	90	110	125	170	210
Minimum Concrete Thickness	$h_{min}$	[mm]	$h_{ef} + 30\text{mm} \geq 100\text{mm}$			$h_{ef} + 2d_o$		
Spacing - Tension (Standard Embedment)	$S_{std}$	[mm]	185 <sup>(1)</sup>	225	265	340	400	465
Edge Distance - Tension (Standard Embedment)	$c_{N,std}$	[mm]	80/95 <sup>(2)</sup>	115	135	170	200	235
Edge Distance - Shear (Standard Embedment) 5.8 Stud	$c_{V,std}$	[mm]	70	95	115	175	250	360
Edge Distance - Shear (Standard Embedment) 8.8 Stud	$c_{V,std}$	[mm]	80	130	165	285	440	630
Edge Distance - Shear (Standard Embedment) A4-70 Stud	$c_{V,std}$	[mm]	75	120	130	190	290	415
Minimum Spacing	$S_{min}$	[mm]	40	50	60	80	100	120
Minimum Edge Distance	$c_{min}$	[mm]	40	50	60	80	100	120

(1) Spacing 135 mm for M8 Grade 5.8 studs

(2) Edge distance 95mm for Grade 8.8 studs

*Edge Distances are based on minimum concrete thickness For variations in Concrete Thickness, Spacing and Edge Distance refer to DesignFix for calculations*

## Load Data

### Standard Embedment Depth **Grade 5.8 Studs**

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

*(Dry and Wet Holes)*

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24
<b>Characteristics Resistance</b>								
Tensile	$N_{Rk}$	[kN]	18.0	28.8	37.3	30.2	80.1	110.8
Shear	$V_{Rk}$	[kN]	9.0	15.0	21.0	39.0	61.0	88.0
<b>Design Resistance</b>								
Tensile	$N_{Rd}$	[kN]	12.0	17.9	24.8	33.5	53.4	73.9
Shear	$V_{Rd}$	[kN]	7.2	12.0	16.8	31.2	48.8	70.4
<b>Recommended Resistance</b>								
Tensile	$N_{rec}$	[kN]	8.6	12.8	17.7	23.9	38.1	52.8
Shear	$V_{rec}$	[kN]	5.1	8.6	12.0	22.3	34.9	50.3

*(Cracked concrete, Hammer Drilling and Compressed Air Drilling)*

*(Dry and Wet Holes)*

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24
<b>Characteristics Resistance</b>								
Tensile	$N_{Rk}$	[kN]	-	-	14.5	22.0	-	-
Shear	$V_{Rk}$	[kN]	-	-	21.0	43.9	-	-
<b>Design Resistance</b>								
Tensile	$N_{Rd}$	[kN]	-	-	9.6	14.6	-	-
Shear	$V_{Rd}$	[kN]	-	-	16.8	29.3	-	-
<b>Recommended Resistance</b>								
Tensile	$N_{rec}$	[kN]	-	-	6.9	10.4	-	-
Shear	$V_{rec}$	[kN]	-	-	12.0	20.9	-	-

### Standard Embedment **Grade 8.8 Zinc Plated Studs**

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

*(Dry and Wet Holes)*

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24
<b>Characteristics Resistance</b>								
Tensile	$N_{Rk}$	[kN]	20.1	28.8	37.3	50.2	80.1	110.8
Shear	$V_{Rk}$	[kN]	12.0	23.0	34.0	63.0	98.0	141.0
<b>Design Resistance</b>								
Tensile	$N_{Rd}$	[kN]	13.4	17.9	24.8	33.5	53.4	73.9
Shear	$V_{Rd}$	[kN]	9.0	18.4	27.2	50.4	78.4	112.8
<b>Recommended Resistance</b>								
Tensile	$N_{rec}$	[kN]	9.6	12.8	17.7	23.9	38.1	52.8
Shear	$V_{rec}$	[kN]	6.4	13.1	19.4	36.0	56.0	80.6

*(Cracked concrete, Hammer Drilling and Compressed Air Drilling)*

*(Dry and Wet Holes)*

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24
<b>Characteristics Resistance</b>								
Tensile	$N_{Rk}$	[kN]	-	-	14.5	22.0	-	-
Shear	$V_{Rk}$	[kN]	-	-	29.0	43.9	-	-
<b>Design Resistance</b>								
Tensile	$N_{Rd}$	[kN]	-	-	9.6	14.6	-	-
Shear	$V_{Rd}$	[kN]	-	-	16.8	29.3	-	-
<b>Recommended Resistance</b>								
Tensile	$N_{rec}$	[kN]	-	-	6.9	10.4	-	-
Shear	$V_{rec}$	[kN]	-	-	12.0	20.9	-	-

**Standard Embedment**      **Grade A4-70 Stainless Steel Studs**

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

*(Dry and Wet Holes)*

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24
<b>Characteristics Resistance</b>								
Tensile	$N_{Rk}$	[kN]	20.1	28.8	37.3	50.2	80.1	110.8
Shear	$V_{Rk}$	[kN]	13.0	20.0	30.0	55.0	86.0	124.0
<b>Design Resistance</b>								
Tensile	$N_{Rd}$	[kN]	13.4	17.9	24.8	33.5	53.4	75.9
Shear	$V_{Rd}$	[kN]	8.3	12.8	19.2	35.2	55.1	79.5
<b>Recommended Resistance</b>								
Tensile	$N_{rec}$	[kN]	9.6	12.8	17.7	23.9	38.1	54.2
Shear	$V_{rec}$	[kN]	5.9	9.1	13.7	25.1	39.4	56.8

*(Cracked concrete, Hammer Drilling and Compressed Air Drilling)*

*(Dry and Wet Holes)*

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24
<b>Characteristics Resistance</b>								
Tensile	$N_{Rk}$	[kN]	-	-	14.5	22.0	-	-
Shear	$V_{Rk}$	[kN]	-	-	29.0	43.9	-	-
<b>Design Resistance</b>								
Tensile	$N_{Rd}$	[kN]	-	-	9.6	14.6	-	-
Shear	$V_{Rd}$	[kN]	-	-	19.3	29.3	-	-
<b>Recommended Resistance</b>								
Tensile	$N_{rec}$	[kN]	-	-	6.9	10.4	-	-
Shear	$V_{rec}$	[kN]	-	-	13.8	20.9	-	-

*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 (all types of drilling)

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24
$\Psi_c$ C30/37	[-]		1.12					
$\Psi_c$ C40/50	[-]		1.23					
$\Psi_c$ C50/60	[-]		1.30					

Increasing factor for cracked concrete (all types of drilling)

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24
$\Psi_c$ C30/37	[-]		1.04					
$\Psi_c$ C40/50	[-]		1.09					
$\Psi_c$ C50/60	[-]		1.09					

## Steel Limits

### Grade 5.8

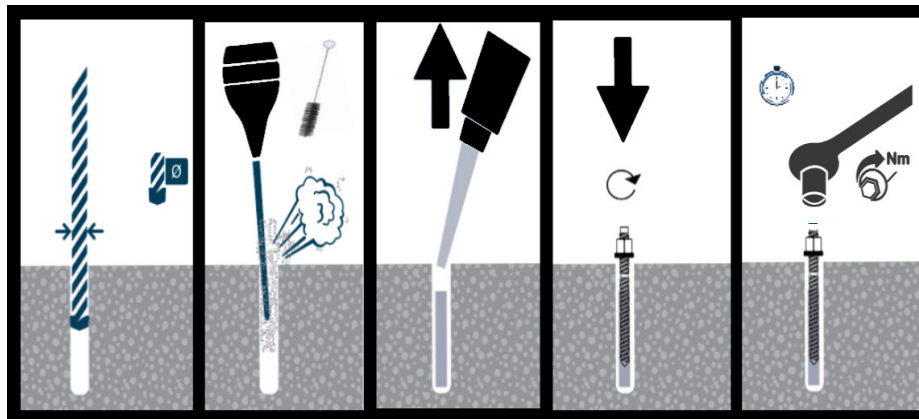
Threaded Stud Diameter			M8	M10	M12	M16	M20	M24
Characteristic Tensile Resistance	$N_{Rk,s}$	[kN]	18.0	29.0	42.0	79.0	123.0	177.0
Partial safety factor	$\gamma_{MsN}$	[-]	1.5					
Characteristic Shear Resistance	$V_{Rk,s}$	[kN]	9.0	15.0	21.0	39.0	61.0	88.0
Partial Safety Factor	$\gamma_{MsV}$	[-]	1.25					

### Grade 8.8

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24
Characteristic Tensile Resistance	$N_{Rk,s}$	[kN]	29.0	46.0	67.0	126.0	196.0	282.0
Partial safety factor	$\gamma_{MsN}$	[-]	1.5					
Characteristic Shear Resistance	$V_{Rk,s}$	[kN]	15.0	23.0	34.0	63.0	98.0	141.0
Partial Safety Factor	$\gamma_{MsV}$	[-]	1.25					

### Stainless Steel A4-70

Threaded Stud Diameter			M8	M10	M12	M16	M20	M24
Characteristic Tensile Resistance	$N_{Rk,s}$	[kN]	26.0	41.0	59.0	110.0	172.0	247.0
Partial safety factor	$\gamma_{MsN}$	[-]	1.87					
Characteristic Shear Resistance	$V_{Rk,s}$	[kN]	13.0	20.0	30.0	55.0	86.0	124.0
Partial Safety Factor	$\gamma_{MsV}$	[-]	1.56					



Accessories:



Cartridge Nozzle  
& Extension  
TCN01 & TCN03

TCM420MTP