

TRUTEK TCM PRO + INJECTION RESIN REBAR INSTALLATION

Usage:

- Installation of Rebar
- Approved for non-crack concrete
- Can be used in dry & wet
- High loading capacity
- Class A1 reaction to fire

Advantages:

- Available in 300ml & 420ml cartridge
- Suitable for concrete from c20/25 to c50/60
- Range of embedment depths

For use with:

- Non Cracked Concrete



Concrete Ranges:	C20/25 to C0/60 according to EN 206:2013+A1:2016
Certification:	European Technical Assessment ETA 23/0049 & 23/0051

Installation Data

Rebar Diameter			Ø8	Ø10	Ø12
Nominal drill hole diameter	d ₀	[mm]	12-14	12-14	14-16
Diameter of steel brush	d _b	[mm]	12-14	12-14	14-16
Manual cleaning h _{ef} 80mm			Yes	Yes	Yes
Compressed air cleaning			Yes	Yes	Yes

Gel Times

Concrete Temperature	Gel / working time in dry/ wet concrete (mins)	Min Cure time in wet concrete (hrs)	Curing time in dry concrete
0°C to +10°C	20 min	12	90 min
+10°C to +20°C	9 min	8	60 min
+20°C to +30°C	5 min	4	30 min
+30°C to +40°C	3 min	3	20 min

The temperature of the resin must be ≥ 20 °C

Maximum embedment depth $\ell_{v,max}$

Rebar	$\ell_{v,max}$ (mm)
Ø	
8 mm	750
10 mm	750
12 mm	750

The minimum anchorage length ($\ell_{b,min}$) and the minimum lap length ($\ell_{0,min}$) according to EN 1992-1-1:2004+AC:2010 ($\ell_{b,min}$ acc. Eq 8.6 and Eq 8.7 and $\ell_{0,min}$ acc. Eq 8.11) shall be multiplied by the amplification factor α_{lb} according to table C1

The design bond strength f_{bd} according to EN 1992-1-1:2004+AC:2010 (Eq 8.3) shall be multiplied by the factor k_b according to Table C2 to determine the design values of the ultimate bond stress for post installed rebars $f_{bd,PIR}$, which are given in Table C3.

Installation post installed rebar

Figure A1: Overlapping joint for rebar connections of slabs and beams

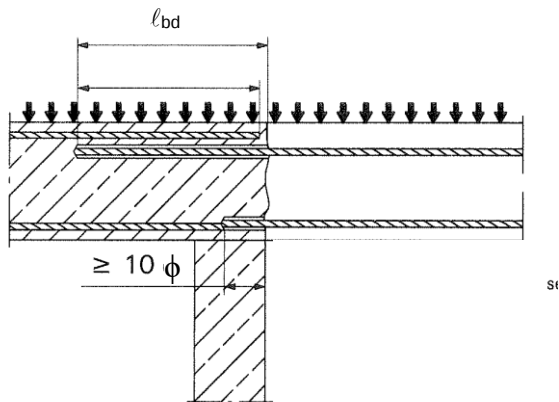


Figure A2: Overlapping joint at a foundation of a wall or column where the rebars are stressed in tension

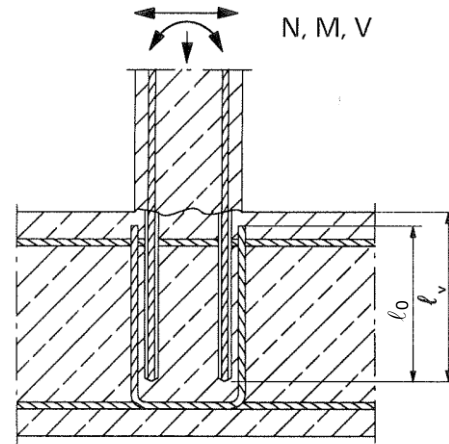


Figure A3: End anchoring of slabs or beams (e.g. designed as simply supported)

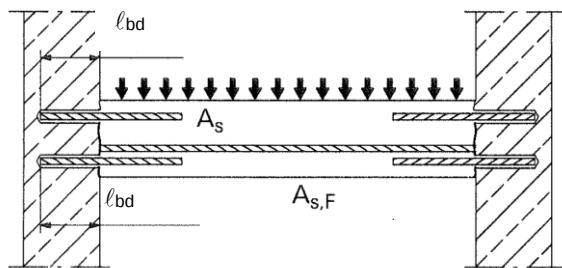


Figure A4: Rebar connection for components stressed primarily in compression. The rebars are stressed in compression

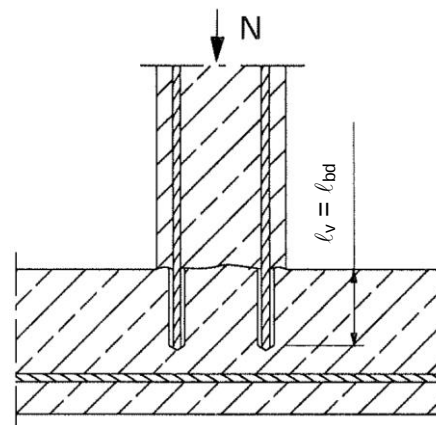
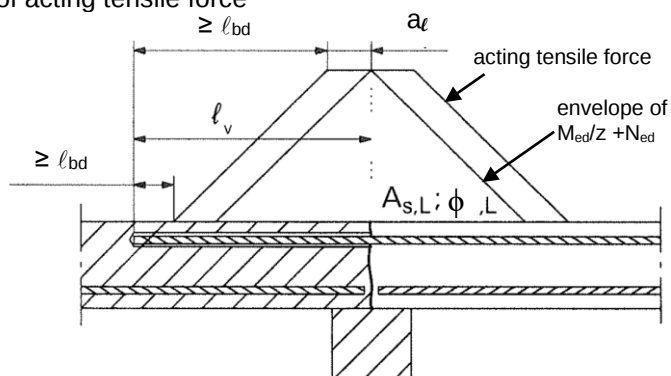


Figure A5: Anchoring of reinforcement to cover the line of acting tensile force



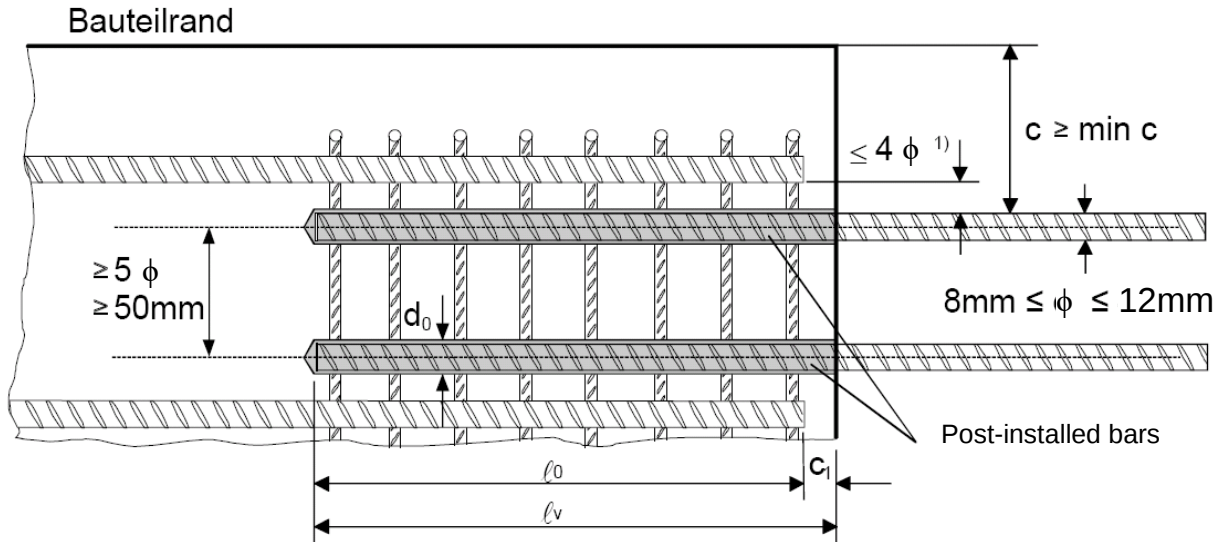
Note to Figure A1 to A5:

In the Figures no transverse reinforcement is plotted, the transverse reinforcement shall comply with EN 1992-1-1:2004+AC:2010.

Preparing of joints according to Annex B 2

Figure B1: General construction rules for post-installed rebars

- Only tension forces in the axis of the rebar may be transmitted
- The transfer of shear forces between new concrete and existing structure shall be designed additionally according to EN 1992-1-1:2004+AC: 2010.
- The joints for concreting must be roughened to at least such an extent that aggregate protrude.



- ¹⁾ If the clear distance between lapped bars exceeds 4ϕ , then the lap length shall be increased by the difference between the clear bar distance and 4ϕ .

The following applies to Figure B1:

c	concrete cover of post-installed rebar
c ₁	concrete cover at end-face of existing rebar
min c	minimum concrete cover according to Table B1 and to EN 1992-1-1:2004+AC:2010, Section 4.4.1.2
ϕ	diameter of post-installed rebar
ℓ_0	lap length, according to EN 1992-1-1:2004+AC: 2010, Section 8.7.3
ℓ_v	effective embedment depth, $\geq \ell_0 + c_1$
d ₀	nominal drill bit diameter, see Annex B5

Load Data

Table C1: Amplification Factor α_{lb} related to concrete class and drilling method

Concrete class	Drilling method	Rebar size	Amplification factor α_{lb}
C12/15 to C50/60	Hammer drilling (HD) and Compressed air drilling (CD)	8 mm to 12 mm	1.5

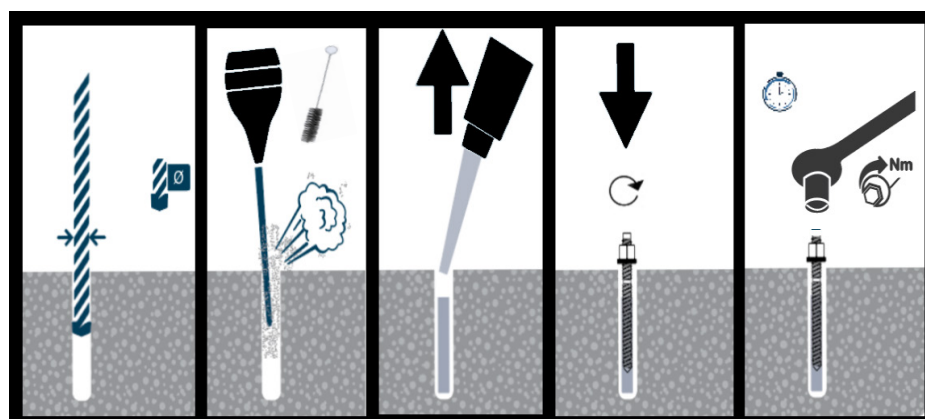
Table C2: Bond efficiency factor k_b

Rebar Diam	Concrete class								
$\varnothing$	C12/15	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
8 mm	1.0	1.0	1.0	1.0	1.0	1.0	0.62	0.58	0.53
10 mm							0.73	0.68	0.63
12 mm									

According to EN 1992-1-1:2004+AC:2010 for good bond conditions (for all other conditions multiply the value by 0.7)

Table C3: Design values of the ultimate bond stress $f_{bd,PIR}$ in N/mm^2 for all drilling methods and good conditions

Rebar Diam	Concrete class								
$\varnothing$	C12/15	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
8 mm	1.6	2.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3
10 mm							2.7	2.7	2.7
12 mm									



Accessories:

