Torggler

Anchoring and Mounting

CA POLY

Two-component polyester resin-based chemical anchor without styrene for fixing medium-light loads on un-cracked concrete, solid and perforated brick masonry and autoclaved cell concrete.

APPLICATION AREAS

Combined with threaded rods, it is used in many construction site applications for fixing elements of medium weight, connected to light carpentry, where there is the need for rapid commissioning without creating tension in the substrate: installation of shading elements, shutters, windows, doors, air conditioners, fences, antennas, alarm systems, lighting fixtures, advertising signs. Thanks to its styrene-free chemistry it can be used in closed environments as well. The product is approved for fixings with anchorage depths ranging from 6 to 32 cm thereby allowing for a highly flexible use, up to twenty times the diameter of the threaded rod.
The temperatures of the substrate during installation range from 0 to +30 °C.
The certified operating temperatures are within the ranges:
• from -40°C to +40°C with a maximum long-term temperature of 24 °C
• from -40°C to +50°C with a maximum long-term temperature of 40°C

FEATURES

Two-component polyester resin-based chemical anchor without styrene for fixing medium-light loads on un-cracked concrete, solid and perforated brick masonry and autoclaved cell concrete. It can be used in combination

with threaded rods in common carpentry, where there is a need for quick commissioning.

WARNINGS

Do not use the product:
- for anchoring on holes made with a core drill
- on dusty or oil-contaminated surfaces, release agents, etc.
- for fixing on completely wet or submerged surfaces
- for surface applications (with UV exposure)
- for making joints close to cracks/fissures between plates

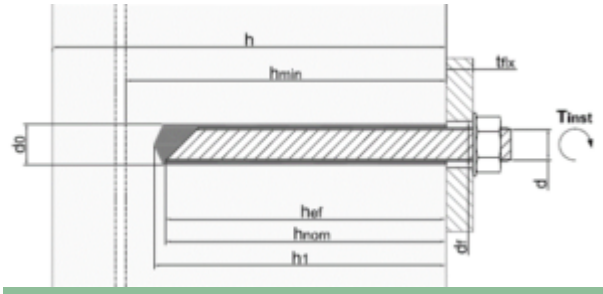
INSTRUCTIONS FOR USE

1. Drill a hole in the substrate, in orthogonal direction, respecting the prescribed drilling diameter and depth; rotary-percussion tools are recommended for compact substrates. Use a drill with simple rotation for hollow brick supports, in order not to break the internal baffles of the bricks.
2. Carefully remove the dust, or other residual material, from the hole using a blower pump or compressed air and metal brush: a suitable level of cleaning is obtained by performing at least 4 blows, 4 brushings and 4 blows in sequence.
3. Threaded rods must be clean and free from oil, grease or rust
4. For anchors more than 15 cm deep use a spout extension by cutting it to size.
5. For hollow brick substrates, insert the cage (or the wire mesh plug or wire braiding) into the hole to prevent the resin from spreading into the cavities.
6. If the hole is drilled at a point where the substrate is not drilled, for example on the mortar between two bricks, do not use the cage and perform the installation as on a compact substrate.
7. For the 300 ml cartridge: unscrew the cap, insert the mixer in the slot of the yellow extractor and pull so as to remove the metal clip closing the bag (for the 400 ml cartridge, simply unscrew the cap). Wearing adequate hand and face protective equipment, screw on the mixer and insert the cartridge into the dedicated gun.
8. Extrude the resin and discard the first part of the product that has not been perfectly mixed until the resin coming out is evenly coloured (usually the first 3-5 full pumps are discarded). For a reduced dispensing effort store the cartridges at a temperature between 15 and 25 °C
9. 9a. In case of compact substrates, inject the resin starting from the bottom, filling the hole for about 2/3 and going up with the mixer.
   9b. In case of hollow brick supports, dispense a sufficient quantity of resin to make it come out from the mesh of the cage in an adequate quantity: to increase the seal, increase the quantity of extruded resin so that the bulb doubles.
10. For a better distribution of the anchoring agent and to allow the air bubbles, if any, to come out, insert the rod by screwing it in slightly. When you see a slight excess of resin coming out, you can be assured that your anchor is perfect.
11. Remove excess resin from the hole either immediately with paper or mechanically with a chisel after hardening.
12. Depending on the different temperatures of the substrate, observe the installation and hardening times indicated below before clamping and loading.
13. If the resin inside the mixing spout is hardened, to use it again you will need a new mixer, always taking care to eliminate the first part of the unevenly coloured product (see point 8).

WAITING TIMES

Substrate temperature	Workability	Clamping and loading
30 °C	3 minutes	20 minutes
25 °C	4 minutes	30 minutes
20 °C	6 minutes	45 minutes
10 °C	12 minutes	1 hour and 30 minutes
5 °C	15 minutes	2 hours
0 °C	25 minutes	3 hours

TECHNICAL SPECIFICATIONS



Fixing of min 5 µ grade 5.8 galvanized steel threaded rods on concrete C20/25								
Characteristic dimensions			M8	M10	M12	M16	M20*	M24*
d_0	Hole diameter	[mm]	10	12	14	18	24	28
h_1	Hole depth	[mm]	85	95	115	130	175	215
h_{nom}	Nominal anchoring depth	[mm]	80	90	110	125	170	210
h_{min}	Minimum thickness of base material	[mm]	115	120	140	161	218	266
T_{inst}	Tightening torque	[Nm]	10	25	45	90	150	200
$s_{cr,N}$	Hole centre distance	[mm]	240	270	330	375	510	630
$c_{cr,N}$	Distance from edge – traction	[mm]	120	135	165	168	255	315
S_{min}	Minimum hole centre distance	[mm]	40	50	60	75	100	115
C_{min}	Minimum distance from the edge	[mm]	40	50	60	75	100	115
S_w	Key	[mm]	13	17	19	24	30	36
d_f	hole Ø in the object to be fixed	[mm]	9	12	14	18	22	26

*Diameters M20 and M24 are not subject to CE marking.

RECOMMENDED LOADS Global safety factor applied Fixing on non-cracked concrete C20/25 with grade 5.8 threaded rods							
		M8	M10	M12	M16	M20	M24
Traction	[kN]	9.0	14.0	18.4	23.3	29.6	38.7
Shear	[kN]	5.4	8.6	12.5	23.3	36.2	52.5

– Loads valid for operating temperatures ranging from -40°C to +40°C
– Loads per single anchoring agent irrespective of hole centre distance, edge distance and concrete thickness ≥ 2hef
– Shear action not directed towards the edge

Fixing on solid brick and compact masonry						
Rod cl 4.8	**Hole diameter**	**Hole depth**	**Fixable Thickness**	**Tightening**	**Recommended traction**	**Recommended shear**
M8 x 100	10 mm	85 mm	10 mm	7 Nm	2.0 kN	3.0 kN
M10 x 115	12 mm	90 mm	20 mm	15 Nm	2.6 kN	3.4 kN

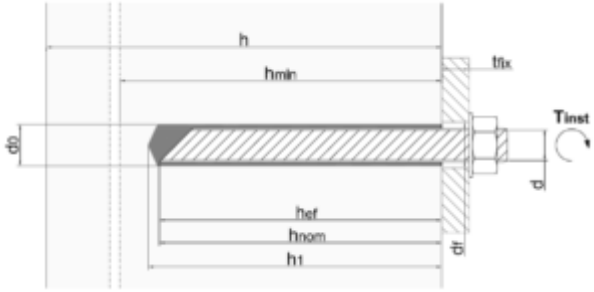
M12 x 130	14 mm	100 mm	30 mm	25 Nm	2.8 kN	3.9 kN

Fixing on hollow brick with cage						
Rod cl 4.8	**Hole diameter**	**Hole depth**	**Fixable Thickness**	**Tightening**	**Recommended traction**	**Recommended shear**
M8 x 100	16 mm	90 mm	10 mm	5.0 Nm	0.9 kN	2.0 kN
M10 x 115	16 mm	90 mm	20 mm	7.5 Nm	0.9 kN	2.0 kN
M12 x 130	16 mm	90 mm	30 mm	10.0 Nm	0.9 kN	2.5 kN

The recommended load data refer to applications on materials with medium mechanical properties. Given the variety of masonry substrates, for applications on substrates different from those considered, the load values must be obtained by means of appropriate on site tests.

Bicomponent	2 components
Packaging	cartridge
Packaging size	12x300 ml, 12x400 ml
Pallet	52 cardboards, 72 cardboards

CONSUMPTION



Type and diameter of rod		Hole diameter (mm)	Anchoring hole depth (mm)	Number of fixings (300 ml)	Number of fixings (400 ml)
Threaded rods	M8	10	85	± 60.5	± 81
	M10	12	95	± 37.5	± 50.5
	M12	14	115	± 23	± 30.5
	M14	16	115	± 17	± 22.5
	M16	18	130	± 12	± 16.5
	M18	20	130	± 8.5	± 11
	M20	24	175	± 5	± 7
	M22	26	190	± 4	± 5
	M24	28	215	± 3	± 4
	M27	30	245	± 2.5	± 3
	M30	35	275	± 1.5	± 2

Improved adhesion rods	M33	37	300	± 1	± 1.5
	M36	40	300	± 1	± 1.5
	M39	42	360	± 1	± 1
	Ø 8	12	80	± 42	± 56
	Ø 10	14	100	± 25	± 33.5
	Ø 12	16	120	± 16	± 21.5
	Ø 14	18	140	± 11	± 14.5
	Ø 16	20	160	± 8	± 10.5
	Ø 18	22	180	± 6	± 7.5
	Ø 20	25	200	± 4	± 5.5
	Ø 22	26	220	± 3.5	± 4.5
	Ø 24	28	240	± 2.5	± 3.5
	Ø 25	30	250	± 2	± 3
	Ø 26	32	260	± 2	± 2.5
	Ø 28	34	280	± 1.5	± 2
	Ø 30	37	300	± 1	± 1.5
	Ø 32	40	320	± 1	± 1.5
Fixings with cages in hollow bricks	M8	12	50	± 38.5	± 51.5
	M8	12	60	± 32.5	± 43.5
	M8	12	80	± 25	± 33.5
	M10	16	85	± 13.5	± 17.5
	M10	16	100	± 11.5	± 15
	M10	16	135	± 8.5	± 11.5
	M10	16	140	± 8	± 11
	M14	17	130	± 8	± 10.4
	M12	20	85	± 8.5	± 11.5
	M16	22	150	± 4	± 5.5
	M16	22	200	± 3	± 4
	M20	30	250	± 1.5	± 2

The number of specified fixings derives from the calculation of the theoretical volume of product needed to fill the holes, excluding the volume of the rod: although a certain amount of waste has been taken into account, the real quantity of product may vary depending on the installation method.

STORAGE

Store between +5 and +30 °C, away from UV rays. When stored in a dry and covered place in its original sealed packaging CA Poly is stable for at least 12 months.

CERTIFICATIONS

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VOC emissions class A+ according to French Decree no. 2011-321 and in compliance with ISO 16000/EN16516.

Qualified with European Technical Assessment (ETA 19/0816, DoP no. 131/19 NB 1020) according to EAD 330076-00-0601 for applications on hollow bricks (valid approval for 6 types of masonry blocks) using M8-M10-M12 threaded rods combined with proportionate cages (12×80, 15×85, 20×85)
Qualified with to European Technical Assessment (ETA 19/0815, DoP no. 132/19 NB 1020) according to EAD 330499-00-0601 for Option 7 applications, non-cracked concrete, in combination with M8-M16 threaded rods.

The performance declarations are available on the website www.torggler.com.

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