PARACHIM STANDARD

CHARACTERISTICS

- Two component anchoring mortar for anchoring into solid and hollow materials
- Styrene free, can be used in confined spaces
- Suitable for dry, wet and flooded holes
- Suitable for overhead installations (without additional accessories)
- Fast loading time
- Anchoring may be placed close to the edges (see table installation parameters)
- Can be applied with a standard cartridge gun

APPLICATIONS

- Can be used for medium load anchoring applications in hollow and solid materials.
- Can be used in hollow materials: hollow masonry and voided stone.
- Can be used in solid materials: concrete, solid masonry, rock, hard natural stone.
- For fixing roller shutters, staircase hand rails, sun protection, canopies, boilers, racking, bicycle racks, masonry supports, signs, safety barriers, balcony fences, satellite dishes...
- Suitable for anchoring on small surfaces.

TECHNICAL CHARACTERISTICS	
Type of product	Polyester
Mixing ratio	10:1
Curing system	2-component chemical reaction
Packaging	Flexible pocket with 2 compartments for component A and component B contained in a single-piston cartridge
Working time	See table
Loading time	See table
Minimum resin cartridge temperature	+5°C
Temperature of base material	+5°C - +30°C
Minimum service temperature	-40°C
Maximum service temperature	Long term (>12h): +50°C Short term (<12h): +80°C
Threaded rod sizes in uncracked concrete	M8 - M10 - M12 - M16
Threaded rod sizes in masonry	M6 - M8 - M10 - M12
Shelf life, in the original packing in upside position, out of direct sunlight and in dry conditions between +5°C - +25°C	12 months

PACKING AND COLOUR
12 cartridges of 300 ml/box - 95 boxes/pallet (1140 cartridges)
Beige

Necessary accessories

- Standard applicator gun (manual, pneumatic or electric)
- Static mixing nozzle (2 pieces included with cartridge)
- Cleansing blowing pump
- Cleansing brush
- Sieve sleeve (in case of hollow materials)

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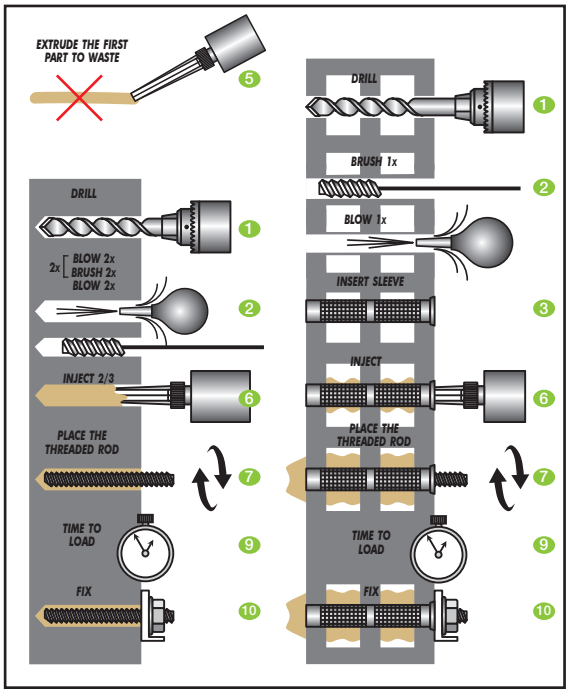
Rev. 1, 29/10/2024

METHOD OF USE



Application in solid or hollow substrate

1. **Drill the hole** to the correct diameter and depth.

2. Thoroughly **clean the hole** in the following sequence:
   For solid materials: blow clean x2, then brush clean x2, then blow clean x2, then brush clean x2 and blow clean x2.
   For hollow materials: brush clean 1x, then blow clean x1.
   Note: use a brush with the required extensions and a source of clean compressed air. For holes of 400 mm or less deep, a blow pump may be used. The resin should be injected into a properly cleaned hole. Remove standing water before cleaning.

3. In case of hollow or perforated brick masonry: **insert the correct sieve sleeve**.

4. Once the hole is prepared, open the cartridge and screw **mixing nozzle** onto the mouth of the cartridge. Insert the cartridge into the sealant gun.

5. Extrude the first part of the cartridge to waste until an **even colour** is achieved, without streaking in the extruded product.

6. **Insert the mixing nozzle** to the bottom of the hole or the sleeve. Begin to extrude the product and slowly withdraw the mixer nozzle from the hole or the plug ensuring that there are no air voids as the mixer nozzle is withdrawn. For solid materials: fill the hole to approximately ½ to ¾ full and withdraw the nozzle completely. For hollow materials: completely fill the sleeve with resin.

7. Immediately **insert the clean threaded rod** (free from oil or other release agents) to the bottom of the hole using a back and forth twisting motion ensuring all the threads are thoroughly coated. Adjust to the correct position within the stated working time (see table).

8. Any **excess product** will be expelled from the hole evenly around the steel element showing that the hole is full. This excess product should be removed from around the mouth of the hole before it sets.

9. Leave the anchor to cure. **Do not disturb the anchor until the appropriate loading time has elapsed** (depending on the substrate conditions and ambient temperature).

10. Load with force after curing of the resin. Attach the fixture and tighten the nut to the recommended torque. Do not overtighten.

11. Leave the static mixing nozzle on the cartridge and change with new one just before the next application.

Working and loading times

Temperature of resin cartridge and base material	Working time	Loading time (minimum time required until load can be applied)
+5°C	18 min.	160 min.
+5°C » +10°C	10 min.	160 min.
+10°C » +20°C	6 min.	90 min.
+20°C » +25°C	5 min.	60 min.
+25°C » +30°C	4 min.	50 min.
+30°C	4 min.	40 min.

T work is typical gel time at highest temperature. T load is set at the lowest temperature.

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USE IN NON-CRACKED CONCRETE

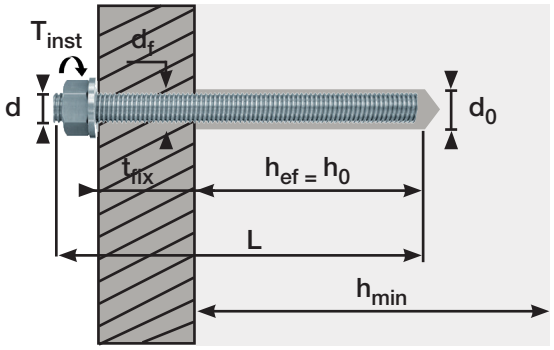
Installation parameters

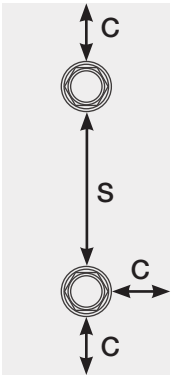
Threaded rod		M8	M10	M12	M16
Size of threaded rod	**d (mm)**	8	10	12	16
Nominal drill hole diameter	**d_o (mm)**	10	12	14	18
Diameter of cleaning brush	**d_b (mm)**	14	14	20	20
Torque moment	**T_{inst} (Nm)**	10	20	40	80
Depth of drill hole for h_{ef} min/h_{ef} max	**h_{ef} (mm)**	64/96	80/120	96/144	128/192
Minimum edge distance	**c_{min} (mm)**	35	40	50	70
Minimum spacing	**s_{min} (mm)**	40	40	50	70
Minimum thickness of base material	**h_{min} (mm)**	h_{ef} + 30 mm ≥ 100 mm			h_{ef} + 2 d_o

Theoretical consumption*

	Drill hole diameter d_o (mm)	Embedment depth h_{ef} min/standard/max (mm)	Number of applications per cartridge (# of drill holes)
M8	10	64	100
		80	**80**
		96	66
M10	12	80	55
		90	**49**
		120	37
M12	14	96	34
		110	**30**
		144	23
M16	18	128	15
		128	**15**
		192	10

*Consumption based on 60% filling rate of drill hole.





Characteristic bond resistance for combined pullout and concrete cone failure in C20/25 uncracked concrete

		M8	M10	M12	M16
Temperature T1: -40°C to +40°C	**$T_{Rk\ uncr}$ (N/mm²)**	6.4	5.9	5.7	5.0
Temperature T2: -40°C to +80°C	**$T_{Rk\ uncr}$ (N/mm²)**	5.8	5.4	4.6	4.1
Safety factor dry/wet concrete	**γ_{Mp} (-)**	1.8			
Safety factor for flooded holes	**γ_{Mp} (-)**	2.1			
Factor for concrete	**Ψ_c C25/30**	1.02			
Factor for concrete	**Ψ_c C30/37**	1.04			
Factor for concrete	**Ψ_c C35/45**	1.06			
Factor for concrete	**Ψ_c C40/50**	1.07			
Factor for concrete	**Ψ_c C45/55**	1.08			
Factor for concrete	**Ψ_c C50/60**	1.09			

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Resistance values for threaded rod in uncracked concrete

Combined pullout & concrete cone failure and concrete cone failure (Temperature range: -40°C till +40°C)

Property		M8	M10	M12	M16
Effective embedment depth = 8 d	h_{ef} (mm)	64	80	96	128
Design Resistance	N_{Rd} (kN)	5.5	8.0	11.0	17.5
Effective embedment depth = STD	h_{ef} (mm)	80	90	110	128
Design Resistance	N_{Rd} (kN)	7.0	9.0	13.0	17.5
Effective embedment depth = 12d	h_{ef} (mm)	96	120	144	192
Design Resistance	N_{Rd} (kN)	8.5	12.0	17.0	26.5

1. Resistance values are based on combined pullout & concrete cone failure and concrete cone failure according to EC2-4 design. Resistance for steel failure must also be considered - the lowest value controls.
2. Resistance values are for single anchors without close edges or eccentric loading considerations.
3. Tabulated values correspond to the above stated temperature range and installation conditions only.
4. Long term temperatures are those that remain roughly constant over prolonged periods. Short term temperatures occur over brief intervals, e.g.: diurnal cycling.
5. The concrete is assumed dry and its compressive strength (f ck, cylinder) is assumed to be 20N/mm².
6. Tabulated reistance values assume that the geometry of the anchor(s) and concrete member is sufficient to avoid splitting failure.

USE IN MASONRY

Installation parameters in hollow masonry with sieve sleeve

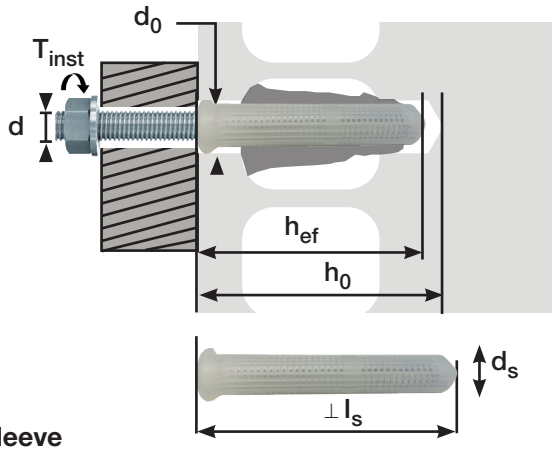
Threaded rod		M6	M8	M8	M10	M12
Size of threaded rod	d (mm)	6	8	8	10	12
Sieve sleeve length	l_s (mm)	80	80	85	85	85
Sieve sleeve diameter	d_s (mm)	12	12	16	16	16
Nominal drill hole diameter	d_o (mm)	12	12	16	16	16
Diameter of cleaning brush	d_b (mm)	$14^{\pm1}$	$14^{\pm1}$	$20^{\pm1}$	$20^{\pm1}$	$20^{\pm1}$
Depth of drill hole	h_o (mm)	85		90		
Effective anchorage depth	h_{ef} (mm)	80		85		
Diameter of clearance hole in the fixture	$d_f \leq$ (mm)	7	9	9	12	14
Torque moment	$T_{inst} \leq$ (Nm)	2				

Installation parameters in solid masonry without sieve sleeve

Threaded rod		M6	M8	M10	M12
Size of threaded rod	d (mm)	6	8	10	12
Nominal drill hole diameter	d_o (mm)	8	10	12	14
Diameter of cleaning brush	d_b (mm)	$9^{\pm1}$	$14^{\pm1}$	$14^{\pm1}$	$14^{\pm1}$
Depth of drill hole	h_o (mm)	80	90		
Effective anchorage depth	h_{ef} (mm)	80	90		
Diameter of clearance hole in the fixture	$d_f \leq$ (mm)	7	9	12	14
Torque moment	$T_{inst} \leq$ (Nm)	2			

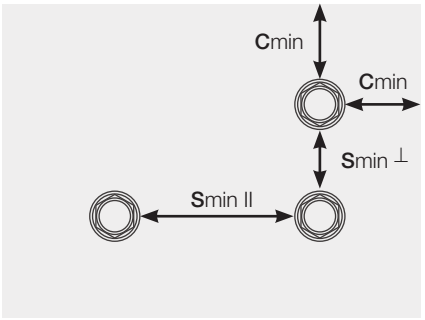
Theoretical consumption

		Drill hole diameter d_o (mm)	Embed-ment depth h_{ef} (mm)	Number of applications per cartridge (# of drill holes)
Hollow masonry	M8/M10	16	85	15
	M12	20	85	9
	M6	12	80	28



Edge Distance and Spacing in Solid and Hollow Masonry with Sieve Sleeve

Cmin = Minimum allowable edge distance
Smin II = Minimum allowable spacing parallel with the horizontal border
Smin ⊥ = Minimum allowable spacing perpendicular with the horizontal border



Base material	M6 & M8 with sieve sleeve SH12/80			M8, M10 & M12 with sieve sleeve SH16/85		
	Cmin	Smin II	Smin⊥	Cmin	Smin II	Smin⊥
	mm	mm	mm	mm	mm	mm
Brick no. 1	100	245	110	-	-	-
Brick no. 2	-	-	-	100	373	238

Edge Distance and Spacing in Solid Masonry without Sieve Sleeve

Base material	M6 & M8			M8, M10 & M12		
	Cmin	Smin II	Smin⊥	Cmin	Smin II	Smin⊥
	mm	mm	mm	mm	mm	mm
Brick no. 3	120	240	240	135	270	270

Characteristic resistance under tension (N_{Rk}) and shear loading (V_{Rk})

Base material	Anchor rods with sleeve $N_{Rk} = V_{Rk}$ [kN] 1.										Anchor rods without sleeve $N_{Rk} = V_{Rk}$ [kN] 1.							
	Use conditions d/d					Use conditions w/d; w/w					Use conditions d/d				Use conditions w/d; w/w			
	M6	M8	M8	M10	M12	M6	M8	M8	M10	M12	M6	M8	M10	M12	M6	M8	M10	M12
$N_{Rk} = V_{Rk}$ [kN]																		
Temperature Range T_a: -40°C to +40°C																		
Sleeve	12/80		16/85			12/80		16/85										
Brick no. 1	1.5	1.5	-			1.5	1.5	-			-				-			
Brick no. 2	-		1.2	1.5	1.5	-		0.9	1.2	1.2								
Brick no. 3	-					-					1.5	1.5	2.0	2.5	0.9	1.2	2.0	2.0
Temperature Range T_b: -40°C to +80°C																		
Sleeve	12/80		16/85			12/80		16/85										
Brick no. 1	1.2	1.2	-			1.2	1.2	-			-				-			
Brick no. 2	-		0.9	1.2	1.2	-		0.9	1.2	1.2								
Brick no. 3	-					-					1.2	1.2	1.5	2.0	0.9	0.9	1.5	1.5

1. For design according TR 054: **$N_{Rk} = N_{Rk,p} = N_{Rk,b} = N_{Rk,s1}$; $N_{Rk,pb}$** according to TR 054.

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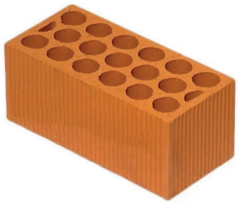
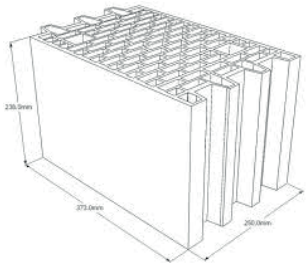
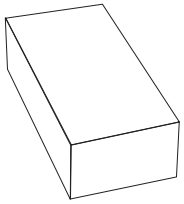
Types and dimensions of blocks and bricks

Brick no.1	Brick no. 2	Brick no. 3
		
Hollow clay brick Perforado 10 according to EN771-1 Length/width/height 245 mm/110 mm/100 mm $f_b \geq 15$ N/mm² / $\rho \geq 2.05$ kg/dm³	Hollow clay brick Porotherm P+W according to EN771-1 Length/width/height 373 mm/250 mm/238 mm $f_b \geq 12$ N/mm² / $\rho \geq 0,9$ kg/dm³	Solid clay brick Mz-NF according to EN771-1 Length/width/height 240 mm/116 mm/71 mm $f_b \geq 20$ N/mm² / $\rho \geq 1.9$ kg/dm³

SAFETY

Safety data sheet available on request.

POINTS OF ATTENTION

- Due to the nature of the product, migration of the monomer in the resin may cause staining in certain materials (f. ex. natural stone). Preliminary tests are necessary.
- Not intended for anchoring into porous or reconstituted stone.
- The chemical anchor is not intended for use as a cosmetic or decorative product.
- Not intended for anchoring into holes flooded with seawater.

TECHNICAL APPROVALS

- ETA 25/0290 according to EAD 330076-01-0604 M8 – M12. For fastening and/or support to masonry, load-bearing elements (that contribute to the stability of the structure), or heavy components.
- ETA 25/0289 according to EAD 330499-02-0601 M8 – M16. For fastening and/or support to concrete, load-bearing elements (that contribute to the stability of the structure), or heavy components.
- A+

ETA	CE 1020 25 - DL Chemicals nv
European Technical Assessment Parachim Standard No. 1020 - CPR – 090-065385	European Technical Assessment Parachim Standard No. 1020 - CPR – 090-065387
ETA 25/0289 **EAD 330499-02-0601** **M8 - M16**	**ETA 25/ 0290** **EAD 330076-01-0604** **M6 - M12**
Bonded injection type anchor for use in uncracked concrete	Injection anchors for use in masonry
DoP nr: MP0240005	

* Information sur le niveau d'émission de substances volatiles dans l'air intérieur, présentant un risque de toxicité par inhalation, sur une échelle de classe allant de A+ (très faibles émissions) à C (fortes émissions).

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