

DECLARATION of PERFORMANCE

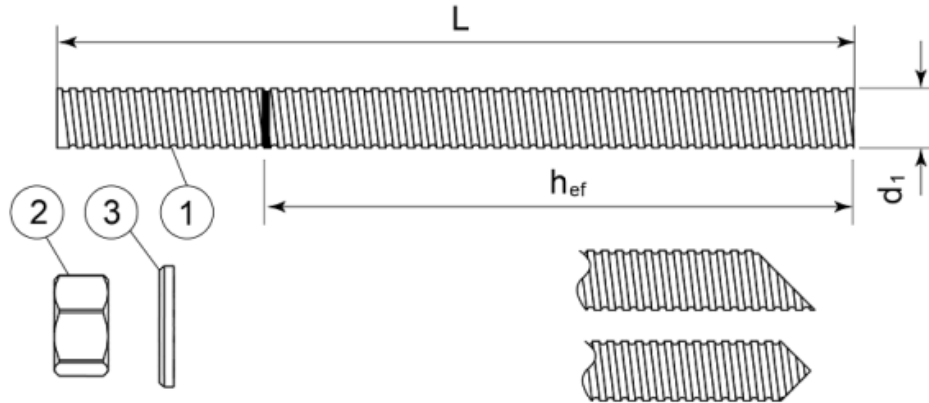
No 01/MKP/0875/2020



1. *Unique identification code of the product-type:* **MKP**
2. *Intended use:* for fixing in masonry as a injection mortal together with plastic sleeve threaded anchor rod hexagon nut and washers
3. *Name, registered trade name or registered trade mark and contact address of the manufacturer:* **Marcopol Sp. z o.o. Producer of Bolts str. Oliwska 100, 80-209 Chwaszczyno Poland manufacturing plant 1**
4. *System of assessment verification of constancy of performance of the construction product:* **System "1" of assessment**
5. *European Technical Assessment:* **ETA 20/0875 issued 19.11.2020**
Technical Assessment Body: **Technical and Test Institute for Construction Prague**
Notified Body: **Number: 1020 - Technical and Test Institute for Construction Prague**
Certificate number: **1020-CPR-090-049714**
6. *Declared performance:*

	Essential characteristics	Performance	Technical specification
3.1 BWR 1: Mechanical resistance and stability			
3.1.1.	Characteristic resistance for tension and share loads	see annex C1 below	ETA 20/0875
3.1.2.	Reduction factor for job site tence (β – factor)	see annex C1 below	ETA 20/0875
3.1.3	Edge distance and spacing	see annex B6 below	ETA 20/0875
3.1.4	Displacement under shear and tension loads	see annex B6 below	ETA 20/0875
3.1.3.	Durability	see annex B6 below	ETA 20/0875
3.2 BWR 2: Safety in case of fire			
3.2.1.	Reaction to fire	The performance of the product is class A1	EN 13501-1
3.3 BWR 3: Hygiene, health and the environment			
3.3.1.	Content, emission and/or release of dangerous substances	NPD	EU Regulation REACH 1907/2006

Threaded rod KGFIX M8, M10, M12



Standard commercial threaded rod with marked embedment depth

Part	Designation	Material
Steel, zinc plated $\geq 5 \mu\text{m}$ acc. to EN ISO 4042 or Steel, hot-dip galvanized $\geq 40 \mu\text{m}$ acc. to EN ISO 1461 and EN ISO 10684 or Steel, zinc diffusion coating $\geq 15 \mu\text{m}$ acc. to EN 13811		
1	Anchor rod	Steel, EN 10087 or EN 10263 Property class 5.8, 8.8, 10.9* EN ISO 898-1
2	Hexagon nut EN ISO 4032	According to threaded rod, EN 20898-2
3	Washer EN ISO 887, EN ISO 7089, EN ISO 7093 or EN ISO 7094	According to threaded rod
Stainless steel		
1	Anchor rod	Material: A2-70, A4-70, A4-80, EN ISO 3506
2	Hexagon nut EN ISO 4032	According to threaded rod
3	Washer EN ISO 887, EN ISO 7089, EN ISO 7093 or EN ISO 7094	According to threaded rod
High corrosion resistant steel		
1	Anchor rod	Material: 1.4529, 1.4565, EN 10088-1
2	Hexagon nut EN ISO 4032	According to threaded rod
3	Washer EN ISO 887, EN ISO 7089, EN ISO 7093 or EN ISO 7094	According to threaded rod

*Galvanized rod of high strength are sensitive to hydrogen induced brittle failure

MKP

for masonry

Product description

Threaded rod and materials

Annex A3

Table B4: Installation parameters in solid and hollow masonry

Anchor type		Anchor rod								
		M8	M10	M12	M8	M10	M12			
Size										
Sieve sleeve	l_s [mm]	-	-	-	85		85		85	
	d_s [mm]	-	-	-	15	16	15	16	20	
Nominal drill hole diameter	d_0 [mm]	15	15	20	15	16	15	16	20	
Diameter of cleaning brush	d_b [mm]	20 \pm 1	20 \pm 1	22 \pm 1	20 \pm 1		20 \pm 1		22 \pm 1	
Depth of the drill hole	h_0 [mm]	90								
Effective anchorage depth	h_{ef} [mm]	85								
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	9	12	14	9		12		14	
Torque moment	$T_{inst} \leq$ [mm]	2								

Table B5: Edge distances and spacing

Base material ¹⁾	Anchor rod								
	M8			M10			M12		
	$C_{cr} \parallel C_{min}$	$S_{cr \parallel} \parallel S_{min \parallel}$	$S_{cr \perp} \parallel S_{min \perp}$	$C_{cr} \parallel C_{min}$	$S_{cr \parallel} \parallel S_{min \parallel}$	$S_{cr \perp} \parallel S_{min \perp}$	$C_{cr} \parallel C_{min}$	$S_{cr \parallel} \parallel S_{min \parallel}$	$S_{cr \perp} \parallel S_{min \perp}$
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
Brick N° 1	100	235	115	100	235	115	120	235	115
Brick N° 2	128	255	255	128	255	255	128	255	255
Brick N° 3	128	255	255	128	255	255	128	255	255
Brick N° 4	100	250	240	100	250	240	120	250	240
Brick N° 5	100	370	238	100	370	238	120	370	238
Brick N° 6	100	245	110	100	245	110	120	245	110
Brick N° 7	100	373	238	100	373	238	120	373	238

¹⁾ Brick N° according to Annex B 2 to B 3

Table B6: Minimum curing time

Resin cartridge temperature [°C]	T Work [mins]	Base material Temperature [°C]	T Load [mins]
min +5	18	min +5	145
+5 to +10	10	+5 to +10	
+10 to +20	6	+10 to +20	85
+20 to +25	5	+20 to +25	50
+25 to +30	4	+25 to +30	40
+30		+30	35

T work is typical gel time at highest temperature

T load is set at the lowest temperature

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Intended use

Installation parameters

Working and curing time

Annex B6

Table C1: Characteristic resistance under tension and shear loading

Base material	Anchor rods $N_{Rk} = V_{Rk}$ [kN] ¹⁾		
	M8	M10	M12
Brick N° 1	2,0	2,0	2,0
Brick N° 2	1,2	1,5	2,5
Brick N° 3	0,5	0,75	1,2
Brick N° 4	0,6	0,75	0,75
Brick N° 5	1,2	1,2	2,0
Brick N° 6	0,5	0,5	0,5
Brick N° 7	1,2	1,2	1,5

¹⁾ For design according TR 054: $N_{Rk} = N_{Rk,p} = N_{Rk,b} = N_{Rk,s}$; $N_{Rk,pb}$ according to TR 054
For $V_{Rk,s}$ see Annex C1, Table C2; Calculation of $V_{Rk,pb}$ and $V_{Rk,c}$ according to TR 054

Table C2: Characteristic bending moment

Size		M8	M10	M12
Steel grade 5.8	$M_{Rk,s}$ [N.m]	19	37	66
Steel grade 8.8	$M_{Rk,s}$ [N.m]	30	60	105
Steel grade 10.9	$M_{Rk,s}$ [N.m]	37	75	131
Stainless steel grade A2-70, A4-70	$M_{Rk,s}$ [N.m]	26	52	92
Stainless steel grade A4-80	$M_{Rk,s}$ [N.m]	30	60	105
Stainless steel grade 1.4529 strength class 70	$M_{Rk,s}$ [N.m]	26	52	92
Stainless steel grade 1.4565 strength class 70	$M_{Rk,s}$ [N.m]	26	52	92

Table C3: Displacements under tension and shear load

Base material	F [kN]	δ_{N0} [mm]	$\delta_{N\infty}$ [mm]	δ_{V0} [mm]	$\delta_{V\infty}$ [mm]
Solid bricks	$N_{Rk} / (1,4 \cdot \gamma_M)$	0,6	1,2	1,0 ¹⁾	1,5 ¹⁾
Perforated and hollow bricks		0,14	0,28	1,0 ¹⁾	1,5 ¹⁾

¹⁾ the hole gap between bolt and fixture shall be considered additionally

Table C4: β - factors for job site tests according to TR 053

Brick N°	N° 1	N° 2	N° 3	N° 4	N° 5	N° 6	N° 7
β - factor	0,62	0,48	0,26	0,43	0,60	0,65	0,65

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Performances

Characteristic resistance, displacement

β -factors for job site testing under tension load

Annex C1

- 7. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 6**

This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 3.

Chwaszczyno, 10.12.2020

Signed by:

R&D Director

Janusz Kabała