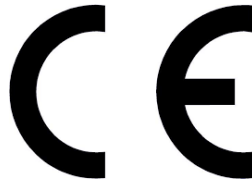


## DECLARATION of PERFORMANCE

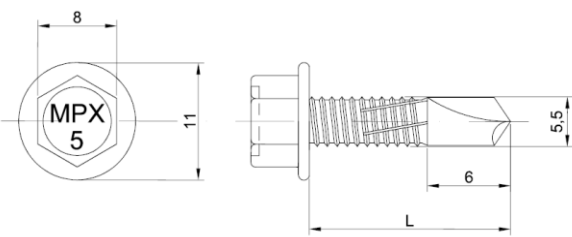
No 02/MPX5/0371/2022



1. *Unique identification code of the product-type:* **MPX 5**
2. *Intended use:* **MPX 5 self-drilling screws are intended to be used for fastening steel sheeting to steel supporting structures.**
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**
4. *System or systems of assessment and verification of constancy of performance of the construction product:* **System "2+" of assessment**
5. *European Technical Assessment:* **ETA 18/0371 issued 11.04.2021**  
*Technical Assessment Body:* **Technický a zkušební ústav stavební Praha, s.p.**  
*Notified Body:* **Number: 1020 - Technický a zkušební ústav stavební Praha, s.p.**
6. *Declared performance:*

	Essential characteristics	Performance	Technical specification
<b>3.1 BWR 1: Mechanical resistance and stability</b>			
3.1.1	Characteristic Shear Resistance of the Connection	see Table 1 ÷ 5 below	ETA 18/0371
3.1.2	Characteristic Tension Resistance of the Connection	see Table 1 ÷ 5 below	ETA 18/0371
3.1.3	Design Resistance in case of combined Tension and Shear Forces (interaction)	No Performance Assessed	ETA 18/0371
3.1.4	Check of Deformation Capacity in case of constraining forces due to temperature	No Performance Assessed	ETA 18/0371
3.1.5	Durability		
	Stainless steel Bi-Metal with ceramic coating Ruspert Silver	Category $\geq$ C2	ETA 18/0371
<b>3.2 BWR 2: Safety in case of fire</b>			
3.2.1	Reaction to fire	The performance of the product is class A1	EN 13501-1

**Table 1: Characteristic Tension Resistance  $N_{R,k}$  and Shear Resistance  $V_{R,k}$  [kN]**

	<b>Materials</b> Fastener: stainless steel – A2 Fastener: carbon steel - SAE1022 Washer: - Component I: S280GD, S320GD or S350GD – EN 10346 Component II: S235 – EN 10025-1
	<b>Drilling capacity:</b> $\Sigma(t_{N2} + t_{II}) \leq 6,50$ mm
	<b>Timber substructures</b> no performance determined

$t_{N,II}$ [mm]	3,00	4,00	5,00	6,00	7,00	8,00	9,00	10,00	Wood class $\geq$ C24		
$M_{t,nom}$	5 Nm								—	—	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,75	1,23	1,23	1,23	—	—	—	—	—	—	*bearing resistance of component I **bearing resistance of component II
	0,88	1,31	1,31	1,31	—	—	—	—	—	—	
	1,00	1,64	1,64	1,64	—	—	—	—	—	—	
	1,13	1,64	1,64	1,64	—	—	—	—	—	—	
	1,25	1,72	1,72	1,72	—	—	—	—	—	—	
	1,50	1,72	1,72	1,72	—	—	—	—	—	—	
	1,75	—	—	—	—	—	—	—	—	—	
	2,00	—	—	—	—	—	—	—	—	—	
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,75	1,38	1,38	1,38	—	—	—	—	—	—	*bearing resistance of component II **bearing resistance of component I
	0,88	1,45	1,45	1,45	—	—	—	—	—	—	
	1,00	2,00	2,00	2,00	—	—	—	—	—	—	
	1,13	2,00	2,00	2,00	—	—	—	—	—	—	
	1,25	2,06	2,06	2,06	—	—	—	—	—	—	
	1,50	2,06	2,06	2,06	—	—	—	—	—	—	
	1,75	—	—	—	—	—	—	—	—	—	
	2,00	—	—	—	—	—	—	—	—	—	

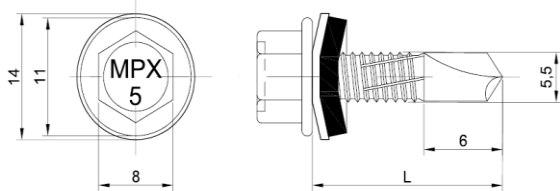
If both components I and II are made of S320GD the values  $V_{R,k}$  may be increased by 8,3%

If both components I and II are made of S350GD the values  $V_{R,k}$  may be increased by 16,6%

**MPX 5 fastening screws for metal members and sheeting**

MPX 5 5,5 × L  
with hexagon head

Table 1

**Table 2: Characteristic Tension Resistance  $N_{R,k}$  and Shear Resistance  $V_{R,k}$  [kN]**

**Materials**

Fastener: stainless steel – A2  
 Fastener: carbon steel SAE1022  
 Washer: EPDM sealing ring with metal top  
 made of stainless steel  
 Component I: S280GD, S320GD or S350GD – EN 10346  
 Component II: S235 – EN 10025-1

Drilling capacity:  $\Sigma(t_{N2} + t_{II}) \leq 6,50$  mm

**Timber substructures**

no performance determined

$t_{N,II}$ [mm]	3,00	4,00	5,00	6,00	7,00	8,00	9,00	10,00	Wood class $\geq$ C24		
$M_{t,nom}$	5 Nm								—	—	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,75 0,88 1,00 1,13 1,25 1,50 1,75 2,00	1,23 1,31 1,64 1,64 1,72 1,72 — —	1,23 1,31 1,64 1,64 1,72 1,72 — —	1,23 — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	*bearing resistance of component I **bearing resistance of component II
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,75 0,88 1,00 1,13 1,25 1,50 1,75 2,00	3,30 4,00 4,19 4,19 4,21 4,21 — —	3,30 4,00 4,19 4,19 4,21 4,21 — —	3,30 — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	*bearing resistance of component II **bearing resistance of component I

If both components I and II are made of S320GD the values  $V_{R,k}$  may be increased by 8,3%

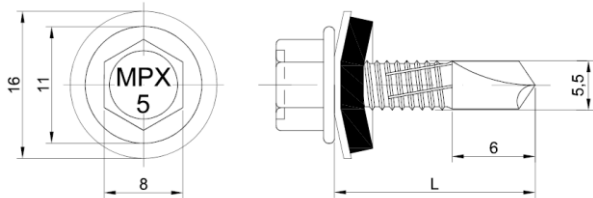
If both components I and II are made of S350GD the values  $V_{R,k}$  may be increased by 16,6%

**MPX 5 fastening screws for metal members and sheeting**

MPX 5 5,5 × L + I14  
 with hexagon head and sealing washer  $\geq \varnothing 14$  mm  
 with metal top made of stainless steel

Table 2

**Table 3: Characteristic Tension Resistance  $N_{R,k}$  and Shear Resistance  $V_{R,k}$  [kN]**



Materials

Fastener: stainless steel – A2  
 Fastener: carbon steel SAE1022  
 Washer: EPDM sealing ring with metal top made of stainless steel  
 Component I: S280GD, S320GD or S350GD – EN 10346  
 Component II: S235 – EN 10025-1

Drilling capacity:  $\Sigma(t_{N2} + t_{II}) \leq 6,50$  mm

Timber substructures

no performance determined

$t_{N,II}$ [mm]	3,00	4,00	5,00	6,00	7,00	8,00	9,00	10,00	Wood class $\geq$ C24		
$M_{t,nom}$	5 Nm								—	—	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,75 0,88 1,00 1,13 1,25 1,50 1,75 2,00	1,23 1,31 1,64 1,64 1,72 1,72 — —	1,23 1,31 1,64 1,64 1,72 1,72 — —	1,23 — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	*bearing resistance of component I **bearing resistance of component II
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,75 0,88 1,00 1,13 1,25 1,50 1,75 2,00	3,33 4,04 4,23 4,23 4,26 4,26 — —	3,33 4,04 4,23 4,23 4,26 4,26 — —	3,33 — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	*bearing resistance of component II **bearing resistance of component I

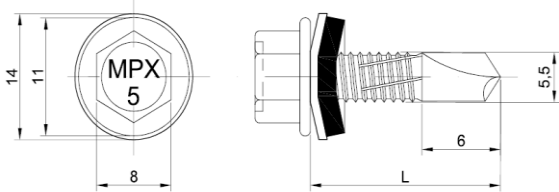
If both components I and II are made of S320GD the values  $V_{R,k}$  may be increased by 8,3%

If both components I and II are made of S350GD the values  $V_{R,k}$  may be increased by 16,6%

**MPX 5 fastening screws for metal members and sheeting**

MPX 5 5,5 × L + I16  
 with hexagon head and sealing washer  $\geq \varnothing 16$  mm  
 with metal top made of stainless steel

Table 3

**Table 4: Characteristic Tension Resistance  $N_{R,k}$  and Shear Resistance  $V_{R,k}$  [kN]**

**Materials**

Fastener: stainless steel – A2  
 Fastener: carbon steel SAE1022  
 Washer: EPDM sealing ring with metal top  
 made of aluminum  
 Component I: S280GD, S320GD or S350GD – EN 10346  
 Component II: S235 – EN 10025-1

Drilling capacity:  $\Sigma(t_{N2} + t_{II}) \leq 6,50$  mm

Timber substructures  
 no performance determined

$t_{N,II}$ [mm]	3,00	4,00	5,00	6,00	7,00	8,00	9,00	10,00	Wood class $\geq$ C24			
$M_{t,nom}$	5 Nm									—	—	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,75	1,23	1,23	1,23	—	—	—	—	—	—	—	*bearing resistance of component I **bearing resistance of component II
	0,88	1,31	1,31	1,31	—	—	—	—	—	—	—	
	1,00	1,64	1,64	1,64	—	—	—	—	—	—	—	
	1,13	1,64	1,64	1,64	—	—	—	—	—	—	—	
	1,25	1,72	1,72	1,72	—	—	—	—	—	—	—	
	1,50	1,72	1,72	1,72	—	—	—	—	—	—	—	
	1,75	—	—	—	—	—	—	—	—	—	—	
	2,00	—	—	—	—	—	—	—	—	—	—	
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,75	3,30	3,30	3,30	—	—	—	—	—	—	—	*bearing resistance of component II **bearing resistance of component I
	0,88	4,00	4,00	4,00	—	—	—	—	—	—	—	
	1,00	4,19	4,19	4,19	—	—	—	—	—	—	—	
	1,13	4,19	4,19	4,19	—	—	—	—	—	—	—	
	1,25	4,21	4,21	4,21	—	—	—	—	—	—	—	
	1,50	4,21	4,21	4,21	—	—	—	—	—	—	—	
	1,75	—	—	—	—	—	—	—	—	—	—	
	2,00	—	—	—	—	—	—	—	—	—	—	

If both components I and II are made of S320GD the values  $V_{R,k}$  may be increased by 8,3%

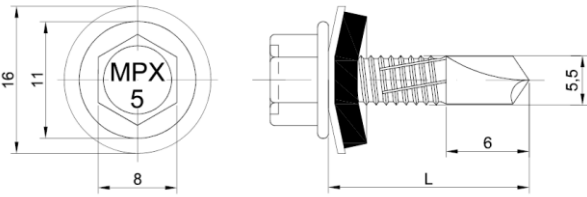
If both components I and II are made of S350GD the values  $V_{R,k}$  may be increased by 16,6%

**MPX 5 fastening screws for metal members and sheeting**

MPX 5 5,5 × L + A14  
 with hexagon head and sealing washer  $\geq \varnothing 14$  mm  
 with metal top made of aluminum

Table 4

**Table 5: Characteristic Tension Resistance  $N_{R,k}$  and Shear Resistance  $V_{R,k}$  [kN]**

	<b>Materials</b> Fastener: stainless steel – A2 Fastener: carbon steel SAE1022 Washer: EPDM sealing ring with metal top made of aluminum Component I: S280GD, S320GD or S350GD – EN 10346 Component II: S235 – EN 10025-1
	<b>Drilling capacity:</b> $\Sigma(t_{N2} + t_{II}) \leq 6,50$ mm
	<b>Timber substructures</b> no performance determined

$t_{N,II}$ [mm]	3,00	4,00	5,00	6,00	7,00	8,00	9,00	10,00	Wood class $\geq$ C24			
$M_{t,nom}$	5 Nm								—	—		
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,75 0,88 1,00 1,13 1,25 1,50 1,75 2,00	1,23 1,31 1,64 1,64 1,72 1,72 — —	1,23 1,31 1,64 1,64 1,72 1,72 — —	1,23 — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	*bearing resistance of component I **bearing resistance of component II
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,75 0,88 1,00 1,13 1,25 1,50 1,75 2,00	3,33 4,04 4,23 4,23 4,26 4,26 — —	3,33 4,04 4,23 4,23 4,26 4,26 — —	3,33 — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	— — — — — — — —	*bearing resistance of component II **bearing resistance of component I

 If both components I and II are made of S320GD the values  $V_{R,k}$  may be increased by 8,3%

 If both components I and II are made of S350GD the values  $V_{R,k}$  may be increased by 16,6%

**MPX 5 fastening screws for metal members and sheeting**

 MPX 5 5,5 × L + A16  
 with hexagon head and sealing washer  $\geq \varnothing 16$  mm  
 with metal top made of aluminum

Table 5

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, 14.01.2022

Signed by:

R&D Director

Janusz Kabała

Dyrektor Działu Rozwoju  
Produktów



*Janusz Kabała*  
Janusz Kabała