

DECLARATION of PERFORMANCE

No 02/WFP/0371/2022



1. *Unique identification code of the product-type:* **WFP (marked MRP)**
2. *Intended use:* **WFP self-drilling screws are intended to be used for fastening steel sheeting to timber 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.**
Certificate of Constancy of Performance: **1022-CPR-070060127**
6. *Declared performance:*

	Essential characteristics	Performance	Technical specification
3.1 BWR 1: Mechanical resistance and stability			
3.1.1	Characteristic Shear Resistance of the Connection	See Table 1, 2, 3 below	ETA 18/0371
3.1.2	Characteristic Tension Resistance of the Connection	See Table 1,2,3 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		
	Zinc coating	min. 8 microns	ETA 18/0371
	Ceramic coating Ruspert Silver 500h or Geomet	according to individual Producer documentation	ETA 18/0371
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

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

	<p><u>Materials</u> Fastener: carbon steel – SAE1022, SAE10B21, SAE10B23, 23MNB4, 19MNB4 quenched, tempered and galvanized ($\geq 8 \mu\text{m}$) (Ruspert Silver or Geomet coating) Washer: - Component I: S280GD, S320GD or S350GD – EN 10346 Component II: structural timber – EN 14081</p>
	<p>Drilling capacity: -</p>
	<p><u>Timber substructures</u> For timber substructures performance determined with $M_{y,Rk} = 4,39 \text{ Nm}$ $f_{ax,k} = 13,88 \text{ N/mm}^2$ for $l_{ef} \geq 20 \text{ mm}$</p>

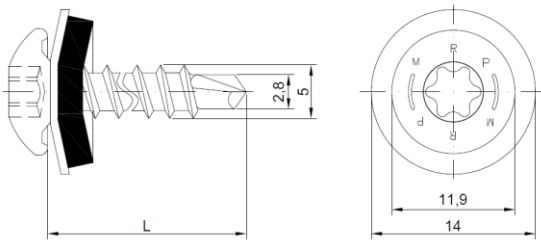
$t_{N,II}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,13	1,25	Wood class $\geq \text{C24}$			
$M_{t,nom}$	3 Nm								20 mm	—		
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,40	0,50	0,55	0,63	0,75	0,88	1,00	1,13	1,25	0,87**	—	*bearing resistance of component I **bearing resistance of component II
	—	—	—	—	—	—	—	—	—	0,96**	—	
	—	—	—	—	—	—	—	—	—	0,96**	—	
	—	—	—	—	—	—	—	—	—	0,96**	—	
	—	—	—	—	—	—	—	—	—	0,96**	—	
	—	—	—	—	—	—	—	—	—	0,96**	—	
	—	—	—	—	—	—	—	—	—	0,96**	—	
	—	—	—	—	—	—	—	—	—	0,96**	—	
	—	—	—	—	—	—	—	—	—	0,96**	—	
	—	—	—	—	—	—	—	—	—	0,96**	—	
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,40	0,50	0,55	0,63	0,75	0,88	1,00	1,13	1,25	0,90**	—	*bearing resistance of component II **bearing resistance of component I
	—	—	—	—	—	—	—	—	—	1,33**	—	
	—	—	—	—	—	—	—	—	—	1,33**	—	
	—	—	—	—	—	—	—	—	—	1,33**	—	
	—	—	—	—	—	—	—	—	—	1,33**	—	
	—	—	—	—	—	—	—	—	—	1,33**	—	
	—	—	—	—	—	—	—	—	—	1,33**	—	
	—	—	—	—	—	—	—	—	—	1,33**	—	
	—	—	—	—	—	—	—	—	—	1,33**	—	
	—	—	—	—	—	—	—	—	—	1,33**	—	

WFP fastening screws for metal members and sheeting

WFP 4,8 × L
with pan head

Table 1

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

	Materials Fastener: carbon steel – SAE1022, SAE10B21, SAE10B23, 23MNB4, 19MNB4 quenched, tempered and galvanized ($\geq 8 \mu\text{m}$) Washer: EPDM sealing ring with metal top made of coated carbon steel Component I: S280GD, S320GD or S350GD – EN 10346 Component II: structural timber – EN 14081
	Drilling capacity: -
	Timber substructures For timber substructures performance determined with $M_{y,Rk} = 4,39 \text{ Nm}$ $f_{ax,k} = 13,88 \text{ N/mm}^2$ for $l_{ef} \geq 20 \text{ mm}$

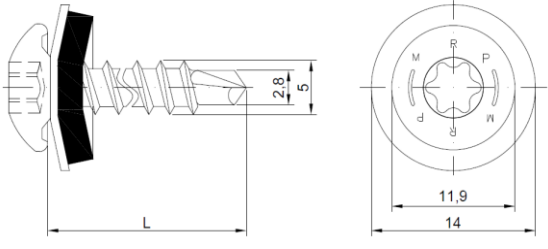
$t_{N,II}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,13	1,25	Wood class \geq C24		
$M_{t,nom}$	3 Nm								20 mm	—	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,40	—	—	—	—	—	—	—	0,87**	—	*bearing resistance of component I **bearing resistance of component II
	0,50	—	—	—	—	—	—	—	0,96**	—	
	0,55	—	—	—	—	—	—	—	0,96**	—	
	0,63	—	—	—	—	—	—	—	0,96**	—	
	0,75	—	—	—	—	—	—	—	0,96**	—	
	0,88	—	—	—	—	—	—	—	0,96**	—	
	1,00	—	—	—	—	—	—	—	0,96**	—	
	1,13	—	—	—	—	—	—	—	0,96**	—	
	1,25	—	—	—	—	—	—	—	0,96**	—	
	1,50	—	—	—	—	—	—	—	—	—	
	1,75	—	—	—	—	—	—	—	—	—	
	2,00	—	—	—	—	—	—	—	—	—	
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,40	—	—	—	—	—	—	—	0,90**	—	*bearing resistance of component II **bearing resistance of component I
	0,50	—	—	—	—	—	—	—	1,33**	—	
	0,55	—	—	—	—	—	—	—	1,33**	—	
	0,63	—	—	—	—	—	—	—	1,33**	—	
	0,75	—	—	—	—	—	—	—	1,33**	—	
	0,88	—	—	—	—	—	—	—	1,33**	—	
	1,00	—	—	—	—	—	—	—	1,33**	—	
	1,13	—	—	—	—	—	—	—	1,33**	—	
	1,25	—	—	—	—	—	—	—	1,33**	—	
	1,50	—	—	—	—	—	—	—	—	—	
	1,75	—	—	—	—	—	—	—	—	—	
	2,00	—	—	—	—	—	—	—	—	—	

WFP fastening screws for metal members and sheeting

 WFP 4,8 × L + S14
 with pan head and sealing washer $\phi 14 \text{ mm}$
 with metal top made of coated carbon steel

Table 2

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

	Materials Fastener: carbon steel – SAE1022, SAE10B21, SAE10B23, 23MNB4, 19MNB4 quenched, tempered and galvanized (Ruspert Silver 500h or Geomet coating) Washer: EPDM sealing ring with metal top made of aluminum Component I: S280GD, S320GD or S350GD – EN 10346 Component II: structural timber – EN 14081
	Drilling capacity: -
Timber substructures For timber substructures performance determined with $M_{y,Rk} = 4,39 \text{ Nm}$ $f_{ax,k} = 13,88 \text{ N/mm}^2$ for $l_{ef} \geq 20 \text{ mm}$	

$t_{N,II}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,13	1,25	Wood class \geq C24			
$M_{t,nom}$	3 Nm								20 mm	—		
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,40	—	—	—	—	—	—	—	—	0,87**	—	*bearing resistance of component I **bearing resistance of component II
	0,50	—	—	—	—	—	—	—	—	0,96**	—	
	0,55	—	—	—	—	—	—	—	—	0,96**	—	
	0,63	—	—	—	—	—	—	—	—	0,96**	—	
	0,75	—	—	—	—	—	—	—	—	0,96**	—	
	0,88	—	—	—	—	—	—	—	—	0,96**	—	
	1,00	—	—	—	—	—	—	—	—	0,96**	—	
	1,13	—	—	—	—	—	—	—	—	0,96**	—	
	1,25	—	—	—	—	—	—	—	—	0,96**	—	
	1,50	—	—	—	—	—	—	—	—	—	—	
	1,75	—	—	—	—	—	—	—	—	—	—	
	2,00	—	—	—	—	—	—	—	—	—	—	
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,40	—	—	—	—	—	—	—	—	0,90**	—	*bearing resistance of component II **bearing resistance of component I
	0,50	—	—	—	—	—	—	—	—	1,33**	—	
	0,55	—	—	—	—	—	—	—	—	1,33**	—	
	0,63	—	—	—	—	—	—	—	—	1,33**	—	
	0,75	—	—	—	—	—	—	—	—	1,33**	—	
	0,88	—	—	—	—	—	—	—	—	1,33**	—	
	1,00	—	—	—	—	—	—	—	—	1,33**	—	
	1,13	—	—	—	—	—	—	—	—	1,33**	—	
	1,25	—	—	—	—	—	—	—	—	1,33**	—	
	1,50	—	—	—	—	—	—	—	—	—	—	
	1,75	—	—	—	—	—	—	—	—	—	—	
	2,00	—	—	—	—	—	—	—	—	—	—	

WFP fastening screws for metal members and sheeting

WFP 4,8 × L + A14
 with pan head and sealing washer $\phi 14 \text{ mm}$
 with metal top made of aluminum

Table 3

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