

## DECLARATION of PERFORMANCE

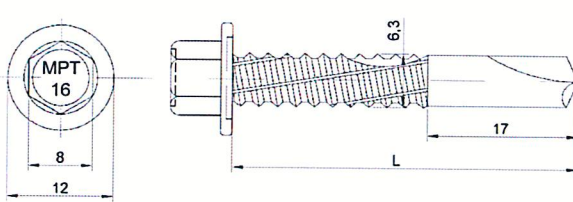
No 01/MPT16/0371/2019



1. *Unique identification code of the product-type:* **MPT 16**
2. *Intended use:* **MPT 16 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 15.02.2019**  
*Technical Assessment Body:* **Technický a zkušební ústav stavební Praha, s.p.**  
*Notified Body: Number:* **1488 - Instytut Techniki Budowlanej**
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 ÷ 4 below                          | ETA 18/0371                                 |
| 3.1.2.                                                | Characteristic Tension Resistance of the Connection      | see Table 1 ÷ 4 below                          | ETA 18/0371                                 |
| 3.1.3.                                                | Durability                                               |                                                |                                             |
|                                                       | Zinc coating min.12 mikron                               | Category C1                                    | EN 1993-1-3;<br>EN 1993-1-4;<br>EN 1999-1-4 |
|                                                       | Ceramic coating Ruspert Silver                           | according to individual Producer documentation | EN ISO 12944-2                              |
| <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                                  |
| <b>3.3 BWR 3: Hygiene, health and the environment</b> |                                                          |                                                |                                             |
| 3.3.1.                                                | Content, emission and/or release of dangerous substances | Content of dangerous substances less than 0,1% | EU Regulation REACH 1907/2006               |

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

|                                                                                   |                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>Materials</b><br>Fastener: carbon steel – SAE1022<br>quenched, tempered and galvanized (Ruspert Silver)<br>Washer: -<br>Component I: S280GD, S320GD or S350GD – EN 10346<br>Component II: S235 – EN 10025-1 |
|                                                                                   | Drilling capacity: $\Sigma(t_{N2} + t_{II}) \leq 16,50$ mm                                                                                                                                                     |
|                                                                                   | <b>Timber substructures</b><br>no performance determined                                                                                                                                                       |

| $t_{N,II}$ [mm]                                                                                   | 4,00 | 5,00 | 6,00 | 7,00 | 8,00 | 9,00 | 10,00 | $\geq 11,00$ | Wood class $\geq$ C24 |   |                                                                            |
|---------------------------------------------------------------------------------------------------|------|------|------|------|------|------|-------|--------------|-----------------------|---|----------------------------------------------------------------------------|
| $M_{t, nom}$                                                                                      | 5 Nm |      |      |      |      |      |       |              | —                     | — |                                                                            |
| $V_{R,k}$ [kN] for $t_{N,I}$ [mm]<br>0,75<br>0,88<br>1,00<br>1,13<br>1,25<br>1,50<br>1,75<br>2,00 | 1,12 | 1,12 | 1,12 | 1,12 | 1,12 | 1,12 | 1,12  | 1,12         | —                     | — | *bearing resistance of component I<br>**bearing resistance of component II |
|                                                                                                   | 1,65 | 1,65 | 1,65 | 1,65 | 1,65 | 1,65 | 1,65  | 1,65         | —                     | — |                                                                            |
|                                                                                                   | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05  | 2,05         | —                     | — |                                                                            |
|                                                                                                   | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05  | 2,05         | —                     | — |                                                                            |
|                                                                                                   | 2,30 | 2,30 | 2,30 | 2,30 | 2,30 | 2,30 | 2,30  | 2,30         | —                     | — |                                                                            |
|                                                                                                   | 2,30 | 2,30 | 2,30 | 2,30 | 2,30 | 2,30 | 2,30  | 2,30         | —                     | — |                                                                            |
|                                                                                                   | —    | —    | —    | —    | —    | —    | —     | —            | —                     | — |                                                                            |
|                                                                                                   | —    | —    | —    | —    | —    | —    | —     | —            | —                     | — |                                                                            |
| $N_{R,k}$ [kN] for $t_{N,I}$ [mm]<br>0,75<br>0,88<br>1,00<br>1,13<br>1,25<br>1,50<br>1,75<br>2,00 | 1,60 | 1,60 | 1,60 | 1,60 | 1,60 | 1,60 | 1,60  | 1,60         | —                     | — | *bearing resistance of component II<br>**bearing resistance of component I |
|                                                                                                   | 1,96 | 1,96 | 1,96 | 1,96 | 1,96 | 1,96 | 1,96  | 1,96         | —                     | — |                                                                            |
|                                                                                                   | 2,14 | 2,14 | 2,14 | 2,14 | 2,14 | 2,14 | 2,14  | 2,14         | —                     | — |                                                                            |
|                                                                                                   | 2,14 | 2,14 | 2,14 | 2,14 | 2,14 | 2,14 | 2,14  | 2,14         | —                     | — |                                                                            |
|                                                                                                   | 2,17 | 2,17 | 2,17 | 2,17 | 2,17 | 2,17 | 2,17  | 2,17         | —                     | — |                                                                            |
|                                                                                                   | 2,17 | 2,17 | 2,17 | 2,17 | 2,17 | 2,17 | 2,17  | 2,17         | —                     | — |                                                                            |
|                                                                                                   | —    | —    | —    | —    | —    | —    | —     | —            | —                     | — |                                                                            |
|                                                                                                   | —    | —    | —    | —    | —    | —    | —     | —            | —                     | — |                                                                            |

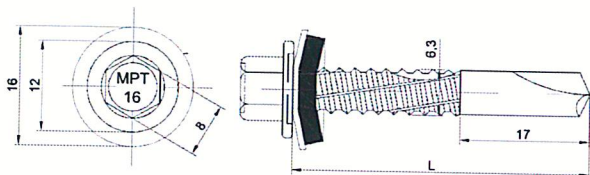
 If both components I and II are made of S320GD the values  $V_{R,k}$  may be increased by 8,3%

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

**MPT 16 fastening screws for metal members and sheeting**

 MPT 16 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: carbon steel – SAE1022  
 quenched, tempered and galvanized (Ruspert Silver)  
 Washer: EPDM sealing ring with metal top  
 made of coated carbon steel  
 Component I: S280GD, S320GD or S350GD – EN 10346  
 Component II: S235 – EN 10025-1

Drilling capacity:  $\Sigma(t_{N2} + t_{II}) \leq 16,50$  mm

**Timber substructures**

no performance determined

| $t_{N,II}$ [mm]                   | 4,00 | 5,00 | 6,00 | 7,00 | 8,00 | 9,00 | 10,00 | $\geq 11,00$ | Wood class $\geq$ C24 |   |                                                                            |
|-----------------------------------|------|------|------|------|------|------|-------|--------------|-----------------------|---|----------------------------------------------------------------------------|
| $M_{t, nom}$                      | 5 Nm |      |      |      |      |      |       |              | —                     | — |                                                                            |
| $V_{R,k}$ [kN] for $t_{N,I}$ [mm] | 0,75 | 1,12 | 1,12 | 1,12 | 1,12 | 1,12 | 1,12  | 1,12         | —                     | — | *bearing resistance of component I<br>**bearing resistance of component II |
|                                   | 0,88 | 1,65 | 1,65 | 1,65 | 1,65 | 1,65 | 1,65  | 1,65         | —                     | — |                                                                            |
|                                   | 1,00 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05  | 2,05         | —                     | — |                                                                            |
|                                   | 1,13 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05  | 2,05         | —                     | — |                                                                            |
|                                   | 1,25 | 2,30 | 2,30 | 2,30 | 2,30 | 2,30 | 2,30  | 2,30         | —                     | — |                                                                            |
|                                   | 1,50 | 2,30 | 2,30 | 2,30 | 2,30 | 2,30 | 2,30  | 2,30         | —                     | — |                                                                            |
|                                   | 1,75 | —    | —    | —    | —    | —    | —     | —            | —                     | — |                                                                            |
|                                   | 2,00 | —    | —    | —    | —    | —    | —     | —            | —                     | — |                                                                            |
| $N_{R,k}$ [kN] for $t_{N,I}$ [mm] | 0,75 | 3,44 | 3,44 | 3,44 | 3,44 | 3,44 | 3,44  | 3,44         | —                     | — | *bearing resistance of component II<br>**bearing resistance of component I |
|                                   | 0,88 | 4,68 | 4,68 | 4,68 | 4,68 | 4,68 | 4,68  | 4,68         | —                     | — |                                                                            |
|                                   | 1,00 | 5,56 | 5,56 | 5,56 | 5,56 | 5,56 | 5,56  | 5,56         | —                     | — |                                                                            |
|                                   | 1,13 | 5,56 | 5,56 | 5,56 | 5,56 | 5,56 | 5,56  | 5,56         | —                     | — |                                                                            |
|                                   | 1,25 | 5,96 | 5,96 | 5,96 | 5,96 | 5,96 | 5,96  | 5,96         | —                     | — |                                                                            |
|                                   | 1,50 | 6,83 | 6,83 | 6,83 | 6,83 | 6,83 | 6,83  | 6,83         | —                     | — |                                                                            |
|                                   | 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%

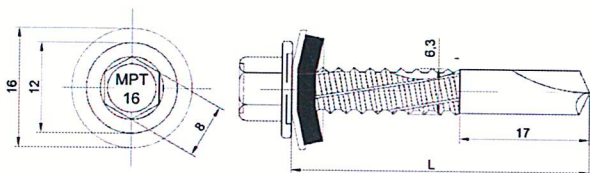
**MPT 16 fastening screws for metal members and sheeting**

MPT 16 5,5 × L + S16

with hexagon head and sealing washer  $\geq \varnothing 16$  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  
 quenched, tempered and galvanized (Ruspert Silver)

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:  $\Sigma(t_{N2} + t_{II}) \leq 16,50$  mm

**Timber substructures**

no performance determined

| $t_{N,II}$ [mm]                   | 4,00 | 5,00 | 6,00 | 7,00 | 8,00 | 9,00 | 10,00 | $\geq 11,00$ | Wood class $\geq$ C24 |   |                                                                            |
|-----------------------------------|------|------|------|------|------|------|-------|--------------|-----------------------|---|----------------------------------------------------------------------------|
| $M_{t,nom}$                       | 5 Nm |      |      |      |      |      |       |              | —                     | — |                                                                            |
| $V_{R,k}$ [kN] for $t_{N,I}$ [mm] | 0,75 | 1,12 | 1,12 | 1,12 | 1,12 | 1,12 | 1,12  | 1,12         | —                     | — | *bearing resistance of component I<br>**bearing resistance of component II |
|                                   | 0,88 | 1,65 | 1,65 | 1,65 | 1,65 | 1,65 | 1,65  | 1,65         | —                     | — |                                                                            |
|                                   | 1,00 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05  | 2,05         | —                     | — |                                                                            |
|                                   | 1,13 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05  | 2,05         | —                     | — |                                                                            |
|                                   | 1,25 | 2,30 | 2,30 | 2,30 | 2,30 | 2,30 | 2,30  | 2,30         | —                     | — |                                                                            |
|                                   | 1,50 | 2,30 | 2,30 | 2,30 | 2,30 | 2,30 | 2,30  | 2,30         | —                     | — |                                                                            |
|                                   | 1,75 | —    | —    | —    | —    | —    | —     | —            | —                     | — |                                                                            |
|                                   | 2,00 | —    | —    | —    | —    | —    | —     | —            | —                     | — |                                                                            |
| $N_{R,k}$ [kN] for $t_{N,I}$ [mm] | 0,75 | 3,44 | 3,44 | 3,44 | 3,44 | 3,44 | 3,44  | 3,44         | —                     | — | *bearing resistance of component II<br>**bearing resistance of component I |
|                                   | 0,88 | 4,68 | 4,68 | 4,68 | 4,68 | 4,68 | 4,68  | 4,68         | —                     | — |                                                                            |
|                                   | 1,00 | 5,56 | 5,56 | 5,56 | 5,56 | 5,56 | 5,56  | 5,56         | —                     | — |                                                                            |
|                                   | 1,13 | 5,56 | 5,56 | 5,56 | 5,56 | 5,56 | 5,56  | 5,56         | —                     | — |                                                                            |
|                                   | 1,25 | 5,96 | 5,96 | 5,96 | 5,96 | 5,96 | 5,96  | 5,96         | —                     | — |                                                                            |
|                                   | 1,50 | 6,83 | 6,83 | 6,83 | 6,83 | 6,83 | 6,83  | 6,83         | —                     | — |                                                                            |
|                                   | 1,75 | —    | —    | —    | —    | —    | —     | —            | —                     | — |                                                                            |
|                                   | 2,00 | —    | —    | —    | —    | —    | —     | —            | —                     | — |                                                                            |

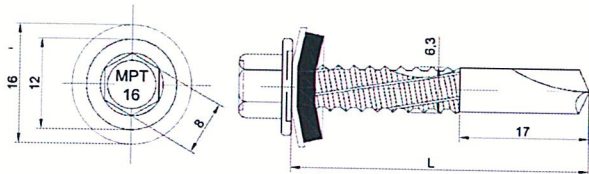
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If both components I and II are made of S350GD the values  $V_{R,k}$  may be increased by 16,6%

**MPT 16 fastening screws for metal members and sheeting**

MPT 16 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: carbon steel – SAE1022  
 quenched, tempered and galvanized (Ruspert Silver)  
 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:  $\Sigma(t_{N2} + t_{II}) \leq 16,50$  mm

**Timber substructures**

no performance determined

| $t_{N,II}$ [mm]                   | 4,00 | 5,00 | 6,00 | 7,00 | 8,00 | 9,00 | 10,00 | $\geq 11,00$ | Wood class $\geq$ C24 |   |                                                                            |
|-----------------------------------|------|------|------|------|------|------|-------|--------------|-----------------------|---|----------------------------------------------------------------------------|
| $M_{t, nom}$                      | 5 Nm |      |      |      |      |      |       |              | —                     | — |                                                                            |
| $V_{R,k}$ [kN] for $t_{N,I}$ [mm] | 0,75 | 1,12 | 1,12 | 1,12 | 1,12 | 1,12 | 1,12  | 1,12         | —                     | — | *bearing resistance of component I<br>**bearing resistance of component II |
|                                   | 0,88 | 1,65 | 1,65 | 1,65 | 1,65 | 1,65 | 1,65  | 1,65         | —                     | — |                                                                            |
|                                   | 1,00 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05  | 2,05         | —                     | — |                                                                            |
|                                   | 1,13 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05  | 2,05         | —                     | — |                                                                            |
|                                   | 1,25 | 2,30 | 2,30 | 2,30 | 2,30 | 2,30 | 2,30  | 2,30         | —                     | — |                                                                            |
|                                   | 1,50 | 2,30 | 2,30 | 2,30 | 2,30 | 2,30 | 2,30  | 2,30         | —                     | — |                                                                            |
|                                   | 1,75 | —    | —    | —    | —    | —    | —     | —            | —                     | — |                                                                            |
|                                   | 2,00 | —    | —    | —    | —    | —    | —     | —            | —                     | — |                                                                            |
| $N_{R,k}$ [kN] for $t_{N,I}$ [mm] | 0,75 | 3,44 | 3,44 | 3,44 | 3,44 | 3,44 | 3,44  | 3,44         | —                     | — | *bearing resistance of component II<br>**bearing resistance of component I |
|                                   | 0,88 | 4,68 | 4,68 | 4,68 | 4,68 | 4,68 | 4,68  | 4,68         | —                     | — |                                                                            |
|                                   | 1,00 | 5,56 | 5,56 | 5,56 | 5,56 | 5,56 | 5,56  | 5,56         | —                     | — |                                                                            |
|                                   | 1,13 | 5,56 | 5,56 | 5,56 | 5,56 | 5,56 | 5,56  | 5,56         | —                     | — |                                                                            |
|                                   | 1,25 | 5,96 | 5,96 | 5,96 | 5,96 | 5,96 | 5,96  | 5,96         | —                     | — |                                                                            |
|                                   | 1,50 | 6,83 | 6,83 | 6,83 | 6,83 | 6,83 | 6,83  | 6,83         | —                     | — |                                                                            |
|                                   | 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%

**MPT 16 fastening screws for metal members and sheeting**

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

Table 4

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, 01.04.2019

Signed by:

R&D Director

Janusz Kabała

Dyrektor Działu Rozwoju  
Produktów



Janusz Kabała