



# Mapei Steel Dry 316

**Ultra high-strength  
“dry-applied” helical  
AISI 316 stainless steel  
bars for strengthening  
reinforced concrete,  
masonry and wooden  
structural members**



## WHERE TO USE

The system is recommended for structural strengthening of members made from stone, brick and tuff masonry, concrete or wood, to connect masonry panels and wooden floor joists to bay walls and to limit cracking and reinforced stitching of cracked or damaged masonry.

### Some application examples

- Connecting cavity walls.
- Connecting wooden floor joists to masonry walls.
- Repairing cracks.
- Reinforced stitching for corner walls and “T” intersections.

## TECHNICAL CHARACTERISTICS

**Mapei Steel Dry 316 are helical bars made from AISI 316 stainless steel** characterised by very high strength and chemical stability. They are applied dry using a special spindle (**Mandrino per Mapei Steel Dry**) after drilling a pilot hole. The special helical shape of the bars allows them to form a solid anchor and guarantee a considerably high level of mechanical adherence to substrates.

In order to cover a wide range of requirements

**Mapei Steel Dry 316** is available in three different diameters (6, 8 and 10 mm) and four different lengths (400, 600, 800 and 1000 mm):

- Mapei Steel Dry 316/6/400
- Mapei Steel Dry 316/6/600
- Mapei Steel Dry 316/6/1000
- Mapei Steel Dry 316/8/400
- Mapei Steel Dry 316/8/600
- Mapei Steel Dry 316/8/1000
- Mapei Steel Dry 316/10/400
- Mapei Steel Dry 316/10/600
- Mapei Steel Dry 316/10/800

The helical bars have been tested according to EN 548-1, 2008 standards.

## ADVANTAGES

Unlike interventions using conventional methods, **Mapei Steel Dry 316** helical bars may be applied very quickly and in many cases without interrupting normal activities in buildings. Perfectly stable over the years, resistant to corrosion, excellent adherence.

## TECHNICAL DATA (typical values)

### PRODUCT IDENTITY

	Mapei Steel Dry 316/6	Mapei Steel Dry 316/8	Mapei Steel Dry 316/10
<b>Material:</b>	AISI 316 stainless steel	AISI 316 stainless steel	AISI 316 stainless steel
<b>Appearance:</b>	helical bar	helical bar	helical bar
<b>Nominal diameter (mm):</b>	6	8	10
<b>Nominal area of bar (mm<sup>2</sup>):</b>	8.9	10.4	12.9
<b>Ultimate tensile strength (kN):</b>	8.7	12.1	14.5
<b>Deformation of bar at failure (%):</b>	4.1	4.8	5.7
<b>Modulus of elasticity (GPa):</b>	> 125	> 125	> 125
<b>Ultimate shear strength of bar (kN):</b>	7.5	8.7	> 11.5
<b>Shear strength of bar (MPa):</b>	842.69	836.53	906.97

### RECOMMENDATIONS

All workers must be provided with protective gloves and goggles and anti-dust masks.

### APPLICATION PROCEDURE

**Mapei Steel Dry 316** is applied as follows:

#### 1. Drilling the pilot hole

Drill a pilot hole slightly smaller than the diameter of the helical bar to be inserted using a hammer drill. The depth of the hole must be at least the same length of the helical bar or slightly deeper. Remove all traces of dust from the hole.

#### 2. Inserting the Mapei Steel Dry 316 bar

Insert the helical bar into the hole by using a special spindle (**Mandrino per Mapei Steel Dry** available in two different diameters of 8 and 10 mm) with an SDS drill mount for hammer drill. Put by percussion the helical bar completely into the pilot hole.

#### 3. Grouting the hole

After inserting the helical bar into the pilot hole fill the end of the hole with **Planitop HDM Maxi** or **Planitop HDM Restauro**.

### PACKAGING

**Mapei Steel Dry 316** length 400 mm and 600 mm is supplied in boxes of 50 helical bars. **Mapei Steel Dry 316** length 800 mm and 1000 mm is supplied in tubes of 50 helical bars.

### STORAGE

Store in a covered dry area.

### SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

**Mapei Steel Dry 316** is an article and, according to current European standards (Reg.1906/2007/CE-REACH), does not require a Material Safety Data Sheet. When using this product it is recommended to use protective gloves and goggles and to adhere to the safety guidelines for the area in which work is carried out.

PRODUCT FOR PROFESSIONAL USE.

**WARNING**

*Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible*

*for any consequences deriving from the use of the product.*

**Please refer to the current version of the Technical Data Sheet, available from our website [www.mapei.com](http://www.mapei.com)**

**All relevant references  
for the product are available  
upon request and from  
[www.mapei.com](http://www.mapei.com)**

**Mapei Steel  
Dry 316**



Any reproduction of texts, photos and illustrations published  
here is prohibited and subject to prosecution

**1029-10-2015 (GB)**