

# Steel Dryfix 12

The AISI 316 stainless steel helical bar, with a 12 mm diameter, is a high mechanical performance stainless steel helical bar for dry binding of structural elements using the Helifix patented installation system.

Thanks to its particular shape and manufacturing process, Steel Dryfix 12 acts like a huge self-tapping screw, gripping the support, after a pilot bore has been drilled. The bar is suitable to connect together elements in brick masonry, raw earth, tuff, timber and in certain cases even concrete elements according to the mechanical characteristics of the support.



1. Patented, system provided with CE mark
2. Excellent durability guaranteed by AISI 316 stainless steel
3. Quick and easy dry installation in any weather conditions, using the special Steel Dryfix 10-12 driver attachment
4. Adhesion can be certified on site by pull-out test
5. High tensile and shear strength
6. Limited invasiveness and aesthetic impact

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## Areas of application

### → Intended use:

- Connecting wall panels, in cases in which the teeth are not attached together well
- Break-fill work of damaged or cracked architraves
- Break-fill work at the soffit of masonry arches
- Break-fill work of decorative stone which decorates the structure at the back
- Connection of wooden beam heads to the masonry support
- Break-fill work of cracks in the masonry structure, made of brick, raw earth, tuff
- Limitation of the crack
- Seismic improvement of walls with emerging inner debonding/collapse of parts of the masonry

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## Instructions for use

### → Preparation

The bars are supplied in lengths ready for installation, by means of the dedicated patented Helifix piling system.

#### Preparation of substrates

The masonry must be prepared following in the instructions dictated by the PM, if appropriate. In the case of through cracks after installing the break-fill work bars, it is advantageous to proceed with filling the cracks with geo-mortar made of pure natural lime NHL and geo-binder (such as Geocalce G Antisismico or Geocalce F Antisismico) or Biocalce Pietra, depending on the support, and the injection of suitable slurry key to restore the material continuity of the masonry. For historical walls, proceed with the injection of Geocalce FL Antisismico.

### → Application

Dry joining of masonry in brick or tuff using Steel Dryfix 12 should be followed by drilling a pilot bore with a appropriate diameter

depending on the consistency of the substrate and with a length possibly equivalent to all the lengths of the break-fill work bar that must be installed. After placing the Steel Dryfix 10-12 Driver attachment into the SDS Plus drill to engage, put the bar inside the pilot bore, tapping with percussive work until it is completely inserted; after the bar has been inserted fill the end of the bore with the suitable geo-mortar (Geocalce G Antisismico, Geocalce F Antisismico, Geolite) or mineral epoxy adhesive (Geolite Gel), in a way that guarantees that the bore is perfectly sealed and that the hole opening is restored in a manner that guarantees perfect adhesion of the bar to the substrate also to the opening.

→ In order to assess the performance of adhesion/extraction between different supports, you are advised to contact our technical office. Pull-out test is accomplished on site using a suitable test kit Steel Dryfix.

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## Special notes

→ Bars are available in 800 – 1000 – 1250 – 1500 mm lengths. Delivery times will be agreed on each time.

→ The Steel Dryfix 10-12 Driver attachment is essential for installation, and is supplied in packs of one.

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## Certificates and marks



# Abstract

## *The Steel Dryfix 12 AISI 316 stainless steel helical bar*

*Execution of reinforcement, and break-fill work of masonry made from brick, raw earth, tuff, wood and other material by means of Steel Dryfix 12 AISI 316 stainless steel helical bar, installed with Helifix technology in specified pilot bore in the structure, subject to possible repair of weakened surfaces, by means of the appropriate chuck supplied Steel Dryfix 10-12 Driver attachment which is tapped into position. They include: (1) Making a pilot bore of a suitable diameter, according to the bar and to the material from which the element to be reinforced is composed; (2) Installing the bar inside the bore by means of the appropriate Steel Dryfix 10-12 Driver attachment; (3) Possible filling of the bore with suitable material, which will depend on the type of support, that is: Geocalce G Antisismico, Geocalce F Antisismico or Biocalce Pietra, for masonry substrates; Geolite, for reinforced concrete supports; Geolite Gel for supports in reinforced concrete or other materials. The break-fill work bar must guarantee the minimum performance characteristics of the plan, in other words: tensile breaking load  $\geq 28.3$  kN; shear breaking load  $\geq 17$  kN; modulus of elasticity  $\geq 150$  GPa; ultimate elongation at rupture  $\geq 3\%$ ; nominal area  $29.8$  mm<sup>2</sup>.*

*The price is by unit of bar length actually laid.*

*delivery and installation of all the materials described above as well as everything else required to finish the job is included. The following are excluded: restoration of degraded areas and repair of the substrate; mortar to fill and mask the bore; material acceptance tests; pre- and post-procedure testing, all aids required to perform the work.*

### Technical Data compliant with Kerakoll Quality Standard

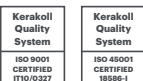
Material	AISI 316 stainless steel		
Nominal diameter	$\emptyset$	12 mm	
nominal area of the bar	$A_{elica}$	29,8 mm <sup>2</sup>	
Tensile breaking load, typical value	N	$\geq 28,3$ kN	UNI EN ISO 6892-1:2016
Shear breaking load of the bar	T	$\geq 17$ kN	UNI EN 846-7
Elastic tensile strength ( $\epsilon = 0.2\%$ )	$\sigma_{0,2\%}$	$\geq 690$ MPa	UNI EN ISO 6892-1:2016
Elastic modulus of the bar, average value	$E_{barra}$	$\geq 150$ GPa	UNI EN ISO 6892-1:2016
Break warp of the bar, characteristic value	$\epsilon_{barra}$	$\geq 3\%$	UNI EN ISO 6892-1:2016
<b>Packs:</b>			
- Bar length	800 mm	Box. pc. 25	
- Bar length	1000 mm	Box. pc. 25	
- Bar length	1250 mm	Box. pc. 25	
- Bar length	1500 mm	Box. pc. 25	

Other lengths can be supplied on request and in the minimum order quantities stated. Delivery times will be agreed on each time

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# Warning

- Product for professional use
  - abide by any standards and national regulations
  - when handling the material wear protective clothing and goggles, and follow the instructions regarding methods for applying the material
  - contact with the skin: no special measures required
  - storage on the work site: store under cover in a dry place, well away from substances that might damage it or its ability to adhere to the chosen matrix
- the product is an item according to the definitions of the EC Regulation No. 1907/2006 and therefore does not require a Safety Data Sheet
  - for any other issues, contact the Kerakoll Worldwide Global Service +39 0536 811 516 - [globalservice@kerakoll.com](mailto:globalservice@kerakoll.com)



The Rating classifications refer to the GreenBuilding Rating Manual 2013. This information was last updated in December 2022; please note that additions and/or amendments to this information may be made over time by KERAKOLL Spa; for the latest version, see [www.kerakoll.com](http://www.kerakoll.com). KERAKOLL SpA shall therefore be liable for the validity, accuracy and updating of information provided only when taken directly from its institutional website. The technical data sheet given here is based on our technical and practical knowledge. As it is not possible for us to directly check the conditions in your building site and the execution of the work, this information represents general indications that do not bind Kerakoll in any way. Therefore, it is advisable to perform a preliminary test to verify the suitability of the product for your purposes.