Steel Helibar 6

AISI 304 stainless steel helical bar, with a 6 mm diameter, with high mechanical performance stainless steel helical bar for reinforced grouting of joints using the Helifix patented installation system.

Thanks to its particular geometry and manufacturing process, Steel Helibar 6 guarantees high levels of mechanical and chemical adhesion to the grouting mortar used. The bar can be used for shear and flexural reinforcement of wall coverings in hollow clay blocks, raw earth, tuff, architraves and in the break-fill consolidation process to increase the adhesion of disconnected or cracked portions of wall. This makes it ideal for surface consolidation of visible wall coatings, without in any way altering their appearance.

1. Patented, system provided with CE mark
2. Excellent durability guaranteed by AISI 304 stainless steel
3. Specific for structural strengthening in combination with matrices from the Geocalce and Geolite range
4. Can be installed in any weather conditions
5. Excellent mechanical adherence to the matrix used for grouting, thanks to the helix shape of the bar
6. High tensile and shear strength
7. Very fast and easy installation on joints thanks to its flexibility
8. Limited invasiveness and aesthetic impact
9. Low installation costs
10. Connectable to Steel Dryfix 10 bars using the Steel Dryfix 10 connector

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Areas of application

→ Intended use:
- Connecting wall panels, in cases in which the teeth are not attached together well
- Strengthening damaged or cracked architraves
- Break-fill work of cracks in the masonry structure, made of brick, raw earth, tuff
- Reinforced grouting of joints
- Limitation of the crack
- Seismic improvement and structural reinforcement of the walls, in the context of shear reinforcement

Instructions for use

→ Preparation
The bars are supplied in 7 m reels ready for installation. It will be necessary to cut to the length of bar required in the consolidation operation by using an angle grinder or suitable shears.

→ Preparation of substrates
The masonry must be prepared following in the instructions dictated by the PM, if appropriate Start by cleaning the joint and possibly mechanically removing the rendering mortar of the joint to an average depth of roughly 2 cm. After removing all the mortar, the joint must be clean and washed appropriately, in order to eliminate dust or anything else that could compromise the adhesion of the chosen matrix for grouting the bars.

1. For masonry, tuff and natural stone substrates:
   - Saturation, spray, or brush application, if required, of certified natural cortical consolidating fixative based on ethyl esters from silicic acid such as Kerakover Eco Silicato di Etile (specific for tuff, not to be used on gypsum substrates) or water-based solvent-free consolidating fixative, such as Rasobuild Eco Consolidante, or consolidating fixative based on pure stabilised potassium silicate in water solution such as Biocalce Silicato Consolidante (do not use this fixative on gypsum substrates)
   - possible extensive bed joint reconstruction, beyond that necessary for the installation of the bar, with breathable structural geo-mortar based on pure natural lime NHL and geo-binder, such as Geocalce F Antisismico;.
2. For supports made from cement blocks in modern masonry and industrial buildings:
   - Possible extensive joint reconstruction, beyond that necessary for the installation of the bar, using Geolite, a type of geo-mortar based on mineral geo-binder.

→ Application
Strengthening the joint with the Steel Helibar 6 AISI 304 stainless steel helical bar will extensively scarify the joint for about 2 cm by means of circular angle grinder or manual removal of the rendering mortar, for the whole length of the stapling bar that must be installed. Start by cleaning and restoring the joint according to the instructions given above. Using a trowel or manual sealant applicator gun, insert geo-mortar or the epoxy mineral adhesive (Geocalce F Antisismico, Geolite or Geolite Gel), chosen to grout the bar for about 2/3 depth of the prepared joint. Insert the bar by means of manual pressure, ensuring that the mortar or rendering resin leaks from the sides of the bar; after inserting the bar, plaster it with the same mortar or resin employed in the previous phase, and in a manner that guarantees perfect joint sealing and bar grouting, which guarantees perfect adhesion of the bar to the substrate and gives the appearance of a completed job.

Certificates and marks

CE
EN 845-1

Abstract

The Steel Helibar 6 AISI 304 stainless steel helical bar
Execution of shear and flexural reinforcement, and break-fill work of masonry made from brick, clay, tuff, cement blocks or other materials using Steel Helibar 6 AISI 304 stainless steel helical bars, inserted into mortar joints, subject to possible repair of weakened surfaces, implemented using grouting with breathable structural geo-mortar, a pure natural lime NHL 3.5 and geo-binder such as Geocalce F Antisismico or geo-mortar based on mineral geo-binder, type Geolite, otherwise with epoxy organic mineral matrix, type Geolite Gel, all supplied by Kerakoll Spa, to be applied directly to the surface requiring reinforcement and without the need for an adhesion primer. They include: (1) the mechanical or manual scarification of the joint for an average depth of at least 2 cm; (2) insertion using a trowel or manual sealant applicator gun for the mortar or resin chosen for grouting the first 2/3 joint; (3) insertion of the bar using manual pressure, ensuring that the mortar or resin used in phase (2) leaks from the edges of the bar and results in perfect integration of the bar; (4) plastering the joint until the bar is completely covered to the depth required by the specification. The break-fill work bar must guarantee the minimum performance characteristics of the plan, in other words: tensile breaking load ≥ 9,8 kN; shear breaking load ≥ 5,5 kN; modulus of elasticity ≥ 130 GPa; ultimate elongation at rupture ≥ 5%; nominal area 8 mm².
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; pre- and post-procedure testing, all aids required to perform the work.

Technical Data compliant with Kerakoll Quality Standard			
Material		AISI 304 stainless steel	
Nominal diameter	ø	6 mm	
nominal area of the bar	A_{bar}	8 mm²	
Tensile breaking load	N	≥ 9,8 kN	UNI EN ISO 6892-1:2016
Shear breaking load of the bar	T	≥ 5,5 kN	UNI EN 846-7
Elastic tensile strength (ε = 0.2%)	$\sigma_{0,2\%}$	≥ 995 MPa	UNI EN ISO 6892-1:2016
Elastic modulus of the bar	E_{barra}	≥ 130 GPa	UNI EN ISO 6892-1:2016
Deformation at rupture of the bar	ε_{barra}	≥ 5%	UNI EN ISO 6892-1:2016
Pack			7 m reels (ø 6 mm)

Values taken at +23 °C, 50% R.H. and no ventilation. Data may vary depending on specific conditions at the building site, i.e.temperature, ventilation and absorbency level of the substrate and of the materials laid.

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

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