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Iniettore&Connettore Geosteel

Polypropylene and fibreglass injector, specific thread connector systems, made directly from the extra-strong Geosteel galvanised steel fibre sheets range. Ideal to create fibre thread connecting systems for Geosteel mesh band and mesh sheet strengthening elements.

Easy to install, Geosteel Injector&Connector facilitates the fastening of the steel fibre thread and allows for the possible later injection of hyperfluid mortar or epoxy resin for grouting. Thanks to its chemical composition, polypropylene has a high resistance to impact and to abrasion, excellent thermal resistance and high levels of durability.

1. High tensile strength and versatility
2. Limited invasiveness: does not create an uneven appearance on the wall
3. Quick and easy to install
4. High level of durability
5. Excellent connection and co-operation in retrofitting structures using sheets and meshes
6. Excellent compatibility with matrices from the Geocalce and Geolite range
7. It facilitates the construction of thread connectors and the injection of Geocalce FL Antisismico, promoting and facilitating the consolidation of masonry.

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Areas of application

→ Intended use:
- Consolidation and strengthening of load-bearing walls by widespread insertion of Geosteel galvanised steel-fibre thread connector systems injected with Geocalce FL Antisismico, EN certified, hyperfluid geo-mortar with pure natural NHL 3.5 hydraulic lime
- Connection and strengthening system for fixing of load-bearing walls, vaults, cupolas or arches made of masonry, using Geosteel galvanised steel fibre strips or widespread areas of Geosteel Grid stainless steel and basalt fibre or Rinforzo ARV 100 AR fibreglass and aramid fibre mesh
- Consolidation and strengthening of masonry arches by break-fill work at the soffit using Geosteel galvanised steel-fibre thread connector systems injected with Geocalce FL Antisismico, EN certified, hyperfluid geo-mortar made from pure natural NHL 3.5 hydraulic lime
- Connection and strengthening system used to create banding and stringcourses in masonry elements and structures
- Creation of non-invasive end-plates to anchor chains made using Geosteel galvanised steel fibre sheets
- Strengthening of masonry pillars by localised confinement using Geosteel galvanised steel-fibre thread connector systems injected with Geocalce FL Antisismico, EN certified, hyperfluid geo-mortar made from pure natural NHL 3.5 hydraulic lime

Instructions for use

→ Preparation
Polypropylene Geosteel Injector&Connector is ready-to-use, and is supplied complete with a plug to be fitted in the hole on the connector head at the end of injection operations. The fibre thread connector system created using the Geosteel range of sheets must be designed and sized, in terms of tensile strength, according to the support on which it is to be installed, to counteract the active stress levels.

→ Preparation of substrates
Drill holes on the wall with a diameter of between Ø 16 – 24 mm according to the thickness and type of wall fabric, using a drill or core drill. When the substrates are not damaged, simply clean and remove any dust or oils that could compromise the adhesion of the mortar or resin used to grout the connector, using compressed air or manual or mechanical brushing.

→ Application
A steel-fibre thread connector system is created by including a band of fabric of appropriate width from the Geosteel range to provide the minimum number of cords in the connector, in order to achieve the tensile strength required by the calculation; make sure to unravel the end of the fabric band by cutting the supportive mesh, making the cut parallel to the cords themselves to the length of the edge you want to create on the masonry. In the event of a connector with threads on both sides, this operation must be performed on both ends of the duly arranged fibre strip. Once the sheet is cut, roll the band onto itself, taking care to create a cylinder of an appropriate diameter compared to the hole. Next, install the connector thus created into the hole, then insert the glass fibre-reinforced polypropylene Geosteel Injector&Connector, so as to bend the end of the thread by 90°. According to the weight of the sheet used to form the connector, the tape may be folded using the Geosteel Bending machines to facilitate insertion of the Geosteel Injector&Connector. Finally, using the special hole located on the head of the insert, inject the pourable mortar, such as Geocalce FL Antisismico, to grout the fibre-thread connector system. When this phase is complete, the Geosteel Injector&Connector must be duly sealed with the cap provided. Depending on the type of substrate, concrete or masonry, for grouting the connector, as an alternative to pourable lime of pure natural hydraulic lime Geocalce FL Antisismico, the designer may choose to use pourable geo-mortar Geolite Magma or Geolite Gel thixotropic epoxy resin or superfluid Kerabuild Epofill.

Abstract

Geosteel Injector&Connector connection and injection system
Reinforcement and structural consolidation of elements and structures in masonry, tuff, natural stone or wattle-and-daub is carried out using thread connectors made from Geosteel Injector&Connector polypropylene reinforced with Kerakoll Spa fibreglass and high-strength, unidirectional, galvanised steel fibre sheet, made up of steel micro-cords fixed on a fibreglass micromesh – Geosteel by Kerakoll Spa. Subsequent consolidation of the wall element will be carried out by low pressure injection of highly breathable and hygroscopic geo-mortar with a hyperfluid consistency, based on pure NHL 3.5 natural hydraulic lime and geo-binder, such as Geocalce FL Antisismico by Kerakoll Spa.
The procedure is conducted as follows:
1) any treatment necessary to repair deteriorated surfaces;
2) preparation of the entrance hole, with a size (diameter and depth) suited to the nature of the connector to be fitted, and subsequent removal of the mortar in the area around the hole created;
3) preparation of the steel connector by cutting, "teasing" and final rolling of the steel fibre sheet;
4) insertion of the pre-formed connector into the hole (number, anchoring depth and spacing to be decided by a qualified technician);
5) consolidation of the wall and collaboration of the connector by means of low pressure injection of Geocalce FL Antisismico by Kerakoll Spa highly breathable and hygroscopic geo-mortar with a hyperfluid consistency.
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		
Density	0,9 g/cm^3	
Break warp	$\varepsilon_{connector}$	≥ 50 %
Modulus of elasticity when stretched	$E_{connector}$	1200 MPa
Tensile strength	$\sigma_{connector}$	27 MPa
Head diameter	$ø_{head}$	84 mm
Hole diameter	$ø_{hole}$	19 mm
Shank length	L_{shank}	70 mm

Warning

→ Product for professional use
→ abide by any standards and national regulations
→ protect from damp and UV light
→ after application, the pieces must be protected from UV light, by application of a suitable finishing layer, within 6 weeks of installation
→ 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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