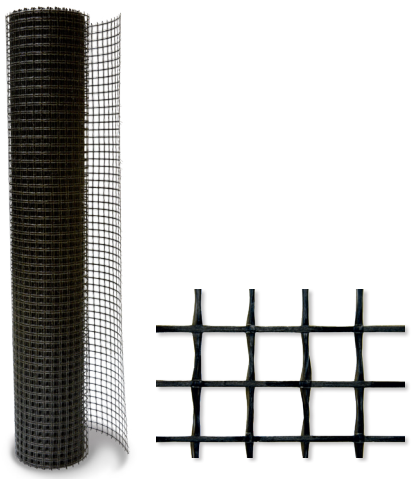
Code: E1049 2023/09 EN

Geo Grid 120

Balanced, bi-axial, alkali-resistant, basalt fibre mesh specific to repair structural elements or protect non-structural elements at risk of collapse and break-away.

Geo Grid 120 is very easy to handle, easy to work and install. It is possible to use geo-mortars from the Geocalce range to install the Geo Grid 120 mesh.



1. **Excellent durability thanks to the use of high alkali-resistant basalt**
2. **Quick and easy to install**
3. **Excellent meshing with matrices from the Geocalce range**
4. **Ideal for anti-collapse protective systems on stud walls and break-away protective systems on floor slabs**

kerakoll

Areas of application

→ Intended use:
- Anti-collapse protective systems for dividing and enclosing walls in reinforced concrete framework or brick buildings
- Protective systems for floor slabs subject to break-away of the bottom layer
- Protective systems for arches, vaults and wattle-type domes
- Suitable when combined with the special single and double thread connectors created using the Geosteel range of sheets and Steel Dryfix helical bars with Steel Dryfix insert

Instructions for use

→ Preparation
Geo Grid 120 basalt fibre is ready to use. The mesh can be cut using normal shears. The sheet, even when cut into thin strips, ensures perfect stability without in any way compromising the workability of the sheet and its application, thanks to the particular weave of the mesh.

→ Preparation of substrates
The substrate must be properly prepared and cleaned, always in accordance with the instructions dictated by the construction supervisor
In the case of substrates that are not degraded, prepare the surfaces as indicated in the technical data sheet for Geocalce F Antisismico, Geocalce Multiuso or Geocalce Intonaco.
When the substrate is clearly degraded, uneven, or damaged by significant events, proceed as follows, always in accordance with the construction supervisor:
For brick, tuff and natural stone masonry substrates or wattle-and-daub:
- Completely remove residues from previous processes that could compromise adhesion, and any quantity of inconsistent rendering mortars from the stones;
- Saturation, spray, or brush application, if required, of certified natural stabilizing cortical consolidant with base of pure stabilised potassium silicate in aqueous solution such as Biocalce Silicato Consolidante (do not use this stabilizing agent on gypsum substrate) or alternatively of eco-friendly stabilizing agent, such as Rasobuild Eco Consolidante, dispersed in water, suitable for all substrates;
- Reconstruction, if necessary, of material continuity according to design instructions and the construction supervisor
- Evening out previously consolidated surfaces with structural geo-mortar with a base of pure natural hydraulic lime NHL 3.5 and geo-binder such as Geocalce G Antisismico or Geocalce F Antisismico, depending on the thickness required
- Make sure that the substrate is adequately dampened and with a roughness of at least 5 mm, equal to level 8 of the Test Kit for preparation of reinforced concrete and masonry substrates (follow the instructions on the Geocalce F Antisismico data sheet).

→ Application
Execution of systems to repair structural elements or protect non-structural elements using the basalt fibre Geo Grid 120 mesh and either a Geocalce F Antisismico, Geocalce Multiuso or Geocalce Intonaco matrix, will be carried out applying a first coat of inorganic matrix, ensuring on the substrate a sufficient quantity of material (average thickness 3-5 mm) to regularize it and to lay and embed the reinforcing mesh. Afterwards, while the matrix is still uncured, apply the Geo Grid 120 basalt fibre by Kerakoll Spa, making sure that the mesh is perfectly incorporated into the matrix by pressing with a spreader or steel roller, and also checking that it comes out between the mesh to ensure optimum adhesion between the first and second layers of matrix and fully impregnates the fibre. Where the sides of two sheets of mesh join, and when additional lengths are added to a strip, the two layers of basalt fibre mesh must overlap by at least 30 cm. Finally proceed, wet-on-wet, with the protective final finishing (thickness 2 - 5 mm) in order to totally cover the strengthening grid and seal any possible voids. If there are additional layers after the first, proceed with laying of the second layer of steel fibre over the matrix while it is still wet, repeating the steps described above.
Allow the surfaces to cure for at least 24 hrs.
If the reinforcing system is installed in especially aggressive environments, or you otherwise wish to ensure additional protection beyond that already provided by the matrix, we recommend applying Geolite Microsilicato on reinforcement systems with Geocalce F Antisismico, Geocalce Multiuso or Geocalce Intonaco.
If the works are in permanent or occasional

Instructions for use

contact with water, the cycles described above must be replaced with a polyurethane epoxy cycle or an osmotic cement depending on the needs of the worksite and the design specifications.
For technical specifications, application, and preparation of the matrix, as well as protective systems adequate for the matrix type, consult the relevant data sheets.

Abstract

Geocalce Multiuso & Geo Grid 120
Execution of anti-collapse protective systems for masonry and for the break-away of floors and false ceilings using an inorganic matrix composite system, realized with a balanced basalt fibre Geosteel Grid 120 mesh with a special alkali-resistant treatment by Kerakoll Spa, net weight of ≈ 120 g/m², mesh size 22x22 mm, with the following certified technical characteristics of the mesh: tensile strength, characteristic value ≥ 1250 MPa; elastic modulus ≥ 56 GPa; ultimate break warp ≥ 2.5%; equivalent thickness of the sheet = 0.023 mm, impregnated with highly breathable and hygroscopic geo-mortar with pure natural hydraulic lime NHL 3.5 and mineral geo-binder Geocalce Multiuso by Kerakoll Spa, to be applied directly on the structure requiring reinforcement.
The procedure is conducted as follows:
1. Possible restoration of degraded, weakened, non-cohesive, or non-planar surfaces;
2. Preparation of the substrate for application of the first layer of Geocalce Multiuso, the substrate must be adequately roughened by sanding or mechanical scarification, taking care to guarantee a roughness of at least 0.5 mm (equal to level 5 of the Test Kit for preparation of reinforced concrete and masonry substrates), clean and dampened;
3. Lay a first layer, an average of ≈ 3 – 5 mm thick of geo-mortar with pure natural NHL 3.5 and geo-binder base, such as Geocalce Multiuso by Kerakoll Spa;
4. While the mortar is still wet, lay the basalt fibre mesh Geo Grid 120 by Kerakoll Spa, and by pressing firmly with a smooth spreader or metal roller, make sure that the sheet is completely impregnated and avoid allowing any gaps or air bubbles to form, because these can compromise the adhesion of the sheet to the matrix or to the substrate;
5. Working fresh on fresh, apply the second layer of geo-mortar, such as Geocalce Multiuso by Kerakoll Spa, until the reinforcing mesh is incorporated and any underlying voids are filled, giving an overall reinforcement thickness of ≈ 5 – 8 mm;
6. Repeat steps (4) and (5) if necessary for all subsequent reinforcing layers called for by the design;
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: removal of any existing plaster/render, restoration of degraded areas and repair of the substrate; connectors, their injection and all the costs and charges required to create them; material acceptance tests; pre- and post-procedure testing, all aids required to perform the work.
The price is by unit of reinforcing surfaces actually laid, including overlaps.

Geocalce Intonaco & Geo Grid 120
Execution of anti-collapse protective systems for masonry and for the break-away of floors and false ceilings using an inorganic matrix composite system, realized with a balanced basalt fibre Geosteel Grid 120 mesh with a special alkali-resistant treatment by Kerakoll Spa, net weight of ≈ 120 g/m², mesh size 22x22 mm, with the following certified technical characteristics of the mesh: tensile strength, characteristic value ≥ 1250 MPa; elastic modulus ≥ 56 GPa; ultimate break warp ≥ 2.5%; equivalent thickness of the sheet = 0.023 mm, impregnated with highly breathable and hygroscopic geo-mortar with pure natural hydraulic lime NHL 3.5 and mineral geo-binder Geocalce Intonaco by Kerakoll Spa, to be applied directly on the structure requiring reinforcement.
The procedure is conducted as follows:
1. Possible restoration of degraded, weakened, non-cohesive, or non-planar surfaces;
2. Preparation of the substrate for application of the first layer of Geocalce Intonaco, the substrate must be adequately roughened by sanding or mechanical scarification, taking care to guarantee a roughness of at least 5 mm (equal to level 8 of the Test Kit for preparation of reinforced concrete and masonry substrates), clean and dampened;
3. Lay a first layer, an average of ≈ 3-5 mm thick of geo-mortar with pure natural NHL 3.5 and geo-binder base, such as Geocalce Intonaco by Kerakoll Spa;
4. While the mortar is still wet, lay the basalt fibre mesh Geo Grid 120 by Kerakoll Spa, and by pressing firmly with a smooth spreader or metal roller, make sure that the sheet is completely impregnated and avoid allowing any gaps or air bubbles to form, because these can compromise the adhesion of the sheet to the matrix or to the substrate;
5. Working fresh on fresh, apply the second layer of geo-mortar, such as Geocalce Intonaco by Kerakoll Spa, until the reinforcing mesh is incorporated and any underlying voids are filled, giving an overall reinforcement thickness of ≈ 5 – 8 mm;
6. Repeat steps (4) and (5) if necessary for all subsequent reinforcing layers called for by the design;

Abstract

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: removal of any existing plaster/render, restoration of degraded areas and repair of the substrate; connectors, their injection and all the costs and charges required to create them; material acceptance tests; pre- and post-procedure testing, all aids required to perform the work.
The price is by unit of reinforcing surfaces actually laid, including overlaps.

Geocalce F Antisismico & Geo Grid 120
Execution of anti-collapse repair systems of masonry structures, made according to the ReLUIS guidelines, and break-away repair systems of floors and false ceilings, using an inorganic matrix composite system, made with the balanced basalt fibre Geosteel Grid 120 mesh with a special alkali-resistant treatment by Kerakoll Spa, with net fibre weight of approximately 120 g/m², mesh size 22x22 mm, with the following certified technical characteristics of the mesh: tensile strength, characteristic value ≥ 1250 MPa; elastic modulus ≥ 56 GPa; ultimate break warp ≥ 2.5%; equivalent thickness of the sheet = 0.023 mm, impregnated with highly breathable and hygroscopic geo-mortar with pure natural hydraulic lime NHL 3.5 and mineral geo-binder Geocalce F Antisismico by Kerakoll Spa, to be applied directly on the structure requiring strengthening.
The procedure is conducted as follows:
1. Any restoration of degraded, weakened, non-cohesive, or non-planar surfaces, using Geocalce G Antisismico or Geocalce F Antisismico by Kerakoll Spa and in any case as prescribed and approved by the construction supervisor;
2. Preparation of the substrate for application of the first layer of Geocalce F Antisismico, the substrate must be adequately roughened by sanding or mechanical scarification, taking care to guarantee a roughness of at least 5 mm (equal to level 8 of the Test Kit for preparation of reinforced concrete and masonry), clean and dampened;
3. Lay a first layer, an average of ≈ 3-5 mm thick of fine-grain, structural, geo-mortar with pure natural hydraulic lime NHL 3.5 and geo-binder base, such as Geocalce F Antisismico by Kerakoll Spa;
4. While the mortar is still wet, lay the basalt fibre mesh Geo Grid 120 by Kerakoll Spa, and by pressing firmly with a smooth spreader or metal roller, make sure that the sheet is completely impregnated and avoid allowing any gaps or air bubbles to form, because these can compromise the adhesion of the sheet to the matrix or to the substrate;
5. Working fresh on fresh, apply the second layer of structural geo-mortar, such as Geocalce F Antisismico by Kerakoll Spa, until the reinforcing mesh is incorporated and any underlying voids are filled, giving an overall reinforcement thickness of ≈ 5 – 8 mm;
6. Repeat steps (4) and (5) if necessary for all subsequent reinforcing layers called for by the design;
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: removal of any existing plaster/render, restoration of degraded areas and repair of the substrate; connectors, their injection and all the costs and charges required to create them; material acceptance tests; pre- and post-procedure testing, all aids required to perform the work.
The price is by unit of reinforcing surfaces actually laid, including overlaps.

Dry fabric technical information		
Appearance	mesh impregnated with protective alkali-resistant treatment	
Nature of material	basalt	
Total mass	≈ 130 g/m²	
Roll width	≈ 1 m	
Roll length	≈ 25 m	
Mesh width	≈ 22x22 mm	
Shelf life	unlimited	
Pack	25 m rolls	
Weight of roll	≈ 3,5 kg (1 roll)	
Dry fabric technical properties		
Medium tensile stress	σ_{wire}	≥ 1250 MPa
Medium elastic modulus	E_{wire}	≥ 56 GPa
Mesh technical characteristics (0° - 90°)		
equivalent thickness of mesh	tf	0,023 mm
tensile load by unit of width	Ff	≥ 30 kN/m
Break warp	εf	≥ 2,5%
Tensile strength	σf	≥ 1600 MPa

Warning

→ Product for professional use
→ abide by any standards and national regulations
→ when handling the mesh, wear protective clothing and goggles, and follow the instructions on how to apply 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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