

MapeGrid G 220

Building Product Information Requirements Compliance Statement

Date: 22/11/2023 (version 1)

Product identifier: **MapeGrid G 220**
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Product Description

MapeGrid G 220 is a primed alkali resistant A.R. glass fibre mesh used in combination with Planitop HDM Maxi (two component ready mixed high ductility pozzolan reaction fibre reinforced cementitious mortar for structural reinforced strengthening of masonry structures) or Planitop HDM Restauro (two component, fibre reinforced natural hydraulic lime (NHL) and eco pozzolan based mortar) for structural strengthening of stone, brick, and tuff masonry structures.

MapeGrid G 220 is part of Mapei FRG system, a complete range of composite materials that uses an inorganic matrix to provide excellent ductility and load distribution throughout the masonry structure. This type of system offers several important advantages when used on buildings of historical or artistic interest. The use of MapeGrid G 220 allows for better distribution of strains caused by cyclic loads.

MapeGrid G 220 is supplied in 1.33 m wide by 50m long rolls packed in cardboard boxes.

Ancillary products with MapeGrid G 220 are given below.

- Planitop HDM Maxi
- Planitop HDM Restauro
- MapeWrap G Fiocco

Please refer to the technical data sheet for areas of use, performance parameters and application procedure for this system.

Or request support at:

www.mapei.com/nz/en/technical-and-commercial-support

MBP (NZ) Ltd.

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WE SUPPLY THE FOLLOWING MAPEI GROUP BRANDS AND SYSTEMS:



Relevant Building Code Clauses

MapeGrid G 220 complies with the following clauses of the New Zealand Building Code:

B1 Structure

B2 Durability

C6 Structural Stability

F2 Hazardous Building Materials: F2.3.1

Contributions to Compliance

- MapeGrid G 220 has been tested with Planitop HDM Maxi and Planitop HDM Restauro for maximum tensile load, ultimate tensile stress, and ultimate tensile strain as per AC 434 by University of Naples.
- Planitop HDM Maxi is classified as an M25 type masonry mortar according to EN 998-2 and as a GP render, category CS IV according to EN 998-1
- Planitop HDM Restauro is classified as an M15 type masonry mortar according to EN 998-2 European Standards and a category CS IV GP type render according to EN 998-1, in that it reaches a compressive strength of > 15 N/mm² (EN 1015-11) even though it is a mortar composed of lime and Eco-Pozzolan.
- During installation, MapeGrid G 220 is sandwiched between 2 layers of Planitop HDM Maxi OR Restauro. Planitop HDM Maxi OR Restauro has a high bonding strength and once hardened forms a tough and compact layer which is impermeable to water and aggressive gases present in the atmosphere. MapeGrid G 220 is an alkali resistant glass fibre grid that exhibits excellent structural properties such as high tensile strength, high thermal stability, resistance to corrosion and chemical resistance.
- A Structural Design Engineer should review the application in conjunction with University of Naples Test report to confirm the suitable structural properties and long-term durability for each specific application. The report is available on request.
- MapeGrid G 220 is made up of glass fibre. It can harm eyes, skin, and lungs. They are harmful if inhaled, therefore proper Personal Protective Equipment should be used during application of MapeGrid G 220. Similarly, cement and lime-based products are hazardous during application, therefore proper Personal Protective Equipment should be worn during the application. Thoroughly read the SDS for both products and follow the safety instructions they contain.
- Once Planitop HDM Maxi OR Restauro is cured it does not release harmful gases or substances when exposed.

- MapeGrid G 220 is embedded between 2 layers of Planitop HDM Restauoro OR Planitop HDM Maxi. Both Planitop HDM Restauoro OR Planitop HDM Maxi has A2-s1, d0 rating for fire as per Euro class EN 13501-1

Scope of Use and Design Requirements

- Designing of strengthening works and their location in the structure should be specifically undertaken by a qualified Structural Engineer.
- FRCM strengthening design on reinforced concrete structures should be undertaken in accordance with ACI 549.4R-13. However, the necessary modifications to ACI 549.4R-13 should be modified to ensure compliance with requirement of NZS 3101:2006 and NZS 1170:2002
- A qualified Structural Engineer must check and confirm the compatibility of the MapeGrid G220 + Planitop HDM MAXI OR Restauoro with other building components in the project.

Conditions and Limitations of Use

- A qualified Structural Engineer must check and confirm the compatibility of the MapeGrid G220 + Planitop HDM Maxi OR Restauoro outside of the information given in the TDS.
- A qualified Structural Engineer should design FRCM strengthening on structures in accordance with ACI 549.4R-13. or an equivalent acceptable Design Standard.
- MapeGrid G 220 + Planitop HDM Maxi OR Restauoro should only be applied by MBP (NZ) Ltd approved applicators who have been trained for application of the Mapei FRCM System.

Supporting Documentation

The following additional documentation supports the above statements:

MapeGrid G220 + Planitop HDM Maxi OR Restauoro - Technical Data Sheet

<https://www.mapei.com/nz/en/products-and-solutions/products/detail/mapegrid-g-220>

MapeGrid G220 + Planitop HDM Maxi OR Restauoro –Test Report

Test Certificate from University of Naples to be made available on request.

Contact Details**Manufacture location**

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Warnings and Bans

MapeGrid G 220 is not subject to a warning or ban under section 26 of the Building Act 2004.

Version History

Version number	Written by	Reviewed by	Date issued	Changes from previous version
VI 24/11/2023	PM	PT	15/03/2024	New document