

## MapeWrap C BI-AX System

### Building Product Information Requirements Compliance Statement

Date: 01/11/2023 (version 1)

Product identifier: **MapeWrap C BI-AX**

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### Product Description

MapeWrap C BI -AX is a high strength bi-directional carbon fibre fabric system when impregnated with epoxy, can be recommended for repairing and increasing the structural capacity of damaged elements and structures in reinforced concrete, masonry, to improve the flexural strength, shear strength. It can also be suggested to upgrade or improve the seismic capacity of structures in high-risk areas.

Its balanced weight characteristics is due to its high modulus of elasticity (comparable to that of steel) with a very high tensile strength by using a complete range of epoxy resin products.

MapeWrap C BI -AX is available in 230 gms/m<sup>2</sup> & 360gms/m<sup>2</sup>, 40cm wide and 50m in length.

There are several ancillary products in MapeWrap C BI-AX

- MapeWrap Primer 1
- Adesilex PG1 or Adesilex PG2
- MapeWrap 31

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](http://www.mapei.com/nz/en/technical-and-commercial-support)

### Relevant Building Code Clauses

The MapeWrap C BI-AX system 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**

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MBP (NZ) Ltd.

Exclusive distributor of Mapei products in New Zealand  
88 Carbine Road, Mt Wellington, Auckland 1060, New Zealand  
T. +64 99211994 | F. +64 99211993 | [www.mbpnz.co.nz](http://www.mbpnz.co.nz)

WE SUPPLY THE FOLLOWING MAPEI GROUP BRANDS AND SYSTEMS:



### **Contributions to Compliance**

- MapeWrap C BI-AX system has been tested for tensile strength and modulus of elasticity as per ASTM D 3039 by University of Naples
- MapeWrap C BI-AX system has been tested for durability by University of Naples for freeze-thaw, moisture resistance as per ASTM D 2247, Resistance to alkaline environments and Resistance to salt environments as per ASTM D 1141
- A qualified Structural Engineer should review the relevant NZ building code clauses stated in this document in conjunction with University of Naples Test report, which will be shared on request by the design engineer to confirm compliance.
- Epoxy Products used in MapeWrap C BI-AX system are hazardous during the application. Therefore, appropriate health and safety precautions should be used during application. Once they are cured and hardened, they are not hazardous and do not give rise to harmful gases or substances when exposed.

### **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.
- FRP Structural strengthening design on reinforced concrete structures should be undertaken in accordance with ACI 440.2-23. However, the necessary modifications to ACI 440.2-23 should be modified to ensure compliance with requirement of NZS 3101:2006 and NZS 1170:2002
- Structural Performance of the MapeWrap C BI-AX system in case of Fire should comply with principles of clause 9.2.1 of ACI 440.2-23.
- The MapeWrap C BI-AX system is a structural strengthening system suitable to restore two dimensional structures such as plates and sheets, vaulted ceilings, and storage tanks without having to consider the exact trend of tensile loads. It can be used for cladding beam -pillar joints to upgrade for seismic activity.
- The MapeWrap C BI-AX system can be used on all types of reinforced concrete building e.g. commercial, residential, education or healthcare buildings.
- Building location can be any wind, snow, seismic or corrosion zones.
- A qualified Structural Engineer must check and confirm the compatibility of the MapeWrap C BI-AX system with other building components in the project.

## **Conditions and Limitations of Use**

- A qualified Structural Engineer should confirm suitability of MapeWrap C BI-AX system for applications outside those detailed on the Technical Data Sheet.
- A qualified Structural Engineer should design the MapeWrap C BI-AX system in accordance with ACI 440.2-23 or an equivalent acceptable Design Standard.
- MapeWrap C BI-AX system should only be applied by MBP (NZ) Ltd approved applicators who have been trained for application of the MapeWrap System.

## **Supporting Documentation**

The following additional documentation supports the above statements:

### **MapeWrap C BI-AX - Technical Data Sheet**

<https://www.mapei.com/nz/en/products-and-solutions/products/detail/mapewrap-c-bi-ax>

### **MapeWrap C BI-AX system – Test Report from University of Naples**

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

## **Contact Details**

### **Manufacture location**

Mapei SpA  
Via Cafiero, 22, 20158  
Milano, Italy  
Tel +39 023 76731  
[mapei@mapei.it](mailto:mapei@mapei.it)  
[www.mapei.it](http://www.mapei.it)

### **Importer NZ Address for Service**

MBP (NZ) Ltd  
88 Carbine Road  
Auckland 1060  
Tel 09 921 1994  
[www.mbpltd.co.nz](http://www.mbpltd.co.nz)  
[enquiries@mbpltd.co.nz](mailto:enquiries@mbpltd.co.nz)  
Importer NZBN: 8080877

**Warnings and Bans**

MapeWrap C Quadri-AX is not subject to a warning or ban under section 26 of the Building Act 2004.

**Version History**

<b>Version number</b>	<b>Written by</b>	<b>Checked by</b>	<b>Date issued</b>	<b>Changes from previous version</b>
VI 01/11/2023	PM	PT	17/05/2024	New document