

Carboplate W System

Building Product Information Requirements Compliance Statement

Date: 26/10/2023 (version 1)

Product identifier: **Carboplate W System**

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Product Description

Carboplate W System is pultruded carbon fibre plates, with high tensile strength and modulus of elasticity to be used for flexural strengthening of load bearing reinforced concrete structures. The Carboplate W system is adhered using epoxy adhesives, on primed and levelled reinforced concrete members that require flexural strengthening. Carboplate W can be used for seismic upgrading of reinforced concrete members such as beams, floor slabs, decks of viaducts etc.

Carboplate is available in different widths with three modulus of elasticity (170, 200 & 250GPa)

- Carboplate E170 W - 170 GPa
- Carboplate E200 W – 200GPa
- Carboplate E250 W – 250 GPa

There are several ancillary products in Carboplate W System

- Adesilex PG1 or Adesilex PG2
- MapeWrap Primer 1 or MapeWrap Primer 1SP
- Vagalighther
- Mapelastic Guard

Carboplate W is available in 25m and 100m rolls. Standard widths are 50mm, 100mm & 150mm.

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

Alternatively 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

Carboplate W system complies with the following clauses of the New Zealand Building Code:

B1 Structure - B1.3.1, B1.3.2, B1.3.3 (a,b,f), B1.3.4

B2 Durability - B.2.3.1 (a)

C6 Structural Stability - C6.2, C6.3, C6.4

F2 Hazardous Building Materials: F2.3.1

Contributions to Compliance

- Carboplate W has been tested for tensile strength as per EN 13706-1-2-3 by University of Naples to obtain certificate of Technical Assessment (CVT) N° 110/2022 CLASSES C150/230 – C200/1800 – C200/1800
- Carboplate W has been tested for durability by University of Naples for freeze-thaw, moisture resistance as per ASTM D 2247, Resistance to alkaline environments -ASTM D 7705 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 to the design engineer to confirm compliance.
- Epoxy Products used in the Carboplate W system are hazardous during mixing and application. Therefore, appropriate health and safety precautions should be used during application including the use of Personal Protective equipment. Once they are cured and hardened, they are not hazardous and do not give rise to harmful gases or substances when exposed.
- Structural performance of the Carboplate W System in the case of fire complies with the principles of clause 9.2.1 of ACI 440.2-23.

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 employed to ensure compliance with requirement of NZS 3101:2006 and NZS 1170:2002
- Structural performance of the Carboplate W System in the case of fire should comply with principles of clause 9.2.1 of ACI 440.2-23.
- Carboplate W system can be used on many types of reinforced concrete structures such as commercial and residential buildings and bridges.
- Building locations may be any wind, snow, seismic or corrosion zone.
- A qualified Structural Engineer must check and confirm the compatibility of the Carboplate W system with other building components in the project.

Conditions and Limitations of Use

- A qualified Structural Engineer should confirm the suitability of the Carboplate W System for applications outside those stated on the Technical Data Sheet.
- A qualified Structural Engineer should design the Carboplate W System in accordance with ACI 440.2-23 or an equivalent acceptable Design Standard
- The Carboplate W System should only be applied by MBP (NZ) Ltd approved applicators who have been trained in installation by MBP (NZ) Limited

Supporting Documentation

The following additional documentation supports the above statements:

Carboplate W System - Technical Data Sheet (8459-5-2023)

<https://www.mapei.com/nz/en/products-and-solutions/products/detail/carboplate-w>

Carboplate W System – CVT Report

Certificate of Technical assessment can be made available on request.

Contact Details**Manufacture location**

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Warnings and Bans

Carboplate W is not subject to a warning or ban under section 26 of the Building Act 2004.

Version History

Version number	Written by	Checked by	Date issued	Changes from previous version
VI 26/10/2023	PM	PT	17/05/2024	New document