

## Planitop Smooth & Repair R4 Zero

### Building Product Information Requirements Compliance Statement

Date: 18/10/2023 (version 1)

Product Name: **Planitop Smooth & Repair R4 Zero**

Product identifier: **Planitop Smooth & Repair R4 Zero**

#### **Product Line**

Planitop Smooth & Repair R4 Zero is a structural R4 class (EN 1504), rapid setting, shrinkage compensated, thixotropic, fibre reinforced, cement-based repair mortar, for repairing and smoothing of concrete.

#### **Product Description**

Planitop Smooth & Repair R4 Zero is a fast setting, thixotropic, R4 class structural repair mortar, reformulated for excellent fatigue behaviour to give the repaired structures a high level of resistance to cracking when subject to dynamic loads induced during normal services conditions. This characteristic along with EN 1504, helps increase durability of the structural members restored using Planitop Smooth & Repair R4 Zero. The use of recycled materials, low clinker cement and cement replacements has helped in reducing CO2 emissions.

Planitop Smooth & Repair R4 Zero can be applied by trowel in thicknesses ranging from 3mm to 40mm to repair and smooth concrete.

Planitop Smooth & Repair R4 Zero is available in 25 kg bags.

Ancillary products used with Planitop Smooth & Repair R4 Zero include:

- Mapefer 1K Zero - corrosion inhibitor for reinforcement bars and adhesion improver for concrete repair mortars
- Mapecure SRA - curing admixture to reduce hydraulic shrinkage
- Mapetard ES - retarding admixture for increasing setting time

Please refer to the TDS for areas of use, performance parameters and application procedure for this product. Or request support at:

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

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WE SUPPLY THE FOLLOWING MAPEI GROUP BRANDS AND SYSTEMS:



**Relevant Building Code Clauses**

- B1 Structure
- B2 Durability
- C6 Structural Stability
- F2 Hazardous Building Materials: F2.3.1

**Contributions to Compliance****B1 Structure, B2 Durability and C6 Structural Stability**

- Planitop Smooth & Repair R4 Zero complies with the principles defined in EN 1504-9 (“Products and systems for protecting and repairing concrete structures: definitions, requirements, quality control and conformity assessment. General principles for the use of products and systems”) and the minimum requirements of EN 1504-3 (“Structural and non-structural repairs”) for structural R4-class mortars and the requirements of EN 1504-2 coating (C) according to principles MC and IR (“Concrete surface protection systems”)
- A suitably qualified Structural Design Engineer should specify this product based on the structural requirements of the degraded concrete structure.
- A Structural Design Engineer should review the NZ Building code clauses with reference to EN 1504-3, SAA/SNZ HB84:1996 and NZS 3101:2006 to confirm compliance for each specific application.
- Planitop Smooth & repair R4 Zero has an A1 rating for Fire as per euro class EN 13501-1

**F2 Hazardous Building Materials: F2.3.1**

- Planitop Smooth & Repair R4 Zero contains a mix of cement, sand, fibres, and additives. When the product is being applied it therefore has the same hazards as fresh concrete and appropriate health and safety precautions should be undertaken. Read the products Safety data Sheet and wear the required personal protective equipment. Once this product is set and hard Planitop Smooth & Repair R4 Zero is a non-hazardous product and does not emit any harmful gases or substance.

**Scope and Design Requirements**

- Specification of Planitop Smooth & Repair R4 Zero should be specifically undertaken by a qualified structural engineer after identifying the cause of degradation of the concrete structure/member and by selecting the relevant concrete repair mortar to meet the performance parameters for restoration.
- Specification should comply with the requirements of EN 1504-3, SAA/SNZ HB84:1996, NZS 3101:2006.
- A qualified structural Engineer should check and confirm the compatibility of the product with other building components.

**Conditions and Limitations of Use**

- To avoid shrinkage when Planitop Smooth & Repair R4 Zero is curing in open air, Mapecure SRA, a special admixture which has the property of reducing both plastic and hydraulic shrinkage, should be used.
- Do not add water to the mix once it starts to set to make it workable.
- Planitop Smooth & Repair R4 Zero should not be applied on smooth surfaces, roughen the surface thoroughly and add rebars if necessary.

**Supporting Documentation**

The following additional documentation supports the above statements:

**Planitop Smooth & Repair R4 Zero - Technical Data Sheet**

<https://www.mapei.com/nz/en/products-and-solutions/products/detail/planitop-smooth---repair-r4-zero>

**Planitop Smooth & Repair R4 Zero - Safety Data Sheet**

<https://www.mapei.com/nz/en/products-and-solutions/products/detail/planitop-smooth---repair-r4-zero>

**Contact Details****Manufacture location**

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**Warnings and Bans**

Planitop Smooth & Repair R4 Zero 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>
V1 13/10/23	PM	PT	2/11/2023	New document