



# TECHNICAL DATA SHEET

## 1.6 MAINTENANCE AND REPAIR



### ► Rhona M-311

R3 Structural repair mortar  
2133 / Version 6 / 14-02-2024



## DESCRIPTION

RHONA M-311 is a structural repair mortar based on Portland cement, selected aggregates, special fillers, chemical additives, fibres and polymers, which provides high compatibility with the concrete to correctly repair it. Respond all the requirements established in the "GREEN BUILDING", offering the highest possible score for BREEAM and / or LEED certifications.

## PROPERTIES

- It may be projected by a wet process in order to achieve a faster completion of the work.
- Resistant to abrasion
- Compensated retraction. Large surfaces can be repaired without retraction.
- Can be applied without formwork on vertical surfaces and ceilings.
- Excellent adhesion to cement and concrete.
- Low permeability. Producing excellent protection against carbon dioxide and chloride ions.
- Good protection for the metal structure of the formwork due to its alkaline nature.
- CLASSIFICATION: R3

## USES

RHONA M-311 is indicated for repair of both large and small areas of concrete, permanent repair of any type of concrete and masonry. It is also indicated for areas in which excellent thermal compatibility with the concrete and low retraction are required. Also, areas where high resistance to chlorides and carbon dioxide is required.

## TECHNICAL DATA

|   |   |
|---|---|
| Appearance  | Powder grey   |
| Finish  | Textured  |
| Mixed mortar density (Kg/L)   | 2   |
| % Mixing water  | 20 - 25   |
| pH  | 12.5 - 13.5   |
| Shore Hardness  | 85  |
| Useful life of mixture  | 40 - 60 min   |
| Setting time (20 °C)  | 65 - 70 min   |
| Drying time (2 mm thickness and 20°C)                               | Concrete: 7 - 8 h<br>Paint: 7 - 8 h   |
| Resistance to compression (UNE -EN 13892-2:2003) N/mm2              | Class R3  |
| Determination of chloride content (UNE-EN -1015) %                  | 0.05  |
| Determination of shrinkage and expansion (UNE-EN 12617-4:2002) Mpa. | 1.5   |
| Determination of resistance to carbonation (UNE-EN 13295-2005)      | Pass  |
| Adhesion to concrete substrate (MPa)                                | 1.9   |
| Ice-thaw cycles with immersion in thawing salts (EN13687-1)(MPa)    | 1.5   |
| Maximum thickness per layer   | 3 - 50 mm   |
| Cleaning of utensils and stains                                     | With water before drying. If the product hardens, it can only be removed mechanically.  |
| Volatile Organic Compounds (COV).                                   | Maximum product content 0,00 g/l,   |
| Usage   | s plastering: 1.5 – 1.9 Kg/m2/mm thick<br>Coverage of a 12 mm thick bar: 200 g/m linear |



## 1.6 MAINTENANCE AND REPAIR

### ► Rhona M-311

R3 Structural repair mortar

2133 / Version 6 / 14-02-2024

## HOW TO APPLY

- The surface must be intact, clean, consistent and free from dust, grease, oil, micro-organisms and any other material that could affect the products correct adhesion to the surface.

## SURFACE AND AMBIENT CONDITIONS

### AMBIENT TEMPERATURE:

Never apply below 5°C or above 37°C.

### AMBIENT CONDITIONS:

The paint should not be applied under conditions of excessive sunlight, strong winds, or if rain is forecast.

## SURFACE PREPARATION

### UNPAINTED SURFACES:

#### Concrete:

- The perimeter of the area to be repaired must be delimited, using a disc, to a minimum depth of 10 mm. Rusted reinforcements must be completely uncovered, removing loose scale and rust deposits. For the correct cleaning of the product the use of a sand jet is recommended. If corrosion is due to the presence of chlorides, the reinforcements should be treated with pressure water jets and immediately after they should be sprayed with sand.

## POSSIBLE APPLICATION SYSTEMS

**FILLING AND REPAIR:** The exposed reinforcements must be held firmly in order to prevent them from moving again when applying the mortar, given that this could affect the correct screeding. It must be applied manually on the prepared surface. Compact the product over the primed substrate with RHONA A-200 and around the reinforcement. It can be applied both with or without formwork. In applications on horizontal supports, maximum thicknesses of 15 mm should be applied, if greater thicknesses are desired, the use of successive layers is recommended. The material must not be used for thicknesses of less than 3mm. In the case of flaking due to excess material, the material should be completely removed and a thinner layer should be applied on the primed surface again. **FINISHES:** The finish is achieved by rendering the surface and subsequently using a metal trowel to close the pores. Other, softer trowels can be used (wood, plastic, etc.) as well as a damp sponge to achieve the desired texture.

### PRIMERS:

- Rhona A-200: adhesive bond for new mortar on old. Yield: 0.1 - 0.2 kg/m<sup>2</sup>. Coats: 1

### FINISH RHONA M-311:

- Yield: 1.5-1.9 kg/m<sup>2</sup>/mm
- Coats:

## SAFETY

Consult the current safety data sheet for safe handling (Section 8.2). Unsuitable for children. Keep out of the reach of children. Do not place painted surfaces into the mouth.

## REMOVAL

Take the necessary measures to ensure waste is kept to an absolute minimum. Analyse all possible methods for reuse or recycling, in line with the local and national legislation in force. Take the necessary measures to ensure waste is kept to an absolute minimum. Analyse all possible methods for reuse or recycling. Do not pour down drains or into the environment. Dispose of the product at an authorised waste disposal site or through an authorised waste management company. Waste must be handled, stored and disposed of pursuant to current local- national legislation.

## STORAGE

See storage conditions indicated in section 7.2 of the current safety data sheet. Store the containers away from high temperatures, direct exposure to the sun and frost. Maximum recommended storage time: 12 months from manufacture in fully sealed original container, indoors and at temperatures between 5° and 35° C.

# TECHNICAL DATA SHEET

## 1.6 MAINTENANCE AND REPAIR

### ► Rhona M-311

R3 Structural repair mortar

2133 / Version 6 / 14-02-2024

### LEGAL TEXT NOTE

This information and, in particular, the recommendations regarding the application and final use of the product, are given in good faith, based on the current knowledge and experience of Isaval Paints of the products when they are properly stored, handled and applied, in normal situations, within its useful life, according to the recommendations of Pinturas Isaval. In practice, the possible differences in the materials, supports and actual conditions at the place of application are such that it cannot be inferred from the information in this document, no any other written recommendation, neither any advice offered, will insure the guarantee in terms of marketing or suitability for particular purposes, neither any obligation outside of any legal relationship that may exist. The user of the products must carry out the tests to verify their suitability according to the use they want to give. Pinturas Isaval reserves the right to change the specifications of its products. The property rights of third parties must be respected. All orders are accepted according to the terms of our current General Conditions of Sale and Supply. Users should know and use the latest and updated version of the local Product Data Sheets, a copy of which will be sent to whoever requests them, or can also be obtained on the page "www.isaval.es". Data on this Sheet are based on laboratory tests. The measures taken "on site" may vary due to circumstances beyond our control.