



PC-Conrend®MC 2

Dual shrinkage compensated, flowable micro concrete for concrete repairs

PC-Conrend®MC2 micro concrete pourable mortar is a superior quality, high-strength formulation designed for structural concrete repairs, as well as general-purpose repairs. It is highly flowable and can be applied in thicknesses ranging from 25mm to 200mm. **PC-Conrend®MC 2** is an excellent choice for achieving a robust, long-lasting structural repair that blends seamlessly with the host concrete.

FEATURES

When considering repair needs, it's worth exploring factory-made pourable mortar, which offers several advantages:

- No vibration required
- Pumpable with ease
- Easy to mix and apply
- Exhibits exceptional flow characteristics
- Rapid strength development
- High ultimate strength
- Resistant to impact
- Non-corrosive
- Non-toxic
- Dual-stage expansion creates dense and non-shrink concrete
- Iron and chloride-free
- Provides good bonding with existing concrete
- Consistency can be controlled by regulating water within the recommended limit.

PRODUCTS PROPERTIES

Physical Properties	Typical Value
Appearance	Grey powder
Composition	Portland cement, selected fillers and aggregates, special additives
Water to powder ratio	0.16
Tensile strength in flexure	≥ 8 N/mm ² 7 days, ≥ 9 N/mm ² 28 days
Splitting tensile strength	≥ 3.5 N/mm ²
Expansion	Up to 4 %
Compressive strength (ASTM C109 76cm cube)	25 mpa 24 hours
	45 mpa 7 days
	65 mpa 28 Days
Density	Approx. 2250kg/m ³
Processing Conditions	≥+5 - ≤+35 °C
Pot Life	20 minutes (water : powder = 0.15, +30 °C)
EarlyExpansion	1 - 2%
Mixing water per 25kg bag	Approx. 3.25 - 3.75 litres
Yields	3.5L of water yields 12.5L
Application temperature substrate material	+5 to +40°C
	+5 to +30°C

USES

PC-Conrend®MC 2 is a superior material for both horizontal and vertical structural repairs where the thickness of the repair is more than 25mm and the usage of pourable mortar is preferred over hand or machine applied repair systems. This material is commonly used for the following applications:

- Comprehensive repairs of structural elements such as beams and columns
- Repair of structural members that are subjected to repetitive loading
- Jacketing of beams, columns, and other structural elements to enhance their strength.

Deep repairs to all concrete structures such as:

- Highway bridges and culverts
- Wharves and jetties
- Tunnels and mines
- Dams and reservoirs
- Car parks and basements
- Power stations
- Sewerage and water treatment structures

SURFACE PREPARATION

When repairing concrete, it's crucial to ensure that any loose concrete or mortar, dust, grease, oil, or other contaminants are entirely removed. For optimal bonding, it's recommended that damaged or contaminated concrete be extracted to reveal an aggregate-exposed surface. Non-impact or vibrating cleaning methods, such as grit or high-pressure water blasting, are the most effective.

To create a vertical edge, cut the repair's edges to a minimum depth of 20 mm. It's essential to clean all exposed reinforcement to a minimum level of Sa 2, following ISO 8501-1 / ISO 2944-4 standards, and clear the reinforcing bar's back.

In the case of corroded reinforcing bars, remove the concrete at least 20mm behind the bars and apply **PC-Conrend®ZRP** to both old and new surfaces for corrosion protection. Use grit blasting to remove corrosion products around the reinforcing bars. If grit blasting results in a reduction of the original diameter of the reinforcing bar by more than 20%, seek guidance from the project's structural engineer. Replace the affected portion of the reinforcing bar as necessary.

FORM WORK

To achieve optimal results, the forms must meet certain specifications. Specifically, they should be of high quality and coated with a chemical release agent, such as **PC-Releaseoil® LP** to ensure a smooth release. It is also important that the forms contain water drain holes, sturdy bracing, and are capable of withstanding the pressure of the fluid mortar until it solidifies.



MIXING

To achieve the best results when mixing **PC-Conrend®MC 2**, it's important to use only full bags and a forced action pan mixer or a low-speed mixer with a helical paddle. Mix for three minutes until the texture is consistent, lump-free, and flowable. Use only clean water at a recommended ratio of 3.25 to 3.75 liters per 25kg bag. Let the mortar stabilize for 2-3 minutes before mixing briefly and pouring into formwork. If the temperature exceeds 40°C, use chilled water.

MORTAR PLACING

To ensure optimal curing, maintain minimum temperatures during application and for 24 hours after. Pre-soak the prepared substrate, remove water from the formwork before installation, and pour or pump **PC-Conrend®MC 2** until the void is filled. Avoid vibration to prevent segregation. Remove formwork after 1-3 days and apply a curing compound. For subsequent coats, use clear Polythene for three days. For repairs exceeding 80-100mm, extend with up to 25kg of high-density aggregates. Consult a local PC-WC representative for further advice.

PROTECTIVE COATINGS

It is recommended to apply subsequent coatings of anti-carbonation barriers or silane impregnations in accordance with the corresponding data sheets.

CURING

For **PC-Conrend®MC 2**, it's recommended to cure it post formwork removal by utilizing **PC-Buildcure®WB**.

PACKAGING

PC-Conrend®MC 2 is available in 25kg bags.

SHELF LIFE

9-12 Months from date of Manufacture if stored in Unopened Packaging. Protect from Rain, Direct Sunlight, Heat and Frost.

CLEANING OF EQUIPMENT

It's crucial to clean all tools and application equipment with water immediately after use. If materials are allowed to harden or cure, they can only be removed through mechanical means.

HEALTH AND SAFETY

To obtain complete information on health and safety hazards and the proper handling and usage of this product, kindly acquire a copy of the PCWC Material Safety Data Sheet (MSDS) from our office or website.



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TECHNICAL DATA SHEET UPDATED IN
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TDS/PC-CONREND®MC 2/20

All technical data in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

The information, particularly the recommendations relating to the application and end-use of PC-WC products, are given in good faith based on PC-WC's current knowledge and experience of the products when properly stored, handled and applied under normal conditions by PC-WC recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or any other advice offered. The user must test the product's suitability for the intended application and purpose. PC-WC Global FZ-LLC reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Our technical assistance is at the disposal of the users. Consult the latest update of the technical data sheet on our [website www.pc-wc.com](http://www.pc-wc.com)