

# PCC Filling Mortar 803

PCC-Füllmörtel 803

**Single-component, cement-bonded  
repair mortar for fractured areas with depths up to 40 mm**

## Properties

Single-component, polymer-modified, cement-bound repair mortar. Highly alkaline, contains no corrosion-promoting components, with outstanding adhesive strength and specially formulated for the repair of concrete elements with regard to adhesive strength, inherent strength, shrinkage, elasticity, etc. Easy to apply and poses no problems even when working overhead or when employing the wet spray process. Fractured areas up to max. 30 mm can be filled in a single step.

## Field of Application

As repair mortar in the Brillux Concrete Protection System for repairing and reprofiling concrete elements on facade surfaces or floor surfaces, parapets, upper edges, undersides.

## Material description:

**Standard color:** Gray

**Base material:** Cement mortar, polymer-modified (PCC)

**Grain:** 0.1-2 mm

**Fresh mortar bulk density:**  
approx. 2.16 kg/dm<sup>3</sup>

**Compressive strength:**  
approx. 60 N/mm<sup>2</sup> after 28 days

**Flexural strength:**  
approx. 9 N/mm<sup>2</sup> after 28 days

**Adhesive tensile strength:**  
> 2.0 N/mm<sup>2</sup> after 28 days

**Modulus of elasticity (static):**  
approx. 34,500 N/mm<sup>2</sup> after 28 days

**Layer thickness (hand application):**

at least: 6 mm

maximum: 30 mm, single-layer  
or up to 40 mm, multi-layer

**Packaging:** 25 kg/sack

## Use

### Addition of water

Approx. 3.0 liters of water per 25 kg sack.

For cement-bound materials, slight deviations in the water requirement may arise.

### Mixing ratio

100 parts by weight of PCC  
Coarse Mortar 802 to 12 parts  
by weight of water.

Ensure thorough, clump-free mixing.

## Compatibility

Do not mix with other types of materials as this may negatively affect the product-specific properties.

## Mixing

Pour approx.  $\frac{3}{4}$  of the clean, cold mixing water into a clean container, add PCC Filling Mortar 803 in the specified mixing ratio and stir to achieve a homogeneous, clump-free material; stir for approx. 3 minutes. Add the remainder of the water while the mixer continues to run, and then continue mixing for approx. 2 more minutes. Allow the mixture to stand for a short time. Use a slowly turning positive mixer (max. 200 rpm), e.g. Collomix Stirrer CX 22 Duo art. No. 1773. Manual mixing with a simple stirring rod is not sufficient.

**Application****Hand application**

Apply PCC Filling Mortar 803 with trowel into the still damp PCC Basis Protection 801 (bonding bridge) and compact well. For deeper fractured areas, pre-apply PCC Coarse Mortar 802 or apply in multiple layers. To apply additional layers, wait approx. 4 hours and leave the mortar rough. Use supplemental formwork according to the accepted principles of construction. If layering over with PCC Fine Filler 804, also leave the filling mortar rough instead of smoothing it.

**Machine application (spray application)**

When applying by machine, unlike processing by hand, the reinforcing steel must be coated three times with PCC Basis Protection 801 as corrosion protection coating. The application of a bonding bridge is not required for spray application. The concrete substrate must be sufficiently rough (the grain texture must be visible) and must be sufficiently pre-wet – until the absorptive capacity is exhausted (remove excess water). The concrete must be matt moist at the time of application.

As an alternative to the mixing described above, we recommend use of a powerful continuous mixer, e.g. the Wagner T25K or PFT HM2. The application by machine takes place as a wet spray process using suitable spiral pumps with adjustable delivery rate, e.g. Wagner PC35, PFT N2V or PFT F U 400 in combination with a reprofiling spray lance.

The surface roughness and the rebound of the mortar are controlled at the nozzle by means of air regulation. For compressed air support, we recommend a compressor with an air capacity of at least 5 m<sup>3</sup>/min at a pressure of 5 bars. Hold spray nozzles (10 mm) as perpendicular to the surface as possible at a distance of approx. 50 cm.

Spray application results in a very low mortar surface roughness, meaning that smoothing is generally not required. If necessary, smooth the PCC Filling Mortar 803 after application (after waiting approx. 1 – 3 hours) with a stainless steel smoothing trowel and without applying pressure. For two-layer application, leave the first sprayed layer rough, and wait approx. 3 hours before applying the second layer. For a single-layer spray application, layer thicknesses up to 30 mm can be applied, for multi-layer application, each layer may be up to max. 20 mm thick.

**After-treatment**

The mortar surfaces must be protected against excessively rapid water evaporation. Water-blocking coverings, such as jute sheets or tarpaulins are suitable for this. Just after application, protection against frost and driving rain is also required.

**Processing time**

At +5 °C approx. 90 minutes,  
at +23 °C approx. 45 minutes,  
at +30 °C approx. 30 minutes.  
Do not further dilute or process material that has already hardened or is in the hardening phase.

**Consumption**

Approx. 2.0 kg/m<sup>2</sup> dry mortar per mm of layer.

**Application temperature**

Only process at an air, substrate and material temperature of at least +5 °C and no more than max. +35 °C. The temperature range must be complied with even during the curing time.

**Tool cleaning:**

Clean tools immediately after use with water.

**Drying (+20 °C, 65 % relative humidity)**

For reworking with PCC Fine Filler 804, allow a drying time of approx. 24 hours.

**Storage**

Store in a cool, dry place protected against moisture. Can be stored at least 9 months in unopened original container.

**Declaration**

Heed the warnings and safety advice provided on the container and in the Safety Data Sheet.

**Water pollution classification**

Class 1, according to VwVwS.

**Product code**

ZP1.

Comply with the specifications in the current Safety Data Sheet.

## Coating build-up

### Surface preparation

The substrate must be stable, clean, load-bearing and free of efflorescence, sinter layers, old coatings, separating agents, corrosion-promoting materials or other intermediate layers that could interfere with bonding. In addition, the substrate must be sufficiently rough.

Corroded steel must be exposed and thoroughly de-rusted according to surface preparation level Sa 2½ in accordance with DIN EN ISO 12944, Part 4. The substrate must satisfy technical building standards and exhibit an adhesive tensile strength of at least 1.5 N/mm<sup>2</sup> on average after substrate pre-treatment.

In consideration of the individual site conditions, the following procedures are suitable for substrate pre-treatment of concrete surfaces: sanding, rotary grinding, high pressure water blasting and compressed air blasting with solid blasting material. Also refer to VOB Part C, DIN 18363, Section 3.

## Reprofiling with PCC Filling Mortar 803 (manual application)

Substrate	Corrosion protection	Bonding bridge	Reprofiling
De-rusted steel (Sa 2½)	2x PCC Basis Protection 801	1x PCC Basis Protection 801	Depending on depth, one or more layers with PCC Filling Mortar 803
Prepared, matt moist concrete			

## Reprofiling with PCC Filling Mortar 803 (spray application)

Substrate	Corrosion protection	Bonding bridge	Reprofiling
De-rusted steel (Sa 2½)	3x PCC Basis Protection 801	n/a	Depending on depth, one or more layers with PCC Filling Mortar 803
Prepared, matt moist concrete	n/a		

## Notes


### Expert planner

An expert planner must be hired for the evaluation and planning of the protection and maintenance work.

### Further information

Follow the information on the Data Sheets of the products used.

**CE mark**

 <b>0921</b> <hr/> Brillux GmbH & Co. KG Weseler Straße 401 D-48163 Münster Werk 3.1 09 <hr/> 0921-CPR-2047 0803-1504-01 <hr/> EN 1504-3:2005 <hr/> Concrete repair product for structural repair EN 1504-3:ZA.1a	
Compressive strength	Class R4
Chloride ion content	≤ 0.05%
Adhesive bond	≥ 2.0 MPa
Restrained shrinkage/expansion	≥ 2.0 MPa
Carbonatization resistance	KLF / NPD <sup>1)</sup>
Modulus of elasticity	≥ 20 Gpa
Reaction to fire	Class E

KLF – “keine Leistung festgestellt”

NPD – “No Performance Determined”

<sup>1)</sup> For concrete repair according to EN 1504-3, a carbonatization protection system according to EN 1504-2 must also be applied.

**Remark**

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