

Technical data sheet



Uses

- as repair mortar for concrete surfaces
- as thin smoothing or re-surfacing and leveling mortar on concrete surfaces
- for interior and exterior use

Advantages

- repair and smoothing mortar in one product
- for high layer thickness
- high mechanical strengths



Polymer-modified concrete repair mortar R4 / M2 / PCC and thin re-surfacing mortar

Fields of application

weber.rep R4 duo is a combination product which is used as structural repair mortar and as fairing coat mortar.

As structural repair mortar it is used as for the repair / re-profiling of worn-out reinforced concrete structures (vertical and overhead without formwork) and other concrete surfaces and for increasing concrete cover in layer thickness from 2 mm up to 50 mm and more.

As fairing coat / resurfacing mortar it is used in layer thickness from 2 mm up to 10 mm for:

- leveling new and old concrete surfaces, infilling surface imperfections
- making good concrete honeycombs, pinholes, blow holes and filling small holes, voids and pores
- leveling of patched concrete repairs

The mortar is also suitable as patching mortar for inclined slopes up to 50 mm thickness, e.g. on cantilever slabs of balconies. Together with **weber.tec 771** (paint) or **weber.tec 772** (coating) it fulfills the requirements of "Bauregelliste A, T.2, according to DAfStB-Rili as a surface protection system OS-C resp. OS-D II, as well OS-4 resp. OS-5 according to DIN V 18026.

For interior and exterior use

Description

weber.rep R4 duo is a single-component, polymer-modified high-build dry mix mortar of class R 4, according to EN 1504-3. It fulfills the requirements of mortar group M 2 according to DAfStB-Rili and is suitable for application as PCC II mortar according to TL-BE-PCC of ZTV-ING.

weber.rep R4 duo is together with **weber.rep KB duo** part of a system which is tested according to ZTV-ING and DAfStB-Rili (test certificates). Official German approval AbP n° P-5268/005/14-MPA BS.

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Composition

Cement, mineral additives, polymers, regulating additives

Main features

- easy application
- very good non-sag property
- high mechanical strengths
- low shrinkage and low residual stress
- fine-graded surface
- permeable to water vapor

Quality control

weber.rep R4 duo is subject to a regular internal and external quality control.

Technical data

Thickness	up to 50 mm (in one layer); > 50 mm in 2 layers
Application temperature	+5°C up to +30°C
Tensile strength	> 8 N/mm ²
Compressive strength	> 45 N/mm ²
Bonding strength	≥ 2 N/mm ²
Density of fresh-mixed material	approx. 2.1 kg/dm ³
Bulk density powder	approx. 1.6 kg/dm ³
Pot life	approx. 45 minutes
Clean-up	water (fresh product); after hardening, only by mechanical ways

General notices

- Limits of use: **weber.rep R4 duo** is not suitable on lightweight blocks or bricks, and cannot be used as patching mortar on large-size horizontal concrete areas.
- All figures given in this data sheet are based on a temperature of +20°C without draught and a relative rate of humidity of 60%.
- Do not spray water onto the fresh mortar.
- Protect the area for quick drying due to impact of heat and draught for at least 3 days by keeping it humid and using foils.
- Protect also from frost for at least 3 days.
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Specific notices

- Do not mix with other products.
- In case of existing concrete cover > 20 mm resp. > 40 mm, depending on the exposure classes (EN 206) the application of the corrosion protection **weber.rep KB duo** is not necessary.
- For application in thin layers up to approx. 25 mm thickness beyond the scope of EN 1504 mix **weber.rep R4 duo** in brush consistency and apply it as bond coat on the pre-wetted and dull-moist substrate. Afterwards apply **weber.rep R4 duo** "wet-in-wet" up to the maximum thickness.
- For application in static not-relevant areas, where EN 1504 is not requested, no bonding layer and in case of an existing

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- concrete cover > 20 mm no additional application of the corrosion protection is necessary as welly. In this case apply a pore-sealing scratch layer of **weber.rep R4 duo** on the pre-wetted and dull-moist surface and afterwards the reprofiling mortar in the requested thickness on the fresh scratch layer.
- An application of one of the **weber.tec** surface protection systems (paint **weber.tec 771** or coating **weber.tec 772**) is recommended to increase the protection against carbonation and thaw salt impact.

Preparation of substrates

As concrete repair mortar

- The substrate must be clean, absorbent, load-bearing, rough and free of all adhesion-impairing substances.
- Bonding strength of surface > 1.5 N/mm²
- Appropriate substrate treatment is milling, and afterwards sand-blasting.
- Protect reinforcement bars from corrosion by application of **weber.rep KB duo** two times.
- After hardening of corrosion protective coating the whole concrete area and all broken parts must be intensively pre-wetted; let dry till they are dull-moist. Avoid puddles.

As thin resurfacing mortar

- The substrate must be clean, absorbent, load-bearing, rough and free of all adhesion-impairing substances.
- Bonding strength of substrate > 1.3 N/mm²
- Pre-wet the substrate several times; it must be dull-moist before application of the mortar. Avoid puddles.

Working instructions

Mixing

- Mix the content of a bag with 14.5% of water (2.9 liters per 20 kg dry mortar) until lump-free.
- First pour the water, then the powder step by step.
- Mix 3 minutes, intensively, with a force-action mixer or a slow-running electric drill with stirrer **weber.sys Rührpaddel n° 2**.
- After a ripening time of 2 minutes mix again shortly.
- Adjust the consistency if necessary with additional water of 1% (0.2 liter per 20 kg dry mortar) when using it as a thin resurfacing mortar.

Application as concrete repair / reprofiling mortar

- Measure the application area so that the concrete repair mortar is always applied on the fresh bonding layer before a skin starts to form. Therefore the bonding layer and the concrete repair mortar should be mixed at the same time.
- Apply the mortar by hawk or flat trowel whilst the bonding layer **weber.rep KB duo** is still tacky and compact the mortar well into place, ensuring no air is trapped.
- Deep broken areas should be closed in several layers (approx. 50 mm per layer). Waiting time between each application: approx. 12 hours. In case of application in 2 layers (total thickness over 50 mm) do not finish the first layer with float, but leave it rough by combing horizontally with notched trowel. Apply an intermediate bond coat with **weber.rep KB duo** and apply the second layer of the repair mortar on the tacky bond coat.

Application as thin resurfacing / fairing coat mortar

- Apply the concrete repair mortar **weber.rep R4 duo** with a flat trowel in approx. 2 mm up to 10 mm thickness.
- Apply the mortar on full surface in grain thickness as a pore-filling scratch layer first, and afterwards "wet-in-wet" up to 5 mm thickness.
- Areas for scratch layers should not be oversized in order to allow "wet-in-wet" of subsequent layers.
- After 15 up to 90 minutes (depending on environmental factors and thickness) gently smooth the layer with a flat rake to eliminate all imperfections and finish with a damp, fine-pored sponge float without pressure.
- After hardening (as repair mortar > 5 days - as thin resurfacing mortar > 1 day) we recommend an application with one of the weber surface protection systems **weber.tec 771** (paint) or **weber.tec 772** (coating) as protection against carbonation and thaw salt impact, and also for colored finish design of repaired areas.

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Consumption

Approx. 1.9 kg/m² per mm thickness (mixed mortar)

Practical information

Colour	concrete grey
Tools	hawk, flat trowel, notched trowel, flat rake, sponge float, stirrer weber.sys Rührpaddel n° 2
Water ratio	max. 2.9 liters / 20 kg bag
Drying time	like concrete
Storage	the product can be stored min. 9 months in its original sealed packaging.

Packaging	Sales unit	Number per wrapped euro-pallet
Plastified bag	20 kg	42 bags

Legal notes

The correct and hence successful application of our products is not within our control. A guarantee can therefore only be accepted for the quality of our products within the framework of our sale and supply conditions but not for their successful use.

Observe the safety precautions for protection of health and prevention of accidents given in the safety data sheet and on the label of the packaging.

This data sheet supersedes all earlier technical data on this product. Information supplied by our employees and/or distributors going beyond the scope of this data sheet must be confirmed in writing.

We reserve the right to make changes representing technical progress.

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