weberfloor 4640 external screed

Flowable, polymer modified R4 concrete repair mortar and levelling compound

- For repairing and levelling concrete substrates
- Suitable for vehicular traffic
- Fibre reinforced

About this product

weberfloor 4640 external screed is an flowable R4 concrete repair mortar and levelling compound for 10-80mm thickness.

weberfloor 4640 external screed is a combination product used to renovate concrete substrates. It can be used as a concrete repair mortar or as a levelling compound in external concrete areas such as underground car parks, warehouses, manufacturing facilities etc.

Suitable for floor surfaces which are subject to damp, frost and de-icing salts as well as high mechanical loads.

It can be used in conjunction with resin based coatings and other cementitious compounds such as **weberfloor industry pro top 4610**.

Uses

For repairing and levelling exterior and interior concrete substrates:

- Underground car parks
- Warehouses
- Manufacturing facilities

Features and benefits

- CE marking: CT – C50 – F7
- Class R4 repair mortar according to EN 1504-3
- Floor levelling compound according to EN 13813
- Can be mixed by hand or pump applied
- Resistant to frost and de-icing salts
- Convenient as top wear layer for direct use
- Fibre-reinforced
- High mechanical strength

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Constraints

- Only concrete is allowed as a substrate
- Protect the freshly applied surfaces from rain during application until it has hardened
- During application and for 1 week afterwards the ambient air and floor temperatures should not fall below +8°C
- Low temperatures extend the aftercare time and delay the setting process
- If covering with a resin, the resin manufacturer should be consulted to ensure compatibility with **weberfloor 4640 external screed**

Preparation

The substrate must be prepared to industry standards. Where **weberfloor 4640 external screed** is being used as an R4 repair mortar, steel reinforcement should be prepared in accordance with EN 1504-10.

The substrate must always be prepared by appropriate mechanical means, e.g. grinding or shot-blasting, in order to reach a pull-off strength of ≥1.5 N/mm^2. The biggest grain size of the concrete substrate must be exposed.

Apply **weberfloor 4716 primer** diluted with water in a ratio of 1:3 in a minimum of one application. In case of highly porous substrates repeat the application. Wait until the primer becomes transparent and dry prior to application of **weberfloor 4640 external screed**.

Mixing

MECHANICAL MIXING

Use only large pumps, for example SP11 or Duomix 2000, please contact the Weber Technical Team for further advice.

For optimal application the whole length of hose should be at least 20 metres.

Before pumping of the first mixture, the hose should be pre-lubricated with a slurry mix.

A steady consistency is a essential for the final properties of the levelling compound. Monitor the consistency regularly via flow rate tests

MANUAL MIXING

Mix with maximum 3.75L of water per 25kg bag for 1 - 2 minutes until lump-free, using a slow-speed electric paddle mixer. Allow to stand for approximately 3 minutes and mix again.

If a concrete repair mortar in compliance with EN 1504-3 is required, the water addition should be 3.5L per 25kg bag.

Excessive water content reduces the strength, and increases the risk of cracks and shrinkage.

Application

MECHANICAL APPLICATION

Bay sizes should follow the existing joints within the substrate. Bay sizes should be no larger than the capability of a machine to maintain a wet edge whilst pumping **weberfloor 4640 external screed**. If necessary, use **weberfloor 4965 barrier foam** to limit working sections and to form bays and stop ends.

The material should be pumped onto the floor and evenly distributed by the application hose and a serrated edge rake.

Once the right height is reached, the surface is immediately dappled using a wobble bar; first lengthwise, strongly, then, crosswise somewhat smoother. This process will facilitate good levelling and aerating of the product. If a brushed finish is required, this can be achieved as the product reaches initial set.

MANUAL APPLICATION

Pour and distribute the material in the intended layer thickness with a serrated edge rake, 600mm width (for larger surfaces). This tool will assist the levelling process and improves the de-aeration of the layer. Afterwards smooth with a wobble bar. A flat trowel can also be used in case of small areas and/or corners with difficult access.

Clean mixing equipment and tools with water. Hardened material will need removing mechanically.

Aftercare

Protect freshly installed surfaces from draughts, direct effects of sunlight and heat.

This product should be treated as freshly cast concrete. Therefore, an appropriate curing compound* or sheeting is recommended in external areas.

**only where a final covering is not required*

Floors properly installed with **weberfloor 4640 external screed** should reach a pull-off strength > 1.5 N/mm^2.

In case of deposit of dirt on the surface, carry out a slight grinding or shot-blasting before applying a coating.

If a resin based coating is to be applied to the **weberfloor 4640 external screed**, the product will need to be left to dry sufficiently before overcoating. It is mandatory for residual moisture content testing to be carried out before the application of any coating in accordance with coating manufacturer's requirements.

If **weberfloor industry pro top 4610** is to be applied, a waiting time of 10 days is recommended. Prepare the surface of **weberfloor 4640 external screed** by slight grinding. Apply the **weberfloor 4716 primer** diluted with water in a ratio of 1:3 in at least one application; it is evenly distributed and applied with a soft broom by brushing in intensively.

Yield

Per mm layer thickness: approximately 2.0 kg/m^2

Packaging

weberfloor 4640 external screed is packed in 25kg plastic sacks.

Storage and shelf-life

When stored unopened in a cool, dry and frost-free place, shelf life is 12 months from date of manufacture.

Health and safety

Please see latest material safety datasheet via our website for information.

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Technical data

These results were obtained under laboratory conditions. Batch to batch results may fluctuate due to common cause variation

Test data to EN 1504-3 (14% water addition)		
Performance Characteristic	**Method**	**Result**
Compressive strength	EN 12190	>50MPa
Chloride ion content	EN 1015-17	≤0.05%
Adhesive bond	EN 1542	≥2.0MPa
Carbonation resistance	EN 13295	Passed
Elastic modulus	EN 13412	≥20GPa
Thermal compatibility	EN 13687-1	≥2.0MPa
Capillary absorption	EN 13057	≤0.5 $kgm^{-2}h^{-0.5}$
Skid resistance	EN 13036-4	Class III
Reaction to fire	EN 13501-1	Class $A2_{fl}$ - s1

Test data to EN 13813 (14 - 15%% water addition)		
Performance Characteristic	**Method**	**Result**
Compressive strength	EN 13892-2	C50
Flexural Strength	EN 13892-2	F7
Wear Resistance	EN 13892-4	AR1
Release of corrosive substances	EN 13813	CT
Reaction to fire	EN 13501-1	Class $A2_{fl}$ - s1

Other data	
Application temperature (air & substrate)	+8°C to +25°C
Minimum substrate strength	1.5N/mm^2
Minimum thickness	10mm
Maximum thickness	80mm
Water demand (levelling compound)	3.5 - 3.75 litres/25kg (14-15%)
Water demand (concrete repair mortar)	3.5 litres/25kg (14%)
Weber flow rate (levelling compound)	150 - 200mm
Weber flow rate (concrete repair mortar)	150 - 180mm
Hardening time (open to foot traffic)	approx. 24 hours at +20°C
Hardening time (open to light load)	approx. 2 days at +20°C
Hardening time (open to full load)	approx. 7 days at +20°C
Pot life	approx. 20 minutes at +20°C
CDF test (resistance against freeze-thaw cycles/thawing agents)	< 31 g/m^2

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