

Technical Data Sheet

Zemseal® Flex Render CB

Flexible, reactive 2-component bituminous based PMBC render



Product

Description	Zemseal® Flex Render CB Polymer modified bituminous coating for waterproofing building elements in contact with the ground
Uses	Zemseal® Flex Render CB is suitable for waterproofing building components in direct ground contact such as e.g. basement walls, foundations, floor slabs in accordance with the exposure levels in accordance with BS EN 15814 Waterproofing slab transitions and detailing with Zemseal® membranes Adhesive for insulation board installation on Zemseal® membranes
Characteristics / advantages	▪ Reactive fillers ▪ Seamless, jointless, crack-bridging structural waterproof membrane ▪ Suitable for conventional substrates in construction ▪ Solvent free ▪ Simple and economical application ▪ Rainfast after a short period ▪ Rapid through drying ▪ High resistance to pressure ▪ Waterproofing material to BS EN 15814 ▪ Suitable as an adhesive for insulation, protection and drainage boards ▪ For interior and exterior use

Test Reports (available upon request)

Approvals / Standards	CE Label, DoP (EU) Nr. 305/2011 in accordance with BS EN 15814 German building directorate certificate P-1200/873/17-MPA BS (PG ÜBB)
------------------------------	---

Product Data

Appearance	Zemseal® Flex Render CB: two-component bituminous PMBC render, black
Packaging	30 kg pail (ZSFLEXCB)
Storage	If stored in unopened, undamaged, original packaging and protected from the elements at temperatures between +5°C and +30°C, the shelf-life is at least 24 month from date of production. Keep in dry conditions.

Material Properties

Zemseal® Flex Render CB:

Basis: 2 component, anionic bituminous coating
 Density: approx. 1.0 kg/dm³
 Substrate / Application temperature: +5 °C to +30 °C
 Pot life: approx. 60 minutes
 Through dry: approx. 24 hours
 Crack-bridging capacity to BS EN 15812: > 2 mm (CB2)
 Rainfast performance to BS EN 15816: < 4 hours (R3)
 Watertightness (Slotted disc pressure 1mm) to BS EN 15820: > 0.75 bar (W2A)
 Compressive strength, 0.3 MN/m², to BS EN 15815 PG: C2A
 Reaction to fire to BS EN 13501-1: Class E
The figures are based on +23°C and 50% relative humidity. Site and weather conditions can extend or shorten the given data.

Material demand:

- Ground moisture, non-standing seepage water:
approx. 4.0 kg/m² = approx. 3 mm dry film thickness
- Water not under pressure – moderate exposure
4.0 kg/m² = approx. 3 mm dry film thickness
- Occasional standing seepage water / water under pressure)
5.0 kg/m² = approx. 4 mm dry film thickness
- Bonding insulation panels: *approx. 1.3 kg/m²/mm thickness*

Zemseal® Flex Render CB fibre glass mesh reinforcement (ZSGWBFLEX):

- Glass fibre reinforcement with high tear resistance
- Resistant to all damaging substances found within soil
- Easy to lay into the waterproof membrane system

Colour: Natural white

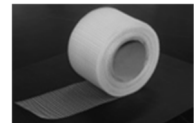
Mesh size: 2.5 mm x 2.5 mm

Tear resistance to DIN 53 857/part 2: approx. 1,000 N / 5 cm

Weight: approx. 80 g/m²

Packaging: 1 m x 100 m (w x l)

Storage: cool, dry, protected from sunlight and weathering, 24 months



Application:

Substrate preparation:

The substrate must be free from frost, be load-bearing, flat, with open porosity and have a closed surface. It must be free from gravel pockets, blowholes, gaping cracks and ridges, free from adhesion inhibiting material e.g. dust, laitance layers and loose components. Level up deviations > 5 mm as well as mortar pockets, render grooves in brickwork, open masonry joints, damaged areas, large pore textured substrates or uneven masonry work with Max Frank Special Mortar (MQUELLM). Alternatively evening up can be carried out with scratch coats or patch repairs. Corners and edges are to be rounded or concrete sections chamfered post installation. Mechanically remove laitance present at the wall/floor transition.

Wall/floor junction, internal corners, joints:

Pre-slurry the professionally prepared substrate in a fluid consistency and construct a coved fillet (MQUELLM) to a minimum edge height of 4 cm, whilst the slurry is still wet. Reinforce structural movement joints with joint tapes.

Intersection:

In the exposure condition of ground moisture and non-standing seepage water, intersections are to be provided with a mineral-based coved fillet and, once fully dried, incorporated within the surface applied waterproof membrane. In the exposure condition standing seepage water not under pressure/water under pressure use adhesive bonded or loose/integral flanges at intersections and incorporate within the surface applied waterproof membrane.

Splash zone / plinth area transition:

In the water splash zone, bring the waterproof membrane to a minimum of 30 cm above the ground. Once adjusted to the ground, the waterproof membrane must reach at least 15 cm above ground level. As a rule, this junction is treated with flexible waterproofing slurries, e.g. Schomburg AQUAFIN-RS300, in order to achieve a substrate with bonding abilities for e.g. building skirt renders. Overlap the bituminous coating min. 10 cm over the waterproofing slurry.

Product preparation:

In order to achieve an adequate bond to the substrate, apply a priming coat of (e.g. ASOL-FE), diluted 1:5 with water. Once the priming coat has completely dried, FLEX RENDER CB can be applied to the correctly prepared substrate. Where the substrate is very absorbent concrete, a scratch coat is recommended to prevent air bubble formation in the bituminous coating. Bring the waterproof membrane down the front face of the base slab at least 10 cm. Where the exposure condition is standing seepage water/water under pressure, the waterproof membrane must be taken down to 15 cm.

To mix the bituminous coating use a drill mixer (500–700 rpm) with a suitable mixing paddle. Firstly briefly stir the bitumen component and then add all the powder to the bitumen component. Mix the whole mass until homogenous and free from lumps. The mixing time is approx 3 minutes. FLEX RENDER CB is applied by trowel or suitable spray equipment e.g. HighPump M8 (Peristaltic pump), HighPump Small or High-Pump Pictor (screw feed pump).

Exposure conditions to DIN 18195 – part 4:

Apply FLEX RENDER CB with a flat trowel in a minimum of 2 coats. Here the first coat can be a full 3/4 11/17 coverage blinding layer as a scratch coat. To achieve an even thickness, ideally comb out with an appropriate sized notched trowel and then form a tight surface with the flat edge of the trowel. Always apply wet in wet. The dry film thickness must be a minimum of 3 mm.

Exposure conditions to DIN 18195 – part 5 (moderate exposure):

Apply FLEX RENDER CB with a flat trowel in a minimum of 2 coats. Incorporate Zemflex reinforcing mesh (ZSGWBFLEX) into the wet first coat of the waterproof membrane at coves and edges. Allow to dry sufficiently before applying the next coat to avoid damaging the first coat. The dry film thickness must be a minimum of 3 mm.

Exposure conditions to DIN 18195 – part 6:

Apply FLEX RENDER CB with a flat trowel in a minimum of 2 coats. Incorporate Zemflex reinforcing mesh (ZSGWBFLEX) into the wet first coat. Allow to dry sufficiently before applying the next coat to avoid damaging the first coat. The dry film thickness must be a minimum of 4 mm.

Assessing the waterproof membrane:

Always carry out a thickness check and document results. In exposure conditions to DIN 18195, parts 5 and 6, it is mandatory to measure and log the wet film thickness and drying. The film thickness is checked whilst wet by measuring the wet film thickness (at least 20 measurements per building project or at least 20 measurements per 100 m²). Spread the measuring points out diagonally.

Dependent on their presence within the structure, the frequency of measurements should be increased e.g. in areas of intersections, transitions and junctions. When installing to DIN 18195, part 6 both film thicknesses are to be checked separately. Evaluation of drying as well as the dry film thickness is carried out with a destructive reference sample using the wedge cut method. The reference sample consists of the material from the project substrate (e.g. masonry work, concrete paving slab), which will be embedded in the building pit.

Drainage and protection boards:

Waterproof membranes are to be protected from weathering and mechanical damage using suitable protective measures or layers in accordance with DIN 18195, part 10. Protective layers may not exert any point or linear loading on the waterproof membrane.

Dimpled sheets without a protective layer or corrugated protective boards are therefore not suitable. Only place protective layers once the waterproofing coat has fully dried through. Protection and drainage boards can be fixed on dabs with perimeter insulation being bonded butt jointed in a full bed of FLEX RENDER CB or COMBIDIC-2K-CLASSIC. Install drainage to DIN 4095.

Back-filling the building pit:

Back-filling the building pit is only carried out once the bituminous coating is fully dry and must be carried out following relevant guidelines. Place and compact the back-filling material in layers, ensuring that damage and slippage within the protective layers is prevented.

Advice:

- Protect areas not being treated with FLEX RENDER CB.
- Do not install when it is raining, where there is impending rain or where the air and substrate temperature is below +5 °C.
- Negative water pressure cannot be accommodated by bituminous waterproof membranes..
- Protect masonry work coping and open window sills from water penetration.
- Undertake waterproofing measures beneath rising walls and on the base slab appropriate to technical regulations.

- Do not drop below the relevant minimum film thickness stipulated by the exposure condition prevailing at any point at the time of acceptance.

Disclaimer / Notes:

All technical data stated in this TDS are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control. Recommendations with regard to product application given in the present technical data sheet for practical assistance of product users are based on our experience and our present scientific and practical body of knowledge. These recommendations, however, are given without engagement and do not establish a contractual relationship or subsidiary duties. These recommendations do not relieve users of their liability and of their own responsibility to test, whether our product is adequate for the intended purpose of application. Please refer to the latest edition of this Technical Data Sheet on our web presence www.maxfrank.com