



## **Cembond®M-945 / 947 Flex**

Organo mineral sealing for constructions

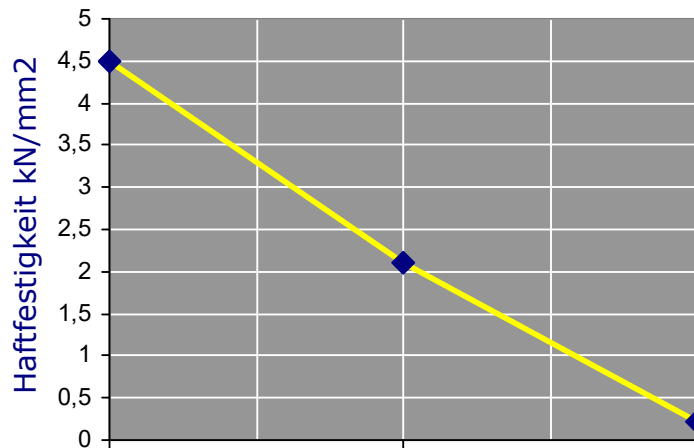
Cembond®M-945 and M-947 Flex are new, mineral sealing systems (sealing membranes) for the surface sealing of mineral surfaces against water. Their effect is based on the unique technology of cement-reactive Cembond® polymers.

Cembond® surface sealings consist of carefully matched mineral aggregates, sulfate-resistant cements, Cembond® polymers dissolved in water and processing auxiliaries. Cembond® gives these mineral sealing compounds their outstanding properties, as the Cembond® polymers react chemically with the cement during setting, similar to a two-component plastic. This results in an organo-mineral, polymeric structure with excellent strength and long durability.

**Cross-linked reaction products of polymer and cement!**

The cement takes over the function of the hardener component in this reaction. Due to the cross-linking reaction, the set sealants not only adhere practically inseparably to all - even moist - mineral substrates, they are also perfectly waterproof. Vapour diffusion through the sealing layer is not significantly impeded.

**With Cembond®:  
Underground adhesion like Epoxy resin!**



**Cembond®956**

**Acrylate-Latex**

**without additive**

Result of adhesive tensile strength tests with fresh concrete on old concrete: Adhesive strength values of samples with Cembond® are more than 2000% better than the values of check pilot. It is even more than twice (215 %!) better than those of high-quality, commercially available construction emulsions\*. For all tests, concrete test specimens made with 350 kg/m<sup>3</sup> CEM-1 were used. Before the measurements, the samples were stored at RT (room temperature) for 30 days.

\*Basis: styrene-butadiene, styrene-acrylate and pure acrylate

Coatings with Cembond® membranes seal against positive and negative water pressure, prevent carbonation of the concrete, increase the sulphate resistance and protect the building material against the penetration of harmful salts. In addition, the highly flexible Cembond®M-947 Flexreliably bridges dynamic cracks up to 1000 µm width; it retains its flexibility even at very low temperatures.



Restoration and waterproofing work on extensive wet, salt-loaded concrete walls of an underground car park with Cembond®M-945.

Cembond®M-945 is the standard type. The product reacts to tough coatings. Due to its soft-plastic consistency, Cembond®M-945 is particularly easy to process. With this coating, even visually appealing, smooth surfaces are no problem.

**Cembond®  
M-945**

Characteristics	Reactive organo mineral system
Components	2 (Powder and liquid)
Body structure	Grey, paste
Density	~ 1,7 gr/ml (Fresh mortar)
Mixing ratio A : B	100 : 40 weight
Dilution	If necessary dilute with water maximum 20%
Consumption	1,7 kg per mm thickness / m <sup>2</sup>
Processing time	90 minutes at 20°C
Minimum thickness	2,5 mm
Diffusion resistance	800 - 1000 (water vapour)
Pressurised water leak-proof	Up to maximum 7 bar

**Cembond®M-947 Flex** Sealing membranes made of Cembond®M-947 Flex are highly flexible, organomineral films with excellent cold flexibility. The product is recommended for sealing under traffic areas, for the internal sealing of concrete tanks and generally for surfaces at risk of cracking. In a special formulation Cembond®M-947 Flex can also be used as a waterproofing for roadways on concrete bridges ("bridge deck membrane") directly under mastic asphalt.

Characteristic	Reactive organo mineral 2 Component System
Component	2 Components powder and liquid
Density	Approx. 1,55 gr/ml /Fresh mortar
Mixing A : B	100 : 40 weight parts
Dilatation	If necessary dilute with water max. 10%
Consumption	1,55 kg per 1 mm thickness per m <sup>2</sup>
Processing time	90 Minutes at 20°C
Crack bridging	Up to 1000 µm ( 1 mm )
Minimum thickness	2,5 mm
Diffusion resistance	900 - 1100 (Water damp)
Pressurised water leak-proof	up to maximum 7 bar

**General  
Properties  
Details**

Tensile strength	1,7 N/mm <sup>2</sup>
Expansion	≥ 100 % (M-947)
Processing temperatures	+5° to + 35°
Accessible	After 24 h *
Accessible (tiles etc.)	After 24 h *
Water pressure tight and resilient	After 7 days *

\* Under normal conditions - at 20°C and 65 % relative humidity

■ The Cembond®M-types are no reprofiling mortar. To avoid stress cracks, the maximum recommended layer thickness should not be exceeded, or must be tempered with additions like quarry sand. Tempered products are not dense and need at least 2 layers with none blended products above.

■ Freshly produced coatings with Cembond®-M must not be exposed to pressurised water.

■ When laying tiles and slabs on sealed surfaces, care must be taken to ensure that the flooring is fully bedded.

■ Coatings with Cembond®M are not diffusion-tight and therefore not suitable as a sealant under parquet, laminate or other diffusion-tight floor coverings and coatings. This also applies to waterproofing under screeds, if these are subsequently covered with a vapour-tight top layer.

■ Coatings with Cembond®M are not wear-resistant and must therefore be protected against mechanical stress.

### **Cembond® Sealing membranes**

**Easy to process,  
perfect adhesion even  
on very difficult  
surfaces.**



### **Applications**

External waterproofing of surfaces of buildings in contact with the ground. Against ground moisture, seepage and strata water and also pressing water up to 70 mtr water column.

Internal waterproofing against water load from outside - up to 40 metres water column.

Internal sealing of containers for water and sewage, liquid manure etc., up to 40 metres water column.

Sealing under ceramic coverings in bathrooms, showers, on balconies and terraces.

Sealing membranes under bituminous coverings on parking decks.\*

Thin layer plaster as protective coating and sealing of concrete against driving rain and a lot of other applications.

Sealing of concrete elements in sewage applications, sulphate-resistant.

\*For this application special working instructions must be observed!

## Processing

**Additional strengthening with fibre structure and glass mesh  
Used by mixed building materials and cracked undergrounds**



Cembond® sealing membranes can be applied on standard concrete, full joint masonry\* (also gas or aerated concrete), and cementitious plasters (plaster of MG III).

All surfaces must be clean, free of dust, separating impurities, slime layers and sufficiently load-bearing. Sharp edges are to be broken, shuttering burrs removed, gravel pockets and depressions closed.

Prime the surface well with Cembond®956, thinned with water 1:2 or 1:3, or use water until you have a constant dead clammy surface.



The Cembond®M products consist of a finely divided solid and the matching packed mixing liquid. For processing, the solid and liquid are thoroughly mixed with a stirring machine until a smooth, homogeneous mortar is obtained.

This mortar can be used immediately. Its consistency is soft plastic, the material can be applied very well and easily with the notched trowel (square notch, 4 mm) and then smoothed off. In this setting, however, processing with spray equipment for fine plaster - e.g. with the "Putzmeister Sprayboy®" - is also possible. For thin trowel applications or to set a spreadable consistency, it can be additionally diluted with up to 20 % water.

The coatings must be applied in at least two layers with a minimum total thickness of 2.5 mm. The total layer thickness should not exceed 5 mm. The thickness of the individual layers should be as uniform as possible to avoid disturbances due to non-uniform drying.

**Cembond® slurry sealing is no adjustment finery.**

If rough unevenness, damaged spots, etc. are to be levelled out, the mixed mass must be thinned by adding 20 - 40 % quartz sand (grain size approx. 0.5 - 1.2 mm, depending on the grading curve and the desired effect). Such repair mortars still have the excellent adhesion to the substrate typical for Cembond®, but they lose their liquid-tightness. Revise this layer with another unextended layer of Cembond®.

## Boundary Conditions

The development of cracks in the building structure must be prevented by constructive measures. The sealing of movement joints must be carried out with suitable permanently elastic systems. In the case of water under pressure, special technical solutions, such as the installation of special joint profiles, masking with flexible sealingtape.



The waterproofing of buildings usually requires the arrangement of the waterproofing on the water side ( → positive sealing). The waterproofing must be raised approx. 30 cm above the final surface of the ground. When waterproofing from the inside ( → negative sealing) a particularly careful substrate preparation is necessary to achieve optimum adhesion of the coating to the building material.

A visually appealing surface effect can be achieved by reworking with a wet paintbrush (ceiling brush, surface brush) or by smoothing with a flat trowel.

**Important** | Keep the sealing compound during the use and at least 2 days after away from strong warmness exposures, solar radiation, rain, frost and draught.

**Job Safety  
Storage  
Disposal** | The solids of Cembond®M products contain special cements with low chromate content and react strongly alkaline when combined with water. Therefore, they are labelled with Xi as "Irritant" according to the regulations of the Ordinance on Working Materials. The liquid component is completely harmless. Contact with eyes and mucous membranes must, however, be avoided during processing.

The products are not flammable, but the liquid components are sensitive to frost. When stored in a cool, dry and frost-free place, Cembond® products have a shelf life of at least 12 months.

With cement hardened or dried Cembond® products can be disposed as normal building rubble. The unmixed liquid component is hazardous waste, if disposal is necessary, it can be treated like commercial emulsion paints.

These technical information describe the present-day state of knowledge these product. They should only inform about the possibilities of application and could not release the applicator of his commitment to check the possibility to use the product for the required application. Information for processing can be found in processing instructions of our product. Information about safe handling can be found in our current safety data sheet.

ATI-Cembond®M-945/M-947 Flex |11|2019  
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**ARCAN Waterproof**  
ARCAN GmbH Spezialbaustoffe

Kleinniedesheimer Strasse 19  
D-67240 Bobenheim-Roxheim  
Phone: +49 (0)6239 - 99 78 20  
Mail: [office@arcan.biz](mailto:office@arcan.biz)  
Web: [www.arcan.biz](http://www.arcan.biz)

passion to invent 