



## Technical data sheet

# CM 510-1 EP Repair Mortar, non-sag

## 1. Product description

CM 510-1 is a 2 component, solvent free epoxy resin mortar. Both, resin and hardener components are formulated; the resin component is preblended with graded silica sands and pigments.

Adhesive strength on primed concrete:<sup>3)</sup>

> 4 N/mm<sup>2</sup>

Steel:<sup>3)</sup>

>10 N/mm<sup>2</sup>

<sup>1)</sup> DIN 1164

<sup>2)</sup> DIN 1164

<sup>3)</sup> Sattec (~ISO 4624)

## 2. Fields of application

- Repair of horizontal, vertical and overhead concrete structures deteriorated by chemical attack from seawater, salt, exhaust gases, sewage etc.
- Repair of concrete structures exposed to high static and dynamic loads e.g. bridges, piers, canals, pipelines, basins etc.
- Repair of frost-damaged and spalled concrete
- Levelling of concrete surfaces
- Repairs in areas with limited shut-down time

## 5.4 Development of mechanical properties at 23°C

Curing time	Compressive strength (N/mm <sup>2</sup> )	Flexural strength (N/mm <sup>2</sup> )
24 hours	~30	~20
7 days	>65	>32

## 5.5 Curing at 23°C

Tack-free	after 3 hours
Retouchable	after 12 hours
Accessible (pedestrian traffic)	after 24 hours
Full cure	after 7 days

## 3. Product features

- Ready to use work packs ensure correct mixing
- The consistency of CM 510-1 allows application to horizontal, vertical and overhead surfaces
- Excellent mechanical properties
- Good resistance to chemicals
- Waterproof and weathering resistant
- Impermeable to carbon dioxide and other gases
- Rapid, shrink-free curing and early strength
- Freeze-thaw and salt resistant
- High abrasion resistance

## 5.6 Chemical resistance

CM 510-1 is resistant to potable-, sea- and waste water as well as dilute acids and alkalis, grease, fuels and mineral oils.

## 5.7 Temperature resistance

CM 510-1 is unaffected by constant or fluctuating temperatures from -30°C to +100°C in dry conditions and by temperatures up to +60°C in wet conditions.

## 5.8 Compatibility of CM 510-1

CM 510-1 can be applied over CM 405-1 EP Primer to concrete, natural and synthetic stone, masonry, brick and mineral based plasters of all kind, steel, aluminium and most other metals.

## 4. Packing

Ready to use job pack

Item no.

**CM 510-1: 10 kg** **306926/7**

Component A: 9.60 kg

Component B: 0.400 kg reclosable

Accessories:

Item no.

**CM 405-1 EP Primer, 0.5 kg** **306923/4**

**Mixing paddle with 1/2" female thread** **24018/4**

**Adaptor for Hilti rotary hammer TE14/TE22** **60459/5**

## 6. Application data

### 6.1 Mixing ratio

Component A : Component B = 24 : 1 parts by weight

### 6.2 Consumption

Approx. 2.0 kg CM 510-1 per m<sup>2</sup> and at 1 mm thickness, i.e. 2.0 kg per 1 litre mortar.

### 6.3 Limitations

Min. substrate temperature:	+10°C
Max. permissible moisture content of substrate:	4%
Min. adhesive strength of the pretreated substrate:	1.5 N/mm <sup>2</sup>
Min. temperature of CM 510-1 for mixing:	+10°C
Min. temperature for curing:	+10°C

### 6.4 Pretreatment of substrate

The substrate must be sound, dry, clean and free from oil and grease. All loose material and laitance should be removed by shotblasting, flame-scaling or by hand tools such as needle guns or wire brushes. Corroded reinforcement should be exposed and shotblasted to Swedish Standard SA 2 1/2 (bright metal).

## 5. Technical data

### 5.1 Product as supplied

Component A (resin and fillers, preblended): grey paste  
Component B (formulated hardener): clear liquid

### 5.2 Density of cured product at 23°C

~ 2.0 g/cm<sup>3</sup>

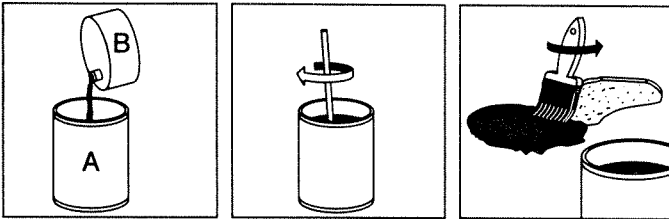
### 5.3 Mechanical properties after 7 days at 23°C

Compressive strength:<sup>1)</sup> >65 N/mm<sup>2</sup>  
Flexural strength:<sup>2)</sup> >32 N/mm<sup>2</sup>  
Modulus of elasticity: ~14 500 N/mm<sup>2</sup>  
Coefficient of thermal expansion approx. 1.6 X 10<sup>-5</sup> per °C from -20°C to +23°C

## Technical data sheet

### 6.5 Priming

1. Apply CM 405-1 EP Primer to all exposed reinforcements and allow to harden slightly (min. 4 hours at 23°C).
2. Apply CM 405-1 EP Primer to the entire surface incl. the exposed reinforcement.
3. Apply the mortar onto the primed surface within:  
10 hrs at 10°C  
3½ hrs at 25°C  
2 hrs at 35°C



### 6.6 Mixing

1. Pour component B completely into component A.
2. Mix both components thoroughly using a low speed electric drill with mixing paddle (max. 60 r.p.m.). Mix from side to side and top to bottom until a fully homogeneous mixture of uniform grey colour is obtained. Mixing time: approx. 5 minutes.

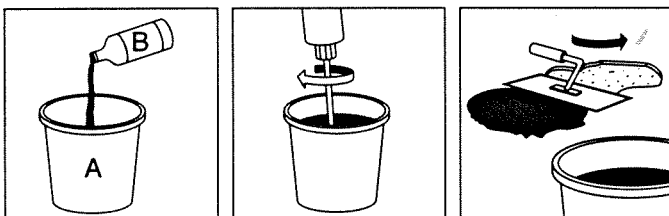
### 6.7 Pot life

The prepared mix should be used up immediately, at least within:

- 80 minutes at 10°C
- 50 minutes at 20°C
- 25 minutes at 30°C

### 6.8 Placing

1. Apply CM 510-1 in layers of 0.5–2 cm to the primed surface which should still be tacky. Compact the mortar well between the concrete and the formwork using a steel trowel or other suitable tool.
2. Protect the freshly placed mortar from rain and dew for 4–6 hours.



### 6.9. Cleaning of tools

Tools must be cleaned immediately after use with solvents e.g. toluane, acetone, methylethylketone (MEK) etc.

## 7. Storage

The product can be stored during 18 months in a dry place in unopened original packaging. Do not store at temperatures below +10°C or above +40°C or in direct sunlight.

## 8. Safety precautions

After full curing, CM 510-1 EP Repair Mortar is physiologically harmless. Keep the resin and hardener away from the eyes, mouth and skin, do not inhale vapours. The uncured mixture can cause irritation of the skin. The best protection is to wear protective gloves and goggles while working. Skin contaminations should be immediately cleaned with soap and plenty of water. The use of solvents has to be avoided. If resin or hardener enter the eyes, wash immediately with running water. A doctor must be visited in all cases.

The empty containers may contain residues of the product and should not be used for any purpose.