

# COSTARFLO 600 EMS



## COSTARFLO 600 EMS

High performance epoxy resin-based mortar screed for industrial flooring applications

### Description

Costaflor 600 EMS is a three component solvent free heavy duty non shrink epoxy resin-based mortar for patching and screeding industrial floors. It is designed for application or thickness ranging from thickness of 3-10 mm and above. It is used where heavy duty flooring is required with mechanical and general chemical resistance.

### Advantages

- Excellent mechanical resistance with high compressive and flexural strength.
- Non-slip surface for safe vehicular and pedestrian traffic.
- Excellent general chemical resistance against solutions of acid, alkali, salts, oils, fuels and solvents.
- Durable with long service life and easy maintenance.
- Excellent resistance to abrasion and intense traffic.
- High bonding strength with substrate.
- Minimal disruption due to thickness causing little interference with existing levels.

### Area of Use

Costaflor 600 EMS is used for industrial flooring and walls requiring resistance to heavy mechanical/chemical wear, ease of cleaning and hygiene such as:

- Warehouse and factory floors
- Hospitals
- Food and beverage industries/breweries
- Heavy engineering industrial floors
- Areas where heavy forklifts and corrosive chemicals are of concern
- Machine shops and workshops
- Chemical plants
- Water treatment plants
- Storage areas
- Plant rooms
- Pharmaceutical plants
- Steel works

### Appearance

Colours available

### Properties

#### Mechanical Properties:

Compressive strength @ 7 days	85 N/ mm <sup>2</sup> (ASTM C579)	
Flexural strength @ 7 days	28 N/mm <sup>2</sup> (BS 6319, Pt 3)	
Tensile strength @ 7 days	16 N/mm <sup>2</sup> (BS 6319, Pt 7)	
Abrasion resistance	0.77 g/1000 cycles (ASTM D4060)	
Bond strength to concrete	> cohesive strength of the concrete	
Indentation characteristics	No indentation from a Modified US MIL-D-3134 height of 2.4m	
	<b>Maximum</b>	<b>Minimum</b>
Curing characteristics at	20°C	30°C
Costaflor 600 EMS Pot life	45 minutes	30 minutes
Initial hardness	18 hours	16 hours
Full cure	7 days	5 days

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## Properties

### Thermal Resistance

Exposure Dry Heat
Permanent +50 °C
Short Term Max 7 d +80 °C
Short Term Max 12 h +100 °C
Short-term moist/wet heat up to +80°C where exposure is only occasional (i.e. during steam cleaning etc.). No simultaneous chemical and mechanical exposure.

### Chemical resistance:

Fully cured Costarflor 600 EMS have been tested in a wide range of aggressive chemicals commonly found in industrial environments. Tests were performed by constant immersion over a set period, followed by visual inspection and testing for Shore D hardness.

### Acids (m/v)

Hydrochloric acid 36%	Resistant
Sulphuric acid 10%	Resistant
Phosphoric acid 50%	Resistant
Nitric acid 30%	Resistant
Resistant Lactic acid 22.5%	Resistant
Citric acid 80%	Resistant

### Alkalis (m/v)

Sodium hydroxide 24%	Resistant
Ammonia 35%	Resistant

### Solvents & organics

Butanol	Resistant
White spirit	Resistant
Oil/grease/petrol	Resistant

### Aqueous solutions

Bleach	Resistant
Saturated sugar	Resistant
Saturated urea 10%	Resistant

All the above properties have been determined by laboratory controlled tests and are in excess of those expected in practice. Nevertheless, success in use will be determined by the implementation of good housekeeping practices.



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## Properties

### Surface Preparation:

The surface of the concrete should be sound, clean and uncontaminated. This preparation requires a sound exposed concrete surface free from dust, loose particles and any deleterious matter. The concrete substrates must be of sufficient compressive strength (minimum 25 N/mm<sup>2</sup>) with a minimum pull off strength of 1.5 N/mm<sup>2</sup>.

- New concrete surfaces must be properly cured and have moisture content not exceeding 5% before application commences.
- For defective surfaces or surfaces with laitance, it must be cut back to a sound base. Excess laitance deposits are best removed by light mechanical scrubbing, grinding or grit/captive blasting followed by vacuum cleaning to remove dust debris.
- Cracks on old concrete surfaces should be treated with Costar Repair Mortar 20, a solvent free epoxy resin repair mortar. Expansion joints shall be repaired using Costar Epoxy Repair Mortar, a high strength solvent free epoxy mortar.
- Steel surfaces should be degreased and grit blasted to SA2½ immediately prior to application.

### Priming

All surfaces must be primed with Costarflo Primer 500, high performance solvent free epoxy primer designed for maximum absorption and adhesion to concrete substrates.

The primer should be applied by brush or roller on to the cleaned surface area (particularly hidden surfaces) at a rate of 3-6 m<sup>2</sup>/Liter. A second coat of primer may be required if the substrate is excessively porous because the primer will be absorbed very quickly leaving characteristic light coloured dry patches.

### Mixing

Prior to mixing, stir Part A (resin base) mechanically.

Pour the entire colour pack into Part A (resin base) container and mix for 15-30 seconds. Add the entire contents of Part B (hardener) into the mix and stir further for 30 seconds. Gradually empty Part C (filler) into the mix of base, colour pack and hardener and continue mechanical mixing, using a suitable mixing paddle fitted to a slow speed forced action mixer further for 2-3 minutes, until a uniform and homogenous lump free material is achieved. Scrape the side and bottom of the container while mixing

It is recommended that the kits, not be used partially. Mixing should be carried out using a force action mixer or a heavy duty, slow speed drill fitted with a mixing paddle. Once mixed, the material must be used within its pot life.

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## Application

The mixed Costarflo 600 EMS should be discharged on the floor when the primer is still in a tacky condition. Spread using either a garden rake or the edge of a wooden/plastic trowel to get a uniform thickness. After a short waiting time, the material should be compacted with a wooden float to ensure complete compaction and closed/finished with a stainless steel trowel. Screeding rods are useful to maintain a minimum compacted thickness of 5mm. Particular attention should be given to areas around obstruction and protrusion making sure that all surfaces are covered.

## Cleaning

Tools and equipment should be cleaned with appropriate cleaning agents immediately after use. Harden material should be removed mechanically. Spillages should be absorbed with sand or sawdust and disposed of in accordance with local regulations.

## Technical/Specification support

Costar offers a wide range of quality construction chemicals. Costar also offers technical/specification support service to specifiers, end users, architects, quantity surveyors and contractors. On-site technical support is also provided by a team of professionals from Costar.

### Standards compliance

ASTM C579 for compressive strength, BS 6319 for tensile and flexural strength and ASTM D-4060 for abrasion resistance.

### Shelf Life

Costarflo 600 EMS and Costarflo 500 Primer have a shelf life of 12 months when stored in a dry place below 35°C in their original, unopened packs.

### Storage conditions

Store under warehouse conditions below 35°C in the original, unopened packs. If stored at high temperature and/or high humidity conditions, the shelf life will be reduced.

### Packaging

23.5kg pack (containing base, hardener and filler)

### Consumption Rate

19kg/m<sup>2</sup> per 1mm thickness  
Further coverage guidance ( 2.5m<sup>2</sup> / pack at 5mm thickness)

### Volume Estimation

12 Litres / pack

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# COSTARFLO 600 EMS



Product Data Sheet

   Costar Industries Inc.

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### Precautions

#### Health and safety

Costarflor 600 EMS and Costarflor 500 should not come in contact with skin and eyes or be swallowed. Some people are sensitive to epoxy resins and hardeners. Gloves, goggles and a barrier cream should be used. Ensure adequate ventilation and if working in enclosed areas, use suitable breathing apparatus. If mixed resin comes into contact with the skin, it must be removed before it hardens with a resin removing cream, followed by washing with soap and water. Do not use solvent. Should accidental eye contamination occur with any of the above products, wash well with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately. Do not induce vomiting.

#### Fire

Costarflor 500 primer is flammable. Do not expose to naked flames or other sources of ignition. No smoking during use. Containers should be tightly sealed when not in use. In the event of a fire, extinguish with a CO<sup>2</sup> or foam type extinguisher

### Warranty

The information and recommendations relating to the application of Costar products, are given in good faith based on current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with the stated recommendations in the product datasheets. Whilst Costar endeavors to ensure that any advice, recommendation, specification of information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products, whether or not in accordance with any advice, specification, recommendation of information given by it. The user of the product must test the product's suitability for the intended application and purpose. Costar reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request

### COMPLIMENTARY PRODUCTS

#### COSTARFLO 500 EP ( PRIMER)

**Packaging:** 6 litres  
**Coverage:** 4-5m<sup>2</sup> / 1 litres

#### COSTAR SOLVENT 150

**Packaging:** 5 litres

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