



# Polymer Admixture 850

## Sealer and Bonding Agent

### Product Overview

**Water-based copolymer dispersion.**

### Description and Use

**POLYMER ADMIXTURE 850** enables polymer modification of sand and cement mortars in order to provide enhanced mechanical characteristics.

The product can also be diluted with water to produce a primer for roof and deck applications in the clean water industry. In addition **POLYMER ADMIXTURE 850** can be mixed with cement to form a slurry for application to waterproof concrete and highly porous substrates as a primer and bonding agent for polymer mortars, renders and screeds.

### Advantages

**POLYMER ADMIXTURE 850** enhances cementitious mixes to give the following properties:

- Excellent adhesion in dry, damp or permanently wet conditions to both concrete and steel.
- Higher compressive and tensile strengths.
- High abrasion resistance.
- Low water permeability.
- Enhanced resistance to freeze-thaw cycles, alkalis, and dilute acids.
- Suitable for use in contact with potable water.

### Compliance

- WRAS Approved

### Application Instructions

#### Preparation

Mechanically remove all damaged concrete or failed repairs back to a sound core. Wherever possible, the full circumference of the steel reinforcement should be exposed 25mm behind the bars and 50mm beyond visible corrosion.

On cutting back, feather edges must be avoided. The perimeter of the repair area should be stepped to a depth of 10mm by means of saw or disc cutting or preferably using a power chisel.

The areas to be repaired must be free from all unsound material including laitance dust, oil, grease, corrosion by-products and organic growth.

Smooth surfaces should be roughened and reinforcement cleaned to bright steel. Shot blasting or grit water jetting is recommended, but for smaller areas needle gunning or bush hammering is effective.

- The compressive strength of the concrete sub-base should be minimum 20 MPa.

The prepared substrate should be thoroughly soaked with clean water until uniformly saturated without any standing water.

### Priming

Brush apply two coats of **STEEL REINFORCEMENT PROTECTOR 841** to prepared steel.

Where the substrate exhibits high porosity or is absorbent, the pre-dampened surface should be primed with a thin slurry consisting of 1 part **POLYMER ADMIXTURE 850**, 1 part water and 2 parts ordinary Portland cement mixed to give a thin emulsion consistency (coverage 10-15m<sup>2</sup>/litre of **POLYMER ADMIXTURE 850**). Allow to become dull before continuing with the application and remove any excess material lying in rough, broken or irregular surfaces.

If allowed to dry, the slurry coat must be mechanically removed before re-application as above. Under no circumstances should fresh slurry be applied to hardened slurry.

### Priming of Roofs and Decks in Clean Water Applications

In drinking water applications, dilute **POLYMER ADMIXTURE 850** 1:1 with clean water and apply at 5 to 7m<sup>2</sup>/litre by brush or roller and allow to become clear.

### Mixing

Mortars and screeds made with **POLYMER ADMIXTURE 850** should be mechanically mixed using a forced action pan mixer, or in a clean drum, using a drill and paddle. A normal concrete mixer is NOT suitable.

Shake **POLYMER ADMIXTURE 850** before use and pour the required quantity into the mixing container together with an equal volume of water. Slowly add the required amounts of sand, cement and, if necessary, coarse aggregate, as determined from the mix design guide below and mix until homogeneous. Continue to mix and add the minimum of extra water required to give the desired workability, to enable correct working and compaction. A water:cement ratio of less than 0.4 is advised.

Normal mixing time depends upon the type of mixer used, 2-3 minutes is average. Mix to entrain as little air as possible and use without delay.



## Placing

Mortars or screeds should be applied in layers up to 50mm in thickness taking care not to entrap air. If necessary, support with shuttering to allow for compaction. For repairs which require multi-layer application, it is important to ensure that previous layers are well keyed and hardened but not fully cured (ideally 24 hours, dependent upon temperature) prior to the application of subsequent layers. Final profiling should be carried out with a wooden float or steel trowel.

## Curing

Normal concreting procedures should be strictly adhered to. It is important that the surface of the mortar or screed is protected from strong sunlight and drying winds using **CURE-SEAL WB**, polythene sheeting, damp hessian or similar.

## Cleaning and Storage

- All tools should be cleaned with water immediately after use.
- Materials can be stored for 12 months in dry, frost free conditions with unopened containers at moderate temperatures not greater than 20°C.

## Packaging

- **POLYMER ADMIXTURE 850** is supplied in 5 litre and 25 litre containers.

## Health and Safety

- Safety Data Sheets are available on request.

### Application Top Tips

1. Always use clean, washed sharp sand and add the minimum amount of water to give the desired workability, ease of placing and compaction. Do not exceed a 1 to 4 dilution of Polymer Admixture 850 to water.
2. **DO NOT WET OUT OR PRIME** between layers.
3. When finishing, trowel from centre out towards the perimeter working into the edges of the repair.
4. Cold Weather Working (See separate Guide)
  - ≥3°C on a rising thermometer.
  - ≥5°C on a falling thermometer.
  - Do not use any product that has been frozen.
5. Hot Weather Working (See separate Guide)
  - Store material in cool conditions to maximise working life.
  - Shade applied material from strong sunlight.
  - Spray apply a second mist coat of **CURE-SEAL WB**.
  - If possible, avoid extreme temperatures by working at night.

The information herein is correct to the best of our knowledge, but it does not necessarily refer to the particular requirements of the customer. If the customer has any particular requirements it should make them known in writing to Flexcrete Technologies Limited, and obtain further advice accordingly.



### Technical Data

The following are suggested trial mix ratios by weight based on saturated, surface dry aggregates with 5% water in the sand and 1% water in the single sized aggregates. Trial mixes should be carried out to determine optimum consistency and physical properties.

Mix proportions are based on 50kg of cement. Maximum water additions give a maximum water to cement ratio of 0.40.

Always use sharp sand. All sand and aggregate must be cleaned and washed. Add the minimum amount of water to give the desired workability, to enable correct working and compaction. Maximum dilution 1:4 (**POLYMER ADMIXTURE 850**:water).

- Consult BS 8204: Part 3 'Code of practice for polymer modified cementitious wearing surfaces' for further information

Type	Thickness (mm)	Sand (kg)	Aggregate		POLYMER ADMIXTURE 850	Maximum Extra Water (litres)	Approx Yield (litres)
			Size (mm)	Weight (kg)			
Light Duty Screed	8-15	200	-	-	12	4	120
Medium / Heavy Duty Screed	10-15	100	3	100	12	8	115
	15-30	112.5	6	87.5	10	8.5	120
	25-40	125	10	100	11	7.3	130
Render Mortar	5-50	150	-	-	6	15	105
Patching Mortar	5-50	150	-	-	8	15	105
Heavy Duty Mortar	10-100	75	6	75	6	11.5	95

