

DATA Sheet

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POLYMER ADMIXTURE 850

USES

POLYMER ADMIXTURE 850 is ideally suited for polymer modification of sand and cement mortars, producing materials with enhanced mechanical characteristics, combined with good resistance to oil and water. When mixed with cement, the product can also be used as a primer and a 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.
- LOW SHRINKAGE.

PRODUCT DESCRIPTION

POLYMER ADMIXTURE 850 is an advanced copolymer dispersion which, when used as an admixture for sand and cement mixes, produces a high strength waterproof patching mortar, screed or render. It can also be mixed with cement to produce a slurry for sealing porous and absorbent substrates.

TECHNICAL DATA

Basis:	Modified styrene acrylic copolymer dispersion.
Colour:	White liquid (reverts to clear on curing).
Specific Gravity:	1.03 at 20°C.
Polymer Solids Content:	50%.

APPLICATION DATA

Application Guide available on request.

PREPARATION

Mechanically remove all damaged concrete back to a sound core. Wherever possible, the full circumference of the steel reinforcement should be exposed to at least 25mm behind the bars and 50mm beyond the point at which corrosion is visible. 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, i.e. dust, oil, grease, corrosion by-products and organic growth. Smooth cut surfaces should be roughened, all loose material and surface laitance removed 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 strength of the concrete sub-base should be a minimum of 20N/mm². The prepared substrate should be thoroughly soaked with clean water until uniformly saturated without any standing water.

PRIMING

Where necessary, two coats of **STEEL REINFORCEMENT PROTECTOR 841** should be applied to the prepared steel, by brush, as described in the individual data sheet. 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 10-15m²/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 the material is allowed to dry, then it must be mechanically removed before re-application as above. Under no circumstances should fresh slurry be applied to hardened slurry.

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 then pour the required quantity into the mixing container and 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 so as to entrain as little air as possible. Use without delay.

PLACING

Mortars or screeds should be applied so as to remove entrapped air, in layers not exceeding 50mm thickness. If necessary, support with shuttering to allow for compaction if working to reveals, etc. 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 with **FLEXCRETE CURING MEMBRANE**, polythene sheeting, damp hessian or similar.

CLEANING

All tools should be cleaned with water immediately after use.

STORAGE

Store in dry, frost free conditions at moderate temperatures. Protect from high temperatures (40°C+) for prolonged periods.

SHELF LIFE

6 months in frost free conditions with unopened containers at 20°C.

PACKAGING

Pack Size: 5 and 25 litres.

SHELF LIFE

Safety Data Sheet available on request.

RECOMMENDED MIX DESIGNS

The following are suggested trial mix ratios by weight based on saturated, surface dry sand and aggregates complying with BS 882: 1994. Trial mixes should be carried out to determine optimum consistency and physical properties for a particular application. Please consult our Technical Department for alternative mix designs.

FLOOR SCREEDS/TOPPINGS

CLASS	THICKNESS (mm)	CEMENT : AGGREGATE RATIO	DRY SAND (kg)	DRY AGGREGATE		POLYMER ADMIXTURE 850	MAX. EXTRA WATER (litres)
				SIZE (mm)	WEIGHT (kg)		
LIGHT DUTY	8 - 15	1 : 4.0	200	-	-	12 litres	4
MEDIUM/ HEAVY DUTY	10 - 15	1 : 4.0	100	3	100	12 litres	8
MEDIUM/ HEAVY DUTY	15 - 30	1 : 4.0	112.5	6	87.5	10 litres	8.5
MEDIUM/ HEAVY DUTY	25 - 40	1 : 4.5	125	10	100	11 litres	7.3

NOTES

Consult BS 8204: Part 3 "Code of practice for polymer modified cementitious wearing surfaces" for further information. Mix proportions are based on 50kg of cement. It is assumed that damp aggregates are used with 5% water in the sand and 1% water in the single sized aggregates. Maximum water additions assume damp aggregates are used and give a maximum water : cement ratio of 0.40.

REPAIR MORTARS

RENDERING MORTAR		PATCHING MORTAR		HEAVY DUTY MORTAR	
Portland Cement	50kg	Portland Cement	50kg	Portland Cement	50kg
Medium Grade Sand	150kg	Medium Grade Sand	150kg	Medium Grade Sand	75kg
850	6 litres	850	8 litres	6mm Granite Aggregate	75kg
Water	15 litres	Water	15 litres	850	6 litres
Typical Yield	105 litres	Typical Yield	105 litres	Water	11.5 litres
Compressive Strength (28 days TYPICAL)	40N/mm ²	Compressive Strength (28 days TYPICAL)	50N/mm ²	Typical Yield	95 litres
				Compressive Strength (28 days TYPICAL)	69N/mm ²

NOTES

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 (**850**:water). 12/06



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