

DATA Sheet



ADMIX 50

USES

ADMIX 50 is ideally suited for the modification of sand and cement to produce hand or spray applied repair mortars and renders with enhanced polymeric and pozzolanic properties. When mixed with cement, the product can be used as a primer for steel reinforcement and a bonding aid for polymer mortars and renders.

ADVANTAGES

INNOVATIVE:	Combines the latest polymer technology with metakaolin, a highly reactive manufactured pozzolan.
THIXOTROPIC:	Allows easy application to achieve high application thicknesses in vertical, horizontal and overhead situations. Resulting spray applied mortars have low rebound losses.
FIBRE REINFORCED:	Option of reinforcing with alkali resistant glass, stainless steel or polypropylene fibres.
STABLE:	The product does not segregate or gelatinise on storage, assisting ease of use.
LOW PERMEABILITY:	Continued pozzolanic reactions provide a dense matrix with excellent protection from the ingress of acid gases, moisture and chlorides.
SIMPLE:	The polymer, pozzolan and admixtures are all pre-blended and conveniently packaged for on-site mixing with sand and cement.

PRODUCT DESCRIPTION

ADMIX 50 is a concentrated blend of styrene acrylic copolymer, metakaolin, superplasticizer, water repellent and water retention aids which, when blended with Portland cement and a sharp washed Medium Grade concreting sand, graded in accordance with BS 882 (1994), produces a high strength repair mortar suitable for application by hand or using spray techniques. Proprietary alkali resistant glass, stainless steel or polypropylene fibres can also be used to give additional benefits of fibre reinforcement. This carefully blended admixture enables high build applications and produces a surface which can easily be profiled with a steel or wooden float.

The enhanced properties ensure high adhesion, low shrinkage, excellent resistance to freeze-thaw attack and high flexural and compressive strengths. Once applied, the mortar has excellent resistance to wash-out and cures rapidly to form a dense, impermeable matrix with high diffusion resistance to oxygen, acid gases and chloride ions.

ADMIX 50 can also be used to produce a Guniting with enhanced properties for application by the wet or dry process allowing high build applications with low rebound losses at low water:cement ratios.

TECHNICAL DATA

Basis:	Blend of styrene acrylic copolymer, metakaolin, superplasticizer, water repellent and water retention aids.
Form:	Creamy thixotropic paste.
Specific Gravity:	1.15.
Solids Content:	Approx. 50%.
Applied Density:	2100-2300kg/m ³ .
Min. Application Thickness:	2.5 times max. aggregate size.

Max. Application Thickness: 80mm Hand applied.
150mm Sprayed.

Min. Application Temperature: 5°C.

Typical Dosage: 10kg per 50kg cement.

Maximum Dilution: 1:3 (**ADMIX 50**:water).

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 using wet grit blasting techniques or equivalent approved methods. The strength of the concrete sub-base should be a minimum of 20N/mm². If the substrate is cracked and fissured or has a strength of less than 20N/mm², suitable anchors and additional reinforcement must be provided, particularly in sprayed mortar applications. The prepared substrate should be thoroughly soaked with clean water until uniformly saturated without any standing water.

PRIMING

Where necessary, the prepared steel should be primed with a slurry consisting of 1 part **ADMIX 50**, 1 part water and 2 parts ordinary Portland cement mixed to give a thin emulsion consistency. Where the substrate exhibits high porosity, the pre-dampened surface should also be primed with this slurry (coverage 10-15m²/kg of **ADMIX 50**).

Allow to become dull before continuing with the application (typically 30-60 minutes) and remove any excess material lying in rough, broken or irregular surfaces. If the material is allowed to dry fully, then it must be mechanically removed before re-application as above.

Alternatively, **STEEL REINFORCEMENT PROTECTOR 841** and **BONDING BRIDGE 842** should be used as described in the individual data sheet.

The materials should be mechanically mixed using a forced action pan mixer or in a clean drum, using a drill and paddle.

MIXING

A normal concrete mixer is NOT suitable. Shake the **ADMIX 50**. Pour the required quantity into the mixing container together with an equal volume of water and thoroughly disperse. Slowly add the required amounts of sand, cement and, if necessary, fibres and coarse aggregate as determined from the mix design guide above and mix until homogeneous. Continue to mix and add the minimum of extra water required to give the desired workability to enable correct application 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.

For dry process Guniting applications, the sand, cement and, if necessary, fibres and coarse aggregate should be pre-blended. The **ADMIX 50** should be thoroughly dispersed in the mixing water and regularly agitated to prevent segregation, prior to incorporation at the nozzle.

RECOMMENDED MIXES	REPAIR MORTAR		WATERPROOF RENDER	BEDDING MORTAR	GUNITE	
	HIGH PERFORMANCE	HEAVY DUTY			WET PROCESS	DRY PROCESS
Portland Cement	50kg	50kg	50kg	50kg	50kg	50kg
Medium Grade Sand	150kg	75kg	125kg	125kg	150kg	200kg
Granite Aggregate	-	75kg (3-6mm)	-	-	50kg (10mm)	-
ADMIX 50	10kg	10kg	10kg	12.5kg	10kg	10kg
Water	15 litres	11.5 litres	12 litres	9 litres	15 litres	15 litres
Typical Yield	100 litres	95 litres	90 litres	90 litres	120 litres	125 litres
Compressive Strength (28 days TYPICAL)	50N/mm ²	65N/mm ²	45N/mm ²	48N/mm ²	60N/mm ²	55N/mm ²
APPLICATION	Repair mortars should be applied so as to remove entrapped air, in layers not exceeding 80mm thickness. If necessary support with shuttering to allow for compacting if working to reveals, etc. For repairs which require multi-layer application, it is important to ensure that the previous layers are well keyed and hardened, but not fully cured (ideally 24 hours dependent upon temperature), prior to the application of subsequent layers.		Apply using a steel float or serrated trowel to give a well keyed surface, working the materials into blow holes and minor defects building up to a maximum thickness of 6mm. A second layer should be applied when the first layer is stable but not fully set, usually 4-24 hours. The total thickness of the finished waterproof render application must be at least 10mm thick. Bedding of bricks and floor tiles can be achieved with a thickness of 6mm.		Please contact our Technical Department for advice on sand gradings. Sea-dredged sands are not suitable. To guard against segregation in dry process applications, the sand should contain 3-7% water. This must not exceed 7% otherwise blocking of the lines may occur. This can be alleviated by replacing up to 15% by weight of the sand with a clean, coarse aggregate with a minimum particle size of 10mm. Finer sands may be used for flash coats or finishing to provide a high quality finish.	
NOTES The above 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. Mixes can also be fibre reinforced using alkali resistant glass, stainless steel or polypropylene fibres. Please consult our Technical Department for further advice on mix designs and details on suitable Guniting equipment. Final profiling should be carried out with a steel trowel or wooden float to provide a high quality surface finish. Please consult the "Code of Good Practice" issued by the Sprayed Concrete Association for more detailed advice on Gunite applications. For flooring applications please consult BS 8204: part 3 "Code of practice for polymer modified cementitious wearing surfaces".						

CURING

Normal concreting procedures should be strictly adhered to. It is important that the surface of the applied material 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

12 months in frost free conditions with unopened containers under above storage conditions.

PACKAGING

Pack Size: 10kg.

SAFETY DATA

Safety Data Sheet available on request.

12/06



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