

Mulsifix Lightweight Mortar

high build cementitious
mortar for vertical and soffit
repairs

mf. Lightweight Mortar

About this product

Mulsifix Lightweight Mortar is a polymer modified cementitious mortar mix, with specially selected lightweight fillers. It is preblended, contains a polymer powder and simply requires the addition of clean water to produce a mortar suitable for both soffit and vertical repairs in situations where high build replacement with conventional concrete is impractical.

Features and benefits

- High build-up to 75mm in soffit patch repairs, without formwork.
- Easy to apply, excellent application properties.
- Excellent adhesion to well prepared concrete.
- Factory preblending eliminates on site mixing errors and variations in quality, availability and grading of local cements and aggregates.
- Suitable for internal and external application - improved freeze/thaw resistance.
- Non-toxic.
- Agreement approved as part of the Mulsifix Concrete Repair System.
- Can be overcoated with Mulsicoat anticarbonation coatings for optimum protection of reinforced concrete.

Typical properties

20kg Mulsifix Lightweight Mortar with 2.4 litres of water cured at 20°C

	3 days	7 days	28 days
Compressive strength (BS6319: Part 2: 1983)	20 N/mm ²	23 N/mm ²	30 N/mm ²
Tensile strength (BS6319: Part 7: 1985)	-	1.6 N/mm ²	2.5 N/mm ²
Flexural strength (BS6319: Part 3: 1983)	-	4.5 N/mm ²	5.5 N/mm ²
Plastic density	1420 kg/m ³		
Working life	30 to 40 minutes depending on temperature.		

Shrinkage/Expansion

Shrinkage tests using tests specimens as per BS 1881: Part 5 1970 cured in three ways gave the following readings at 28 days:

1. +0.005% Cured above water at 20°C
2. +0.175% Cured in water at 20°C
3. -0.095% Cured in air at 25°C

Coutinho rings and "Wedges" 200mm long x 75mm wide and slopping from 75mm to 0mm, cast with 2.5 litres of water per 20kg showed no signs of cracking.

Permeability

Tests were carried out by The Queen's University Belfast. The permeability coefficient (CLAM Test) is obtained after the samples have been soaked in water for 24 hours prior to the test. The initial absorption test results are obtained with the sample not conditioned before the test.

	Permeability Coefficient (m/sec)	Initial Absorption (m ³ /sec)
Mulsifix Lightweight with 2.4 litres water per 20kg	1.21 x 10 ⁻¹⁴	22.1 x 10 ⁻¹⁴
OPC Concrete mix. w/c ratio 0.6	48 x 10 ⁻¹⁴	211 x 10 ⁻¹⁴
OPC Concrete mix. w/c ratio 0.4	2.3 x 10 ⁻¹⁴	19.6 x 10 ⁻¹⁴

Application

Surface preparation

a) Concrete

Concrete substrates must be adequately prepared to a clean freshly exposed surface, whether by use of a suitable mechanical method such as scabbling, grit blasting or needle gunning or by such other means as appropriate. Old concrete surfaces contaminated with oil or grease require preparation such as steam cleaning in conjunction with a suitable detergent. Care must be taken to ensure that the oil or grease is removed from the surface and not simply spread over a larger area. New concrete should be cured for at least 14 days using an approved curing technique, e.g. polythene film. Spray-on curing membranes are unsuitable for use on new concrete where toppings, renders, finishers, etc. are to be applied subsequently.

Where repairs are carried out, feather edging is not recommended; therefore the perimeter of the area to be repaired should be cut back to provide a square edge, minimum 10mm deep.

b) Steel

Steel reinforcement which has been exposed during preparation should be completely uncovered to the full circumference of the bar. Rust scale, corrosion products and other deposits shall be removed from reinforcement by grit blasting or other approved methods to achieve first quality to BS 7079: Part A1 (equivalent to Swedish Standard SA2). Steel cleaning shall include hidden faces at the back of bars and at intersections, and the bonding agent/holding primer applied immediately after.

In many instances where chloride-induced corrosion is absent, and where grit blasting is not practical, wire brushing or other techniques may be acceptable to the engineer, provided that care is taken not to polish the surfaces of the rust on the steel.

Mulsifix Lightweight Mortar

mf. Lightweight Mortar

Bonding slurry

Mix Mulsifix Keycoat in the proportions 9 litres water to a 25kg bag of Mulsifix Keycoat, adding this gradually to the water and stirring continuously until a smooth creamy consistency is obtained. Apply immediately to the prepared concrete surface which must previously have been thoroughly dampened with water. Use a stiff brush to scrub the slurry well into the surface. The approximate application rate is 1.5m² per litre. Place the repair material on to the slurry whilst it is tacky. In hot weather the slurry will dry quickly once it is applied and it is prudent to mix the mortar ready for application prior to applying the slurry. If the Mulsifix Keycoat does dry, it should be removed mechanically and a further coat must be applied.

Smaller quantities of bonding slurry can be mixed by using Mulsifix Keycoat and water in volume proportion of 2:1.

Alternatively use Mulsifix Latex - Slurry bondcoat mix. See Mulsifix Latex catalog for details.

Mulsifix Lightweight Mortar

- 1 A low shear forced action mixer must always be used e.g. Mixal Mixer or Creteangle.
- 2 Mixing time should be kept to 2 minutes from adding the powder to the water.
Over mixing will entrap air and reduce compressive strength.
Do not over mix.
- 3 Water addition is 2.4 - 2.7 litres of water per 20kg bag. Start at 2.4 litres of water and adjust as required upwards to 2.7 litres.

Apply the Lightweight Mortar to the substrate whilst the bonding slurry is still tacky and compact well into place. We do not recommend hand mixing this product.

Curing

Although shrinkage is minimised, some very fine cracking may occur particularly in large flat areas, or in adverse drying conditions - even when curing with polythene film. Bond and durability are not affected and a decorative treatment of Mulsicoat should be applied.

Unless a coating or other system is to be applied to the surface cure with Rite-Cure, applied immediately after finishing.

Where a coating etc. is to be applied, cure with close contact polythene film for a minimum of 7 days; the polythene film should be tight on the surface and taped around the edges.

Important notes

- 1 When replacing faulty cover on reinforced concrete, using Mulsifix Keycoat and Lightweight Mortar, the minimum thickness of cover must be 12mm. Below this figure, the concrete should not be pre-wetted but the following procedure should be taken.

Apply one coat of Epoxy Plus Tack Coat to the freshly prepared steel reinforcement and allow to become tack-free (3 to 6 hours). Where time restraints do not allow continuous working, to ensure adequate bond, this first protective coat should be dusted with fine, clean, dry sand and allowed to cure thoroughly. Excess sand and any dirt should be removed before the repair process is continued. Apply a second coat of Tack Coat to both the steel and concrete and whilst this is still tacky, apply the Lightweight Mortar using a gloved hand. The surface of the mortar should then be finished with a clean, steel float.

2. Where very thick sections are required, multiple applications may be necessary. Intermediate surface should be scratched to give a good mechanical key. Successive applications require the use of either Mulsifix Keycoat or Epoxy Plus Tack Coat.

Packaging and coverage

Bonding Slurry

Mulsifix Keycoat: 25m² per 25kg bag.

Lightweight Mortar

Mulsifix Lightweight Mortar: approximately 16 litres per 20 kg bag,

Precautions

Use only potable water for mixing.

Do not add extra water above stated quantities.

When mixing and applying, operatives are recommended to wear protective clothing - see Health and Safety below.

When cured Mulsifix Lightweight Mortar and Mulsifix Keycoat are stable to freeze/thaw conditions but following good concreting practice they should not be applied in freezing weather or at temperatures below 5°C.

Shelf life and storage

Clean dry conditions.

Avoid storing at above 40°C or below 10°C.

Shelf life in correct storage is minimum of 12 months.

Health and Safety

Mulsifix mixes contain cement which is alkaline and may cause skin irritation. We recommend the use of protective clothing and gloves. Mixing should be carried out in well ventilated conditions and breathing of dust must be avoided. Any powder contacting the skin should be washed off as soon as possible and any contamination of the eyes should be treated by washing with copious amounts of clean water. If irritation persists, obtain medical advice. For further information please refer to the Material Safe Handling Guide. Which also contains all data and information relating to the Control of Substances Hazardous to Health (COSHH)

Quality assurance

A policy of strict quality control has always been followed and the requirements of all relevant test standards are strictly adhered to.

Technical service

We can provide technical service at the specification stage and/or during application through our Technical Department or Laboratory. Detail specification or further information can be provided for specific projects or more general works. Site visits and on-site demonstrations can be arranged on request.



Trade Mark of Weber & Broutin United Kingdom Ltd.,
from whom we have obtained a licence.

To the best of our knowledge and belief, the information contained in this leaflet is true and accurate, but as conditions of use and any labour involved are beyond our control, the end user must satisfy himself by prior testing that the product is suitable for his specific application, and no responsibility can be accepted, or any warranty given by our Representatives, Agents or Distributors. Test results shown reflect typical figures based on laboratory testing under

AGE INDUSTRIES & TRADING SDN BHD
(320310-H)

No. 67, Jalan 30A/119, Taman Taynton View, 56000 Kuala Lumpur.
Tel: 603-9130 7563 Fax: 603-9130 8580
E-Mail: age@agesb.com Website: www.agesb.com