KingRep® EPBMS

Solvent free epoxy lining and benching mortar.

DESCRIPTION

KingRep EPBMS is a three component solvent-free lightweight epoxy mortar, designed principally for use with maximum chemical and abrasion resistance for protection of concrete and other substrate in sewage tanks and manholes. The lightweight graded filler system along with thixotropic additives, allows lining for high build applications particularly in vertical and overhead situations.

When used in conjunction with KingFloor Primer ML the product provides excellent adhesion to concrete materials. When finished correctly, KingRep EPBMS provides an impermeable layer with good resistance to abrasion, weathering and chemical attack.

KingRep EPBMS has a strength that exceeds normal concrete strength, the cured layer is tough, resilient and gives excellent resurfacing and repair system. KingRep EPBMS is supplied in a grey colour to match existing concrete substrates.

KingRep EPBMS application areas include, lining and benching manholes, sewage tanks, and all similar structures which require impervious mortar or lining to achieve maximum chemical resistance.

METHOD OF USE

Surface Preparation

The surface must be structurally sound, free from oil, grease and other forms of contamination. Concrete should be surface dry and suitably prepared either by scabbling or grit blasting to remove any surface laitance. Steel surfaces should be grit blasted to remove all rust and scale. (See the DCP Guide to Surface Preparation for further details).

Priming

Substrates should be primed with KingFloor Primer ML. The primer should be applied so that the surface is thoroughly wet, ensuring there is a continuous film of resin over the surface. The KingRep EPBMS should be applied whilst the primer is still tacky.

Mixing

KingRep EPBMS comprises three components, a resin base, hardener and filler which are supplied preweighed in the correct proportions. Under no circumstances should part mixing be carried out.

TECHNICAL PROPERTIES @ 25°C:

Solids:	100%
Mixed density:	2.05 ± 0.1 g/cm^3
Pot life:	100 - 120 min @ 15°C 50 - 60 min @ 25°C 20 - 30 min @ 35°C
Compressive strength: ASTM C579	≥ 70 MPa @ 3 days ≥ 90 MPa @ 7 days
Tensile strength: ASTM C307	> 7 MPa @ 7 days
Flexural strength: ASTM C580	> 29 MPa @ 7 days
Application thickness:	3 - 12 mm/single layer
VOC: ASTM D2369	< 30 g/ltr (complies with LEED)

Taking care to ensure that the bottom and sides are thoroughly scraped, transfer the entire contents of the hardener container into the RESIN container. Using a mixer attached to a slow speed electric drill, mix for approximately 2 minutes until a uniform consistency is obtained. The resin mixture should then be transferred to a separate container or forced action mixer such as a creteangle type mixer, and the filler gradually added and mixed for a further 2 minutes or until the filler has thoroughly wetted out and a uniform consistency obtained.

Application

The KingRep EPBMS should be applied and well compacted, by steel trowel. The lightweight mortar should be applied in successive layers, each layer being well compacted before each application of subsequent material. If the mortar has been allowed to harden, the surface should be abraded and a further coat of KingFloor Primer ML applied.
Where necessary, the mortar is shaped to the required profile e.g. to form a cove and trowelled to a smooth finish. This operation will be aided by lightly wiping the trowel with KingKrete solvent.

WORKING TIME

KingRep EPBMS has a working time of approximately 60 minutes at 20°C. Mixed material should not be left standing for any length of time prior to application as this will considerably reduce its working time.

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WORKING CONDITIONS

- KingRep EPBMS should not be applied at temperatures below 5°C.
- It is recommended that material temperature is not exceeding 35°C, and substrate temperature is not exceeding 55°C.

CURING

KingRep EPBMS should be allowed to cure for 24 hours at 20°C. At the same temperature, full mechanical and chemical properties are achieved after 7 days (please consult our Technical Department for details of curing times at other temperatures).

CLEANING

Clean uncured material with KingKrete solvent. Cured material can only be removed mechanically.

PACKAGING

KingRep EPBMS is available in 16 kg pack size comprising resin base, hardener and filler component. KingFloor Primer ML is available in 5 kg packs comprising resin base and hardener.

SPECIFIED THICKNESS RANGE

3 – 12 mm in a single layer.

YIELD

KingRep EPBMS: 2.5 - 2.7 m²/16 kg pack @ 3 mm thick. KingFloor Primer ML: 4.0 - 5.0 m²/liter.

STORAGE

Shelf life is 1 year when stored under cover, out of direct sunlight and protected from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult KingKrete's Technical Services Department.

CHEMICAL RESISTANCE

Based on test method ASTM D1308, after 7 days immersion in the below chemicals:	
Detergents	R
Hydrocarbon fuels	R
Sodium Hydroxide 50%	R
Sodium Chloride 50%	R
Salt water	R
Oleic acid	R
Sulphuric Acid 15%	RS
Acetic Acid 5%	R
Citric Acid 10%	R
Tartaric Acid 10%	RS
Hydrochloric Acid 10%	RS
Nitric Acid 10%	RS

HEALTH AND SAFETY

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Reseal containers after use. Use in well ventilated areas and avoid inhalation.

NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local KingKrete representative. KingKrete Inc. reserves the right to have the true cause of any difficulty determined by accepted test methods.

QUALITY AND CARE

All products originating from KingKrete's manufacturing facilities are manufactured under a management system independently certified to conform to the requirements of the quality standard ISO 9001.

* Properties listed are based on laboratory-controlled tests.
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