



Specialist Construction Supplies for Repair, Maintenance, Building & Infrastructure

Ultracrete M45 Data Sheet

Specification notes

Product: **Ultracrete M45**

Supplier:

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Rapid Strength Bedding and Repair Mortar

Information

Ultracrete M45 is a rapid high strength bedding and repair mortar for use with all ironwork conforming to BS EN 124. The rapid set properties make it perfect for emergency repair projects.

Technical

Ultracrete M45 is supplied in 25kg bags or tubs and is a fully pre-mixed dry-pack requiring the addition of water on site. It can be used from 10mm – 75mm in one pass, greater depths can be achieved by using a layer upon layer method. **Ultracrete M45** can be bulked out with the addition of up to 50% hard stone clean aggregate (addition of aggregate will slow strength gain). Exceptional bond strength is achieved without the use of a primer.

Preparation

Surfaces should be free from any contamination of oil, grease, paint etc. Remove all loose particles and work on a sound substrate. Pre-wet area with water.

Mixing

Ultracrete M45 should be mixed by forced action mixer or by vigorous hand mixing with an appropriate tool. A 25kg bag will require approximately 3.3 litres of water. A stiff consistent mix with no slump should be achieved, ensuring all particles are well wetted, clean equipment immediately.

Placing

Always apply the bedding material over pre-wetted area. Once mixed the material should be applied to the supporting structure within 4 minutes and firmed well into position using a float allowing a 5mm excess thickness. Place the frame onto the bedding mortar ensuring it is fully supported, check that the frame does not overhang the mortar at any point (use suitable lifting equipment when positioning the frame).

Care must be taken to avoid voids in the bedding material under the frame, especially in the cover seating area. The frame should then be tamped into place ensuring the correct level is obtained. Any holes within the frame should be infilled and the flanges of the frame enveloped by a minimum thickness of 10mm of the bedding material. Exposed surfaces of the bedding material should be float finished, ensuring voids are filled. Remove loose materials and point the inside surface to a smooth finish. Once the bedding material has reached strength the backfill material can be placed.

Precautions

- Wear protective clothing and wash tools frequently.
- Mix only enough material to apply in 4 minutes.
- Protect for 10 minutes from external water ingress.
- Never remix or add extra water.



Features & Benefits

Ultracrete M45 is a cementitious bedding and repair mortar designed for the fast levelling of street ironwork. Once applied the road can be opened to traffic after only 45 minutes. Key features include: –

- Rapid strength gain, shrinkage compensated.
- Can accommodate depths from 10-75mm in one pass.
- Easy mixing, low temperature placing.
- Consistent performance in all weather conditions.
- Conforms to Department of Transport Design Manual for Roads & Bridges HD27/94.
- Suitable for all ironwork conforming to BS EN 124.
- Manufactured under a Quality Management System BS EN ISO 9001:2000.

Recommended Applications

Levelling of street ironwork, emergency concrete road repairs, hand profiled kerb repairs, tidal repair projects.

Related Products

Ultracrete M60	Rapid strength Bedding Mortar.
Ultracrete QC10	Rapid strength concrete.
Ultracrete IRR	Permanent cold lay macadam (Type 2, 3 & 4 Roads).
Ultracrete SCJ	Bitumen cold joint sealer.
Ultracrete PY4	Polyester resin mortar.
also	
Ultracrete Instaline	Thermoplastic road marking repair.
Ultracrete Instaband	Skid resistant Overbanding tape.

Health & Safety

Operatives should wear protective clothing and work in well-ventilated conditions.

This product contains cement which, when mixed is alkaline and may in some cases cause skin irritation.

If product enters the eyes, wash thoroughly with clean water. If discomfort continues seek medical advice. In common with all powder products, the material should be mixed carefully, avoiding the raising of dust.

Typical Lab Result – Ultracrete M45 (NAMAS Accredited)

Age	Curing Temperature	Compressive Strength (N/mm ²)	Tensile Strength N/mm ²
45 minutes	20°C	20.0	–
2 hours	20°C	25.0	–
1 day	20°C	30.0	1.93
7 days	20°C	40.0	2.73
28 days	20°C	50.0	2.83
Workability	5 – 10 minutes*		
Set Time	15 minutes*		

*Depending on temperatures – test carried out at 20°C. Cool temperatures retard, warm temperatures accelerate.



Design Manual for Roads & Bridges

The Department of Transport

Design Manual for Roads & Bridges

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Part 4, HD 27/04

3.11 Mortars for bedding ironwork such as manhole cover frames during repairs may be trafficked when the strength is expected to be 20 N/mm². For rapid construction, this strength should be achieved within 2 hours.

Unit/Packaging	25kg bag or tub delivered on shrink wrapped pallets
Storage	Store in a dry place at temperatures between 5° – 30°C. Shelf life in correct conditions for sealed bags and unopened tubs is 6 months. High temperatures and high humidity during storage may lead to a reduced shelf life and therefore use.
Density	2.220kg/m ³
Yield	12.5 litres (approximately)
Colour	Light Grey

For updated Material Safety Data information visit www.instarmac.co.uk

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