



奧迪美®

TM177

THIXOTROPIC MORTAR

TESTED FIRE RESISTANT TO SECTION 5 OF BS476: PART 22: 1987

PRODUCT DESCRIPTION

OPTIMIX TM177 THIXOTROPIC MORTAR is a high quality specialized high-build mortar for creating architectural decorative elements and attractive rendered finishes. Capable of building up to 150mm unsupported, it is ideal for sculpting artificial stone, rocks, wood, embossed brick or similar textured finishes. At the same time, its light weight makes it easy to handle and achieve a smooth rendered finish while its proven fire resistance and tough durable finish makes it safe for use in internal and external public areas.



TYPICAL USAGE

Suitable for rendering, molding or sculpting to a textured finish. **OPTIMIX TM177 THIXOTROPIC MORTAR** can be left as a natural cementitious finish, stained, painted or receive additional construction layers as required. Artisans can create durable bespoke cladding, decorative elements and rigid solid objects in locations such as gardens, amusement parks, car parks, public areas, lobbies, hallways, offices and private areas both on-site or off-site prefabricated as required.

FEATURES AND BENEFITS

- Consistent Quality
- Simple and Easy to Use
- Low Shrinkage
- Outstanding Physical Properties
- Good Adhesion to Substrates
- Lightweight and High-build
- Trowellable and Sprayable
- Environmentally Friendly
- Extended Working Time

TECHNICAL DATA

Mixing

Water Demand	4.25 – 5.0 L per 25 kg powder
Mixing Method	Forced Action Mixer e.g. Low Speed (~500rpm) Drill & Paddle
Mixing Time	Mix for 5 minutes or until homogeneous and lump free, rest for 5 minutes & briefly remix before use

Performance ¹⁾

Product Characteristics	OPTIMIX TM177
Compressive Strength at 28 days	10.0 MPa
Flexural Strength at 28 days	3.0 MPa
Bond to Concrete at 28 days	0.8 MPa
Linear Shrinkage at 28 days	< 0.07%

Packaging & Yield ²⁾

Wet Density (kg/m ³)	1,650
Coverage (kg/mm/m ²)	1.4
Yield (per bag)	18 L
Packing Size (per bag)	25 kg
Shelf Life	12 months



Environmental Data

Volatile Organic Compounds (VOC)	< 10 g/kg
Potential BEAM points	Product is manufactured within 800km of Hong Kong project sites
Packaging Composition	Paper bags incorporating 40% recycled paper

Fire Resistance and Thermal Insulation	Specification	Result	Compliance
Minimum Duration of the Test	>120 minutes	122 minutes	Pass
Fire Resistance – Integrity of the TM177 (Measure damage, collapse or sustained flaming on the unexposed (reverse) face of the specimen)	No failure	No Failure	Pass
Fire Resistance – Insulation of the TM177 (Measure mean temperature rise on the unexposed (reverse) face)	Max. 140 °C	86 °C	Pass
Fire Resistance – Insulation of the TM177 (Measure maximum temperature rise on the unexposed (reverse) face)	Max. 180 °C	104 °C	Pass

Note: Maximum mean furnace temperature at cessation of the test was 1056 °C.



Testing Methods ³⁾

Density	BS 4551
Compressive and Flexural Strength	BS EN 196-1
Pull-off Test	HKHA/MTS (2000), Part D 2.1.15
Linear Shrinkage	HKHA/MTS (2000), Part D 2.1.21
VOC Content	USEPA Method 24
Fire Resistance Test	BS EN 1364-1: 1999, BS476: Part 22: 1987, GB/T 9978.8-2008

- 1) *The results given are typical laboratory results and can vary slightly depending on the ambient and substrate conditions during application.*
- 2) *These are approximate figures and take no account of wastage.*
- 3) *The tests were performed according to the national standard (or in-house modifications of the corresponding testing procedure).*

INSTALLATION GUIDE

(Refer to Method Statement for more details)

SURFACE PREPARATION

Substrate must be clean, free from loose particles, oil, grease and other contaminants. It is recommended to pre-wet the substrate with potable water overnight or before application if the weather or surface is under a very dry condition. If necessary, spatterdash with **OPTIMIX PROCRETE** emulsion, **OPTIMIX PROCRETE** bondcoat slurry or **OPTIMIX SF80** can be used for enhancing the bonding of the thixotropic mortar.

MIXING*

Measure 4.25 – 5.0 L potable water and mix with a full bag of **OPTIMIX TM177**. Optimix recommend mixing one bag at a time to ensure complete and proper mixing of all components. Mechanical mixing with slow speed drill (~500rpm) fitted with a suitable paddle is recommended. Mix the mixture for about 5 minutes or until a lump-free homogeneous mixture is achieved. Allow the mixture to rest for about 5 minutes and then briefly remix just before use.

Do not exceed the maximum water addition or add any more water once the desired workability is achieved.

For combined mixer/sprayer, such as the PFT G4 or G5 pumps, simply adjust the water flow

rate to the minimum level necessary to achieve a workable mix. (see limitations for use)

APPLICATION

The mortar may be sprayed or trowel applied onto the prepared substrate and worked by hand, trowel or other utensils to achieve the desired finish. The mixed mortar should be applied within its pot life which is roughly 1 to 2 hours after mixing by hand depending on ambient conditions.

OPTIMIX TM177 can be applied in multiple layers up to a maximum of 150mm per layer depending on the design and the support. Material must be set and hardened to sufficient strength before applying subsequent layers.

FINISHING

The applied mortar should be trowel or hand finished within its adjustment time. The adjustment time is the period after installation while the material is still workable. This will vary greatly due to ambient conditions, substrate condition, application thickness and application method. Thinner section installation, direct sunlight, dry and porous substrates and spray application will all tend to shorten the adjustment time, but as a rough guide, aim to complete the finishing within 30 minutes of



application. Stop working the material once it loses workability. Do not add additional water to restore workability, however, a light misting of water or a damp trowel may be used to help close a surface, avoid trowel sticking and achieve smooth finish.

CURING

Curing may be carried out by any traditional methods which do not damage the decorative appearance or inhibit application of subsequent coatings; e.g. damp cloth, polythene sheet, humidifier, curing membrane etc.

It is recommended to allow the mortar to cure for 3-5 days before painting or other coating is applied.

*LIMITATIONS

OPTIMIX TM177 has been found to work with many paints, coating and concrete staining products, but Optimix offer no guarantee of performance and quality of finish. Trials should always be carried out to confirm the final appearance is as expected.

Optimix recommend carrying out trials in advance of main works to ensure that desired results can be achieved.

When using a combined mixer/sprayer minimum water addition should be used and trials should be carried out and monitored for 3 to 4 weeks to ensure that the result is satisfactory.

HEALTH AND SAFETY

OPTIMIX TM177 is alkaline in nature and can cause irritations to persons with sensitive skin. Avoid inhalation of dust and contact with skin and eyes. Wear suitable protective gloves and masks while handling the product. If contact with eyes, rinse immediately with plenty of clean water and seek medical advice. This product is non-toxic and is not flammable.

STORAGE

Store the products in a cool and dry place with the original unopened bags on pallets with plastic wrapping. Protect from direct sunlight, rainfall and exposure to high humidity conditions. Avoid excessive stacking of pallets. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging and reduce shelf life.

Important Note: The information contained herein is, the best of our knowledge, true and reliable and is supported by the present state of our knowledge. No warranty is given or implied in connection with any recommendations or suggestions made by us or our representatives as the conditions of use and any labour involved are beyond our control.



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