



ECO BUILD PROFILING MORTAR

Zero OPC - Ultra-Low CO2 emissions

Cement Free Concrete Repair and Protection

PRODUCT DESCRIPTION

OPTIMIX ECO BUILD PROFILING MORTAR is a high quality and environmentally friendly repair mortar based on Optimix's own patented silicate technology.

It is a single component pre-bagged powder product incorporating an inorganic binder system and requiring just the addition of water and traditional mixing techniques. The resulting mortar offers outstanding chemical resistance and protection from acids and ion ingress.

OPTIMIX ECO BUILD PROFILING MORTAR is an ideal solution to deterioration of concrete in harsh environments such as sewers and coastal structures.

TYPICAL USAGE

- Concrete Sewage Tanks
- Concrete Waste Water Pipes
- Concrete Coastal Structures
- Concrete at risk from chemical corrosion

FEATURES AND BENEFITS

- Award Winning Patented Technology
- Alkaline and acid resistance
- Hard surface finish
- Suitable for use on damp surfaces
- Consistent quality
- Fast-set mortar
- Inorganic
- Good bonding
- Chloride resistance
- Environmentally Superior



AWARDS

OPTIMIX ECO BUILD PROFILING MORTAR was honourably awarded the Gold Medal with Jury's Commendation from Green Repairing Technology, Salon International Des Inventions Geneva in 2019.



TECHNICAL DATA

Mixing ²⁾

Water Addition	0.650 - 0.750 litres per 5 kg powder
Mixing Method	Low Speed (~500rpm) Drill & Paddle
Mixing Time	Mix 1 minute, stand for 3 minutes then remix for 1 minute immediately before use

Performance ³⁾

Characteristic	Test Method	Typical Result
Compressive Strength @ 1 day	BS EN 1015 - 11	Approx. 10 MPa
Compressive Strength @ 7 day	BS EN 1015 - 11	Approx. 30 MPa
Compressive Strength @ 28 day	BS EN 1015 - 11	Approx. 40 MPa
Flexural Strength @ 1 day	BS EN 1015 - 11	Approx. 1.9 MPa
Flexural Strength @ 7 day	BS EN 1015 - 11	Approx. 4.1 MPa
Flexural Strength @ 28 day	BS EN 1015 - 11	Approx. 4.5 MPa
Pull-Off Strength @ 7 day	BS EN 1015 - 12	Approx. 1.5 MPa
Pull-Off Strength @ 28 day	BS EN 1015 - 12	Approx. 2.0 MPa
Setting Time	BS EN 196-3	180 minutes
Acid Resistance	JSWA 2017 ⁴⁾	Weight loss < 5%
Pot Life	In House Method ⁵⁾	10 to 45 minutes

Packaging & Yield ¹⁾

Wet Density	2000 kg/m ³
Coverage	1.77kg/mm/m ²
Yield (per 5 kg bag)	2.8 L (or 0.56 m ² @ 5mm thick)
Packing Size	15 kg drum (3 x 5 kg bags)
Shelf Life	6 months

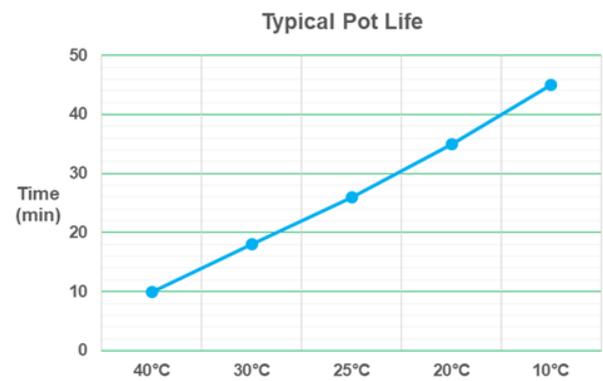
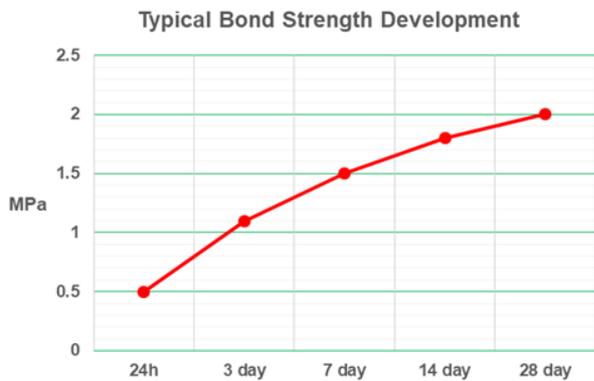
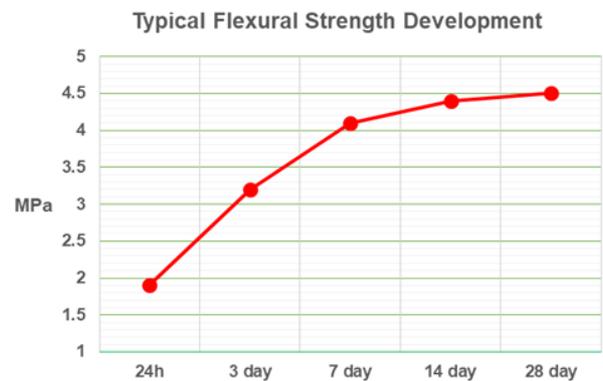
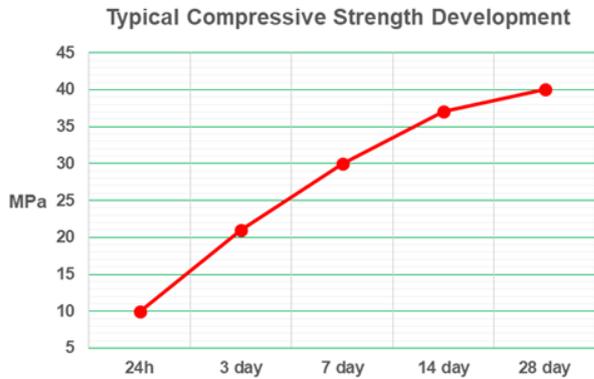


Notes

- 1) Approximate figures make no account for wastage of any kind.
- 2) Recommended method to achieve optimal results.
- 3) Typical results achieved in laboratory conditions and for reference only. Actual results on site will vary with ambient and substrate conditions.
- 4) Japan Sewage Works Agency, Corrosion Control and Anti-Corrosion Manual for Concrete Sewerage, 2017. Results based on comparative tests vs normal OPC based concrete.
- 5) In-house method based on practical workability.

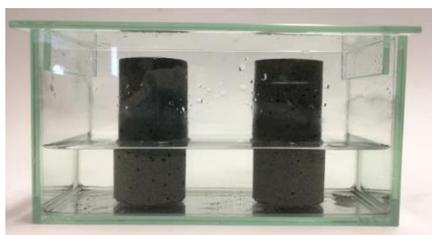


STRENGTH DEVELOPMENT

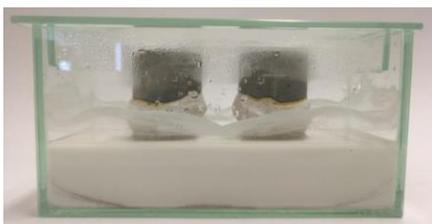


CHEMICAL RESISTANCE

Samples exposed to the attrition of a circulating acid solution maintained at pH 0.5 for 28 days exhibited excellent resistance when compared to OPC based materials.



Eco Build



OPC

Weight Change In Acid



	Original	1d	7d	14d	28d
OPC					
Eco Build					



INSTALLATION GUIDE

(Refer to Method Statement for more details)

SURFACE PREPARATION

Clean the exposed concrete surface and remove dust and loose particles. Clean the surface thoroughly to remove all oil and grease. Expose and remove all loose rust from corroded reinforcement. Concrete substrate should be soaked with potable water and excess water should be removed. For repairs break out the damaged area and saw cut the perimeter at right angle to the face of the concrete to a depth of at least 5mm.

MIXING AND APPLICATION

Mix one 5kg bag of **OPTIMIX ECO BUILD PROFILING MORTAR** dry powder with 0.650 - 0.750L potable water.

Mechanical mixing using a slow speed drill fitted with a suitable paddle is recommended. Mix the mixture for 1 minute and then leave the mixture to normalize undisturbed for 3 minutes. Then, immediately before use mix again for 1 minute to achieve final consistency. Mix only as much material as can be applied within the pot life.

The mortar is limited to 5kg bags to ensure that all the material can be used up within the pot life. As soon as it begins to 'firm up' in the bucket the material should be discarded and fresh material prepared.

FINISHING AND CURING

The mortar can be directly applied by a trowel similar to normal cementitious material. Aim to apply a minimum of 2 coats in layers between 2mm to 5mm thick. Additional coats can be applied once the previous coat has achieved sufficient strength, usually after at least 4 hours. For the final surface wait until the surface firms up then carefully strike off using one or two passes of a trowel cleaned with a damp cloth. If required a traditional curing compounds can be applied after 2 hours once the surface has set.

LIMITATIONS

- Do not dilute **OPTIMIX ECO BUILD PROFILING MORTAR** with any other materials.
- Ensure that equipment is clean, do not mix with OPC or add any polymers or other admixtures.
- Do not apply in layers greater than 5mm thick.
- Traditional site practice of finishing using a wet brush is not advised.
- The material is temperature sensitive, do not apply the material onto the surface with different temperatures or mix with hot water.
- The installation should be protected from direct sunlight, wind and water for at least 48 hours and avoid contact with acids and other corrosive chemicals for at least 7 days.

HEALTH AND SAFETY

OPTIMIX ECO BUILD PROFILING MORTAR is extremely 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 in the original unopened bags in sealed pails under dry conditions. Store out of direct sunlight, clear of ground on pallets protected from rainfall. Avoid excessive stacking of pallets. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.

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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