

MasterFlux 5460RMX (formerly BluCem RMX LH60)

Deep pour ready mix grout/micro concrete

Material Description

MasterFlux 5460RMX is a ready-mix, deep-pour grout/micro-concrete delivered pre-mixed in concrete agitators for efficient application in civil engineering projects.

Its pumpable formulation incorporates specially graded aggregates and advanced cement additives, making it Class C dual shrinkage compensated, low-heat reacting, alkali-silica reaction free, and ultra-low permeability.

Designed with slow-reacting cements and selected aggregates, it generates minimal exothermic heat during hydration, allowing for controlled placement in large pours.

This low-heat characteristic, combined with full shrinkage compensation, makes **MasterFlux 5460RMX** ideal for deep-pour applications where thermal shrinkage control is critical to protecting surrounding structures and services.

Areas of Application

- Restoration of damaged concrete structures such as columns, beams, and foundations in infrastructure projects like bridges, tunnels, Marine structure repairs, including piers and wharves and retaining walls.
- Filling voids, honeycombs, or large cracks.
- Ideal for deep pours with low heat generation.
- Suitable for thick concrete sections.
- Grouting for precast elements and base plates.
- Installation of heavy-duty industrial flooring and machinery bases.
- Applications requiring low electrical resistivity and high thermal conductivity.

Characteristics and Benefits

- Low exothermic heat generation - making it ideal for large pours where temperature control is critical.
- High compressive strength - providing robust support for structural applications.
- Pumpability and workability - facilitating efficient application in deep-pour scenarios.
- Ready-mix convenience - eliminating the need for on-site mixing, reducing labor costs, and ensuring consistent quality.

Properties

All mix designs of **MasterFlux 5460RMX**; comply with AS 3792 (Cement) and AS 2758.0 (Aggregates).

Application Properties	Results
Water addition	Maximum 13%
Application thickness	250mm*
Pump life @ 20°C	120 minutes
Maximum particle size	5.0mm

**Refer to Master Builders Solutions for advice and approval on pour thicknesses with dimensions exceeding the specified value.*

The below indicative test data are sourced from the third party test certificates for specific mix designs of various locations (NSW, VIC, QLD, SA and WA) in Australia.

Detailed mix designs and corresponding test certificates are available upon request.

Tested Characteristic	Test Method	Results
Compressive Strength	AS 1478.2 Appendix A	1 day: >20 MPa
		7 days: >50 MPa
		28 days: >70 MPa
Flow	AS 1478.2 Appendix D	>650mm
Early Volume Change	AS 1478.2 Appendix E	60min: 1.7%
Dimensional Change	AS 1478.2 Appendix B	28days: <650µStrain
Change in Height	ASTM C1090	28 days: <0.04

Note:

For accurate results based on local site conditions and raw materials, a project-specific trial must be arranged.

The QC Test results are expected for every approved mixed designs to be recorded as minimum expectations for:

Compressive strength (3 cubes/ mix 50m³ :First load/Middle load/Last load) as well as Spread test.

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Application

MasterFlux 5460RMX may be poured or pumped into place. Do not exceed the maximum application thicknesses specified in the data sheet for any wet layer.

Consult Master Builders Solutions for further information about aggregate addition for large volume pours.

For detailed application methodology, please refer to "Cementitious Grouts- MasterFLux systems" application guide.

Concrete Preparation

All defective host substrate must be removed prior to application.

Damaged or contaminated concrete shall be removed to obtain a keyed aggregate exposed surface. Non-impact/vibrating cleaning methods, e.g. grit or high pressure water blasting are recommended. Scabble to a surface profile of ICRI CSP 7 or greater. The correct balance between roughening the surface and not causing further micro-cracking and damage should be trialled and assessed using adhesion test methods following initial preparation trials.

All surfaces must be free of dust, oils and surface contaminants. This may require steam cleaning or high pressure water blasting.

No special primer is required other than pre-soaking for form and pour applications. However, the application of MasterCrete PRI 157 or MasterCrete PRI 5000 recommended when extra bond to the substrate needed.

Pumping

Once the grout has been mixed and delivered you need an effective pumping method to deliver it to the area of application. Master Builders Solutions are able to recommend the right mixer for your project.

Once grout is mixed, it is important to keep it agitated continuously prior to pumping. Although, this product has a long pot life, if the grout is allowed to sit then it will 'gel' and may become more difficult to pump.

Once the site is ready for grout placement, commence pumping. It is important to pump continuously and avoid the formation of cold joints.

Application Temperatures

The mix water's temperature should be kept as low as possible to prevent the grout from hydrating too rapidly.

As with the water temperature, the higher the air temperature the more quickly the grout hydrates and sets. Master Builders Solutions specify mixing times and set times at an ambient temperature of 20°C. These times vary with temperature fluctuations, and adjustments will be required to compensate for this.

Exposing the pumping hoses to the sun on a hot day accelerates the product's set time. In some cases it may be necessary to cool the material, the mix water, or even the hose itself during the process and pre-planning the storage of all materials to keep the temperature as low as possible.

Curing

It is recommended that the final surface finish layer is coated with curing compound or otherwise maintained wet for at least three days.

Packaging

MasterFlux 5460RMX is delivered to site as wet mix per m³.

Precautions

For the full health and safety hazard information and how to safely handle and use this product, make sure that you obtain a copy of the Safety Data Sheet (SDS) from our office or website.

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Specification Clause

Deep Pour Engineered Micro Concrete - the deep pour grout/micro concrete used for this project shall be a ready mix grout mixed and batched at a concrete plant delivered in concrete agitators ready to use on site. The product must have independent testing to validate the performance outlined in the technical data table on the following pages. MasterFlux 5460RMX manufactured by Master Builders Solutions or equivalent shall be accepted.

Disclaimer

MasterFlux 5460RMX-ANZ-V2-0625

STATEMENT OF RESPONSIBILITY

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