

# PREMIER™ GROUT MP



### PRODUCT DESCRIPTION

Premier Grout MP is a multipurpose Class A non-shrink grout based on mixture of portland cement, graded aggregate and chemical additives that impart a controlled expansion while in the plastic state.

The gaseous expansion system compensates for shrinkage and settlement in the plastic state.

Premier Grout MP is supplied as a ready to use dry powder that only requires the addition of a controlled amount of clean water to produce a free flowing grout suitable for gaps 20mm - 100mm in a single application.

### RECOMMENDED USES

- General purpose grouting.
- Precast and Tilt Slab panels.
- Sleeves and tubes in precast panels.
- Ducts in post-tensioned concrete panels.
- Column bases.
- Filling core holes, rod holes and defects in concrete.
- Joints between precast panel and foundations

### FEATURES

- Non Shrink - Good dimensional stability - Complete void filling.
- Very versatile - Can be dry packed, rammed, trowelled, poured and pumped.
- Economical - low in-place cost.
- Ready to use pre mix, requires only the addition of clean water.
- Non staining - iron free.
- Low water/cement ratio - reduced drying shrinkage -increased durability - reduces permeability.

### Typical Properties.

**Table 1. Mixing Consistencies**

This table is a guide to the water addition requirements for various consistencies

Litres of water per 20kg Bag	Dry Pack	Trowelable	Flowable
Water Range	2.5 - 2.9	3.0 - 3.4	3.6 - 4.0
Test Levels*	2.9	3.4	4.0

\*Refers to water content used to carry out performance testing as indicated in the tables below.

Accurately measure water, do not exceed maximum water volumes

**Table 2. Setting Times**

Vicat setting times at 20°C	Dry Pack	Trowelable	Flowable
Initial Set	3.5 Hrs	5.0 Hrs	5.5 Hrs
Final Set	4.5 Hrs	7.0 Hrs	8.0 Hrs
Time for expansion start		15-25 min	15-30 min
Time for expansion finish		2-4 Hrs	2-4 Hrs

Tested at 20°C and 50% RH to AS1012.18 for setting times, AS1012.18 for setting times, AS2073 for expansion and AS1012.6 for bleed.

**Table 3. Compressive Strength**

Age	Flowable
1 Day	20 MPa
7 Days	45 MPa
28 Days	60 MPa

Tested in accordance with AS1012.9, AS2073 at 20°C

**Table 4. Flexural Strength**

Age	Trowelable	Flowable
1 Day	2.9 MPa	2.0 MPa
7 Days	9.5 MPa	8.7 MPa
28 Days	12.0 MPa	10.8 MPa

Tested in accordance to ASTM C348-86 at 20°C

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**Table 5. Flow Characteristics**

Using CRD-C flow cone (Efflux time)

Initial Flow	20 - 30 seconds
Flow after 15 minutes	25 - 35 seconds
Flow after 25 minutes	35 - 45 seconds

**Table 6. Yields**

The approximate yields are obtained if mixed in accordance with the recommended procedures and accurately measured water content.

	Dry Pack	Trowelable	Flowable
Litres per 20kg Bag	10.0	10.5	11.0
Fresh wet density kg/m <sup>3</sup>	2290	2220	2181
Bag per cubic metre	100	95	91

\*Density tested to AS1012.5

## APPLICATION INSTRUCTIONS

### SUBSTRATE AND SURFACE PREPARATION

The substrate must be clean, sound and free from oil, grease, curing compound or any loose materials. It must be mechanically abraded back to a sound concrete. Bolts or anchor holes must be clean and free from dust or loose material. This can be achieved by blowing clean the hole with compressed air or a Ramset hole cleaning pump.

### PRE SOAKING

It is essential to pre-soak the concrete substrate prior to application of Premier Grout MP. Pre soak substrates for a minimum of 6 hours prior to grouting. Immediately before grouting, the excess water should be removed, all water in the anchor and bolt holes must be blown out and no traces of free water present whilst grouting.

### BASE PLATE

All traces of rust, oil or grease must be removed. It is essential to provide air pressure relief hole for venting.

### FORMWORK

Construct formwork so that it is watertight and leakproof using Ramset FormSeal Silicone or using Ramset Fomofill or FomoPlus self-expanding polyurethane foams. Design formwork to enable rapid, continuous and complete filling of area to be grouted.

Design formwork to allow gravity flow of grout between the base plate and foundation and ensure grout is kept in full contact with base plate and concrete substrate.

### UNRESTRAINED SURFACES

To prevent gaps forming, ensure the grout is restrained on all sides so that it expands against all surfaces.

### LOW TEMPERATURE WORKING

Normal precautions for winter working with cementitious materials should then be adopted. At temperature below 5°C, the cure rate and strength development rate will be dramatically reduced. If early strength is required, it is advisable to use heated water and condition Premier Grout MP to 25°C. Do not exceed these temperatures.

### HIGH TEMPERATURE WORKING

High temperatures may result in weak or cracked concrete due to excessive moisture loss or excessive internal heat generation (Exotherm) At temperatures above 30°C, it is advisable to use water below 20°C when mixing grout. All materials must be kept cool and away from direct sunlight with the installation area shaded by erecting shade screens. If ambient temperatures are excessive, perform grouting in early morning or late evenings.

### MIXING

Premier Grout MP must be mixed with a mechanical forced action mixer with a high shear stirrer such as the Ramset LSMP. It is essential that the grouting operation is continuous therefore; ensure sufficient labour and mixing capacity is available.

DO NOT MIX BY HAND.

The selected water content should be accurately measured into a mixing vessel (refer table 1 or product packaging). Slowly add the Premier Grout MP in a continuous process while mixing. The mixing should continue for a maximum of 5 minutes until a uniform homogeneous consistency is obtained.

DO NOT ADD ADDITIONAL WATER. Discard any unused grout that has stiffened or hardened in the mixing bucket.

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## PLACING

It is essential that at ambient temperatures (approximately 20°C) the grout is placed within 25 minutes of mixing as this will ensure the expansion process is maximised. Premier Grout MP can be placed in thickness ranging from 20mm to 100mm in one single application. Where thickness is greater than 100mm, special procedures may be necessary. Consult your Ramset office for advice.

Avoid trapping air and water by placing grout from one side only. It is recommended that a suitable head box be used to ensure the void is completely filled and to ensure the continuous flow of grout.

To assist the flow rod while pouring. Do not use mechanical vibrators to assist in flow as this will cause segregation of aggregate and bleeding.

## CURING

Evaporation of water will result in reduction of final hardened grout properties. Prevent moisture loss of hardened grout by applying water to the surface or covering exposed grout with wet hessian, plastic sheeting or Ramset curing compounds.

Keep grout covered for a minimum of 24 hours to prevent drying shrinkage and cracking. If required remove formwork after 24 hours and protect exposed grout from moisture loss as described above.

Refer to table 3 for compressive strength development.

## IMPORTANT NOTES

- Do not add additional water other than specified
- For large areas apply grout in a continuous operation
- Do not apply in areas less than 20mm depth
- Unrestrained areas must be kept to a minimum
- Cure time and set will be extended when applied at temperatures lower than 5°C

## CLEAN UP

Clean uncured Premier Grout MP from tools and equipment with clean water immediately after use.

## PACKAGING

Premier Grout MP is supplied in a 20kg poly-lined bag.

## STORAGE

Store in a cool, dry place and prevent exposure to moisture and humidity. Shelf life is 8 months in a dry environment.

## HEALTH AND SAFETY

Cement products are classified as non-hazardous under General Health and Safety guidelines, and materials containing Portland cement are alkaline in nature.

- During use avoid inhalation of dust, contact with skin and eyes.
- Suitable protective clothing, dust masks, gloves and eye protection should be worn.
- Repeated or prolonged contact with cement products can cause skin irritation.
- If skin irritation occurs, remove contaminated clothing and flush skin thoroughly with water for a minimum of 15 minutes. Contact Poison Information Centre or consult medical adviser.

Material Safety Data Sheets (MSDS) are available from Ramset. Read the MSDS and product data sheet carefully before using any product. MSDS available from:

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## PART NUMBER: RPGMP

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