

## PRODUCT DATA SHEET

# Ronagrout GP

## Shrinkage Compensated High Flow General Purpose Cement Grout

### DESCRIPTION

Ronagrout GP is a prepacked single component cementitious general purpose grout. Requiring only the measured addition of clean water to achieve workability from mortar consistency to free flowing grout. Ronagrout GP is suitable for various grouting, anchoring and concrete repair applications. The performance of the product is certified under the Hong Kong Concrete Institutes (HKCI) Product Conformity Certification Scheme for Repair Mortars (PCCS-RM) Class S and is suitable for repairs to concrete with a characteristic strength(fcu) up to at least 40 MPa. It can be applied in thick or thin section and is suitable for structural and non-structural repairs such as honeycombing ; Ronagrout GP contains an expansive agent to compensate for shrinkage and settlement in the plastic state and is specially modified to resist bleeding and segregation even when exposed to vibration. The rapid development of strength and high ultimate strength facilitates the early continuation of work and the installation of plant and equipment.

### USES

- Grouting of precast elements such as wall panels, beams and columns
- Grouting of base plates, hand rails and machine bases
- Filling of core and rod holes
- Concrete repairs and patching of high strength structural and non-structural concrete
- Pressure grouting

### CHARACTERISTICS / ADVANTAGES

- Controlled expansion to compensate for shrinkage and settlement in plastic state
- Can be used as a patching mortar or flowable grout
- Application 10 mm up to 100 mm thick per layer (Maximum 25 mm overhead)
- Easy to mix and apply
- Rapid strength gain
- Can achieve very high compressive, flexural and tensile strengths
- Monolithic bond to substrate
- Low VOC
- Can contribute to LEED certification

### PRODUCT INFORMATION

#### Product Declaration

#### Characteristics For Repair Mortar (from PCCS-RM Cl. 5.1 Table 1)

| Test Method | Test Description     | Age at Test | PCCS-RM Specification (Class S fcu 40) | Ronagrout GP Typical Performance @ flowable consistency |
|-------------|----------------------|-------------|----------------------------------------|---------------------------------------------------------|
| TM1         | Compressive Strength | 28 days     | ≥ 47                                   | 53 MPa                                                  |

\*All of the above data complies with Product Conformity Certification Scheme.

|                    |                                                                                                                                          |        |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------|
|                    | Chloride Content by Mass of Cement                                                                                                       | 0.00 % |
| Packaging          | 25 kg bag                                                                                                                                |        |
| Shelf Life         | 9 months from the date of production.                                                                                                    |        |
| Storage Conditions | Stored properly in undamaged and unopened original sealed packaging in dry conditions. Protect from direct sunlight, moisture and frost. |        |

## TECHNICAL INFORMATION

| Compressive Strength | Age at Test    | Ronagrout GP<br>Typical<br>Performance @<br>flowable<br>consistency | Ronagrout GP<br>Typical<br>Performance @<br>mortar<br>consistency | Test Method     |
|----------------------|----------------|---------------------------------------------------------------------|-------------------------------------------------------------------|-----------------|
|                      | Water Addition | 5.0 litre/25 kg                                                     | 3.5 litre/25 kg                                                   | -               |
|                      | 3 days         | 30 MPa                                                              | 42 MPa                                                            | TM1             |
|                      | 7 days         | 44 MPa                                                              | 70 MPa                                                            | TM1             |
|                      | 28 days        | 53 MPa                                                              | 80 MPa                                                            | TM1             |
| Expansion            | 2 %            |                                                                     |                                                                   | (ASTM C827-95a) |
| Bleeding             | NIL            |                                                                     |                                                                   | (ASTM C940-89)  |

## APPLICATION INFORMATION

|                  |                                                                                |  |                |
|------------------|--------------------------------------------------------------------------------|--|----------------|
| Consumption      | Approx. 74 bags/m <sup>3</sup>                                                 |  |                |
| Yield            | 13.5 litres depending on the amount of water added and the mixing method used. |  |                |
| Flowability      | Approx. 35 sec                                                                 |  | (ASTM C939-97) |
| Initial Set Time | Approx. 5 hours                                                                |  | (ASTM C953-87) |

## BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

## ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet (MSDS) containing physical, ecological, toxicological and other safety-related data.

### VOC DATA

< 10 g/litre when tested according to USEPA Method 24.

## APPLICATION INSTRUCTIONS

### SUBSTRATE QUALITY / PRE-TREATMENT

Generally the concrete substrate must be clean, sound and free from all deleterious material. Laitance, dirt and contamination must be removed by water jetting, scabbling, grit blasting or similar following which all dust and debris must be removed. Bolt holes and fixing pockets must be free of any dirt or debris, base plates must be free of oil, grease and loose rust. All concrete surfaces should be well saturated with clean water, but be free of any surface water or puddles prior to grouting.

For concrete repair application, all defective concrete should be removed to leave a sound stable substrate for the repair material. Loose rust and scale should be removed from exposed reinforcement and reinforcement should be primed. Cut around the perimeter of the repair areas to a minimum depth of 20 mm to avoid feather edges and prime if necessary.

### Surface Priming (For Trowel or Patch Repair Application)

Concrete surfaces to be primed must first be thoroughly wetted with clean water.

Mix the primer by the following ratio :  
Ronafix® : Cement = 1:1.5 by volume OR 1:2.0 by weight  
Prime the steel reinforcement and allow to become tacky.  
Prime the steel reinforcement again and the previously dampened concrete surfaces.

### Formwork

Formwork must be grout tight and rigid enough to prevent deformation during the grouting process. Formwork should be so designed as to enable a hydrostatic head to be maintained at all times during the grouting operation. Unrestrained areas around the element to be grouted should be kept to a minimum.

### MIXING

A mechanical forced action mixer is required, specialist equipment is best but a heavy duty drill with a stirring type mixing blade should be suitable. Place the correct amount of water into the mixer and slowly add the entire 25 kg bag of Ronagrout GP whilst continuously mixing.

Ronagrout GP should be mixed for at least 5 minutes until a smooth and lump free consistency is achieved. Sika recommend high speed mixing followed by 1 minute of low speed mixing to ensure that all entrapped air is able to escape.

For trowel or patch repair application water addition should be in the range 3.6 to 5.0 L per 25 kg bag. For pourable application the water should be in the range 4.0 to 5.0 L per 25 kg bag. For free flow grouting applications the water addition should be 5.0 L per 25 kg bag.

For void free grouting the number of personnel and the capacity of the mixing equipment must be sufficient to enable grouting to be carried out in a single continuous operation.

### APPLICATION

Ronagrout GP can be placed in thicknesses ranging from 10 mm to 100 mm in one single application. For application thicknesses over 100 mm Ronagrout GP can be extended with the addition of a clean, sound and well graded 5 mm to 10 mm aggregate. A maximum of 25 kg of aggregate per 25 kg of Ronagrout GP is recommended.

For vertical and overhead patch repair works Sika recommend keeping the water addition to a minimum and limiting layer thicknesses to 25 mm. Detailed information and guidance on the design of formwork and the flow characteristics of the grout can be obtained from Sika technical department but for estimating purposes a 200 mm head of Ronagrout GP will flow approximately 2 m through a gap of 20 mm.

### CLEANING OF TOOLS

Clean all tools and application equipment with clean water immediately after use.

### LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

### LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.



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