



R-GROUT 216

PRODUCT CODE : 714

HIGH PRECISION, SHRINKAGE COMPENSATED, POURABLE CEMENTITIOUS GROUT

DESCRIPTION

R Grout 216 is a cement based 1-component, ready to mix, non-shrink, ready to use, pourable and flowable, expanding engineering grout in dry powder form. It is widely used for precision grouting in engineering objects subjected to static and dynamic loads.

USES

- To grout bearings, machine foundations, columns joints in precast construction etc.
- To grout anchors in concrete
- To grout cavities, gaps and voids in concrete
- To grout base plate of turbine, compressor, boilers, pumps and heavy machinery.
- Sealing around penetrations
- Post fixings

ADVANTAGES

R-GROUT 216 offers the following advantages:-

- Easy to use, ready to mix powder
- Easy to mix, only add water
- Adjustable consistency
- Very good flow characteristics
- Rapid strength development
- High final strengths
- Initial expansion by gas generation
- Impact and vibration resistant
- Non-corrosive
- Not flammable
- Non-toxic
- Shrinkage compensated
- Expansive to counteract initial shrinkage

TECHNICAL INFORMATION

Compressive Strength	Ambient temperature: +30°C	(According to ASTM C109, 70mm Cube)
Curing Time	1 day	= 25 N/mm ²
	3 days	= 35 N/mm ²
	7 days	= 45 N/mm ²
	28 days	= 65 N/mm ²
Splitting tensile strength	= 3.5 N/mm ² (28 days, +35 °C)	
Tensile Strength in Flexure	Ambient temperature: +30°C	(According to ASTM C 293)
	7 days	~9 N/mm ²
	28 days	~10 N/mm ²
Tensile Adhesion Strength	~1.5 N/mm ² (28 days, +35 °C)	
Pull-Out Resistance	This is also referred as Pull out bond strength.	
	7 days	~19 MPa
	28 days	~20 MPa
Shrinkage	No shrinkage after initial setting	
Expansion	Upto 4 %	

APPLICATION

Mixing Ratio	Flowable	Water : Powder = 0.15–0.16 by weight	4.5–4.8 litres water per 30 kg bag
	Pourable	Water : Powder = 0.14 by weight	4.2 litres water per 30 kg bag
Fresh mortar density	2000–2300 kg/m ³		
Consumption	~1950 kg/m ³ at water to powder ratio 0.15		
Layer Thickness	100 mm max		
Ambient Air Temperature	+5 °C min. / +40 °C max.		
Substrate Temperature	+5 °C min. / +40 °C max.		
Pot Life	~20 minutes at +30 °C		
Initial Set Time	~30 minutes		

LIMITATIONS

Use **RGrout 216** for grouting only, do not use **RGrout 216** for patch repair work or overlay in unconfined spaces etc.

Ensure formwork is secure and watertight to prevent movement and leaking during placing and curing.

Use chilled water for mixing in case of high ambient temperature.

Use hot water for mixing in case of very low ambient temperature.

Depending on requirements and site conditions the addition of dry, single size and clean aggregates is possible. Trials are recommended to confirm suitability of aggregates to be used.

For large bedding holes and higher gaps, duly

washed coarse aggregates of size 6 mm down may be mixed with **RGrout 216** in the proportion of grout : aggregate = 2 : 1 (by weight).

Avoid application in direct sun and/or strong wind

Do not add water under or over recommended dosage.

Apply only to sound, prepared substrate.

Do not add additional water during the surface finishing as this may cause discolouration and cracking.

Protect freshly applied material from freezing and frost.

Keep exposed surfaces to a minimum.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

Concrete, grout, stone:

The substrate shall be thoroughly clean, free from dust, loose material, surface contamination and materials which reduce bond or prevent suction or wetting by the grout. Delaminated, weak, damaged and deteriorated concrete and where necessary sound concrete shall be removed by suitable means. The concrete "pull off" tensile strength should be = 1.0 MPa. The concrete substrates should be pre-soaked with clean water continuously for 2–6 hours to ensure a saturated surface dry condition throughout the operation. Immediately before pouring grout remove all excess or standing water from within any formwork.

Steel, iron:

Clean, free from oil or grease, rust and scale etc. The substrate should be prepared by suitable mechanical preparation techniques such as high pressure water jetting, breakers, blast cleaning, scrabbles, etc.

MIXING

RGrout 216 can be mixed with a low speed (< 500 rpm) hand drill mixer to avoid entraining too much air. Mix only full bags for best results. Pour around 80 to 90% of the recommended water in a suitable mixing container. While stirring slowly, add the powder to the water and mix thoroughly at least for 3 minutes adding balance water within the mixing time to the maximum specified amount to adjust the grout to the required consistency and flow properties. Do not mix more grout, which cannot be used within pot life. Do not add extra water.

APPLICATION

Remove excess water from substrate surface e.g. with clean sponge, until surface is dark matt in appearance without glistening (saturated surface dry). Surface pores and pits shall not contain water. Let the grout stand for ~5 minutes to release air entrained by mixing. Pour grout immediately after mixing into the prepared openings using a sufficient pressure head to maintain a continuous flow of grout. Ensure air displaced by the grout can easily escape, otherwise entrapped air will prevent full contact grouting. For optimum use of the expansion properties apply the grout as quickly as possible, within ~15 minutes after mixing.

CURING TREATMENT

Keep visible exposed grout surfaces to a minimum. Protect the fresh material from premature drying using appropriate curing method e.g. curing compound, moist textile membrane, polythene sheet etc.

CLEANING OF TOOLS

Clean all tools and application equipment with water immediately after use. Hardened/cured material can only be mechanically removed.

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.

LOCAL RESTRICTIONS

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

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 Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

LEGAL NOTES

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