

Technical Data Sheet
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 Sikagrout® 214-11

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High Strength Non-Shrink Cementitious Grout

Description	<p>A non shrink, cementitious grout, with a unique 2-stage shrinkage compensating mechanism. It is non-metallic and contains no chloride.</p> <p>With a special blend of shrinkage - reducing and plasticizing/water-reducing agent, Sikagrout® 214-11 compensates for shrinkage in both the plastic and hardened states.</p> <p>Complies to Corps of Engineer's specification CRD C-621 and ASTM C-1107</p>
Use	<p>For grouting over a wide range of applications:</p> <ul style="list-style-type: none"> ■ For structural grouting of column base plates, machine base plates, anchor rods, bearing plates, precast wall panel, curtain walls ■ Multiple fluidity allows easy of placement : Ram in place as a dry pack, trowel apply as a medium flow, pour or pump as a high flow ■ For grouting method of concrete repair.
Advantages	<ul style="list-style-type: none"> ■ Easy to use just add water ■ Adjustable consistency ■ Rapid strength development. ■ High final strength. ■ Shrinkage compensated. ■ Non flammable, non toxic. ■ Non-Corrosive. ■ Marine structure : Also recommended for repairing structure underwater and in tidal zone grouting with high strength requirement. ■ Application repair of : - Bridge piers - Concrete Piles - Harbour walls - Jetty Pillars
Consumption	~ 1.880 kg/m ³ of mortar
Instruction for Use	
Surface Preparation	<p>Remove all dirt, oil, grease, loose material and other bond-inhibiting materials. Anchor bolts to be grouted must be degreased with suitable solvent. Concrete must be sound and roughened to promote mechanical adhesion. Prior to pouring, surface must be wetted to saturated surface dry.</p>
Forming	<p>For flowable grout, construct forms to retain grout without leakage. Form should be lined or coated with bond-breaker for easy removal. Where grout tight form is difficult to achieve, use Sikagrout® 214-11 in dry pack consistency.</p>
Mixing	<p>Put appropriate quantity of water (depend on the required consistency) into a mixing vessel. Add slowly the total contents of Sikagrout® 214-11 while mixing. Mix continuously for 4 minutes to achieve an even consistency. Use a mechanically low speed drill (400–600 rpm) with mixing paddle or in appropriately sized mortar mixer</p>
Application	<p>Within 25 minutes after mixing, place grout into forms one side to avoid air entrapment. Do not vibrate. Use a suitable head box of 150–200 mm and maintain the grout head at all times to ensure a continuous flow. Gentle tapping or pulling loops of wire from one side may assist the flow of the mortar under difficult working conditions.</p>



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Curing	Wet cure for a minimum of 3 days with wet hessian, plastic sheet or apply a curing compound (Antisol)		
Limitation	<p>Minimum applications thickness : 10 mm. Recommended thickness of Sikagrout® 214-11 in one pour is 20 mm to 50 mm. If the application thickness exceeds 100 mm, special procedure must be taken to anticipate temperature rise. Iced water, add coarse aggregate to the mix (max. 50% by powder weight), or both of them may be used to eliminate temperature rise. Keep the materials and substrate temperature lower than 30° C. Variations in cement could cause shade differences in colour of the mortar. In the case of addition with coarse aggregate, it is advised to conduct trial mix to check influence of coarse aggregate addition on grout workability and strength. 8 to 10-mm size aggregate is found to be the most suitable size for this addition. Contact Sika Technical Service for underwater application.</p>		
Technical Data	Powder		
Form	Powder		
Color	Grey		
Flow Condition	Flowable (Mod J Cone : 6-12 sec)	Pourable (Flow Table : 80-110%)	Trowellable (Flow Table:40-70%)
Water requirement (Litres per 25 kg bag)	4.25	3.50	2.75
Yield (Litres per 25 kg bag)	13.30	12.70	12.00
Mix Density	~ 2.19 kg/l		
Compressive Strength (ASTM C-109)	1 days 270 kg/cm ² 3 days 440 kg/cm ² 7 days 610 kg/cm ² 28 days 720 kg/cm ²	400 kg/cm ² 560 kg/cm ² 690 kg/cm ² 810 kg/cm ²	480 kg/cm ² 660 kg/cm ² 750 kg/cm ² 900 kg/cm ²
Flexural Strength (ASTM C-348) 28 days	> 65 kg/cm ²		
Tensile Strength (ASTM C-496) 28 days	> 35 kg/cm ²		
Bond Strength			
to concrete 28 days	>15 kg/cm ² (concrete failure, over mechanically roughened concrete surface)		
to grout 28 days	>25 kg/cm ² (over mechanically roughened grout surface)		
Expansion (ASTM C-940)	0.30 – 1.40 %		
Initial Setting Time (at 27°C)	4 – 8 hours		
Shelf Life	9 months when unopened and stored in dry condition		
Packaging	25 kg bag		
Handling Precautions:	<ul style="list-style-type: none"> ■ Avoid contact with skin and eyes ■ Wear protective gloves and eye protection during work ■ If skin contact occurs, wash skin thoroughly ■ If in eyes, hold eyes open, flood with warm water and seek medical attention without delay. 		
Legal Notes	<p>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 product 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.</p>		



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