

# Sikacrete®-114

## Free Flowing Micro-concrete for Grouting and Repair

<b>Product Description</b>	<b>Sikacrete®-114</b> is a one component, free-flowing, high strength, cement based micro-concrete with a maximum aggregate size of 10mm. Suitable for use in tropical and hot climatic conditions.
<b>Uses</b>	<b>Sikacrete®-114</b> is used for the structural repair of deteriorated concrete. It is ideal for casting sections or members where the volumes required are too large for conventional grouts, and too small and inaccessible for normal concreting applications. A typical application is the re-profiling of damaged concrete members, using formwork. Also suitable for base plate grouting where thickness exceeds 75 mm.
<b>Advantages</b>	<ul style="list-style-type: none"><li>■ One component, requires the addition of water only</li><li>■ Reduced waste and risk of mixing failures</li><li>■ Easy to mix, apply and finish</li><li>■ Economical</li><li>■ Excellent adhesion</li><li>■ Shrinkage compensated</li><li>■ Rapid strength development</li><li>■ Compatible with the properties of typical concrete</li><li>■ Vapour permeable</li><li>■ High resistance to freeze/thaw cycling</li></ul>
<b>Test Report</b>	Al-Futtaim Tarmac, Dubai, United Arab Emirates
<b>Product Data</b>	
<b>Type</b>	Mixture of Portland Cement and graded aggregates
<b>Form</b>	Grey Powder
<b>Packaging</b>	40 kg bag
<b>Storage Condition</b>	Store in a dry area in original packaging between 5°C and 35°C. Protect from direct sunlight
<b>Shelf life</b>	12 months minimum from production date if stored properly in original unopened packaging
<b>Technical Data</b>	
<b>Mixing ratio</b>	4.0 - 4.2 liters of water per 40 kg bag or 10.0 - 10.5% water by weight of powder.
<b>Pot Life</b>	Approximately 90-180 minutes after mixing, depending on temperature.
<b>Density</b>	Approximately 2400 kg/m <sup>3</sup> (fresh mortar)



<b>Mechanical Strengths, N/mm<sup>2</sup> @ 25°C</b>		<u>1 day</u>	<u>7days</u>	<u>28 days</u>	<u>180 days</u>
	Compressive Strength (10.5% water)	35-45	45-50	65-70	~80
	Flexural strength (BS4551)			8 -10	
	Bond Strength (Pull off)			~ 3	
<b>Thickness</b>	Minimum	50 mm per pour (100 mm for base plate grouting)			
	Maximum	500 mm per pour			
<b>Length Change</b>	28days = 0.06059 % (ASTM C157:99)				
<b>Yield</b>	> 19 liters per 40 kg bag				
<b>Modulus of Elasticity</b>	Approximately 33'000 N/mm <sup>2</sup>				
<b>Initial Surface Absorption</b>	10 min = 0.01 ml / (m <sup>2</sup> .sec)	BS1881 Part 208			
	30 min < 0.01ml/ (m <sup>2</sup> .sec)				
<b>Chloride Diffusion</b>	Absorbed chloride ion = 0.006% at 13 - 25mm depth (AASHTO T259:80 and ASSHTO T260:95)				
<b>Resistivity</b>	Approximately 8-10 k Ω cm				
<b>Coefficient of Thermal Expansion</b>	11x10 <sup>-6</sup> m/m per °C				

## Application Details

<b>Substrate preparation</b>	Concrete surfaces should be clean, sound and free from oil, grease, cement laitance and all loosely adhering particles. Absorbent surfaces should be saturated thoroughly. Metal surfaces (iron and steel) should be free from scale, rust, oil and grease.
<b>Bonding Agent and Steel Protection</b>	Embedded reinforcing steel should be free from scale, rust, oil and grease, and treated with a suitable protective coating such as SikaTop Armatec 110 EpoCem. The application of a suitable bonding agent, such as Sikadur-32 or SikaTop Armatec 110 EpoCem, will improve adhesion on large areas or where particularly dense concrete substrates are involved.
<b>Mixing</b>	<p>Always empty the full contents of the bag into a suitable mixer. Mix dry for 3 minutes before adding the water.</p> <p>Add 4.0 - 4.2 liters of water per 40 kg bag. Mixing can only be achieved using either a slow speed drill (400-600 rpm) fitted with a -clean, rust free, mixing paddle, or a forced action mixer.</p> <p><b>DO NOT MIX BY HAND OR USE PART BAG!</b></p> <p>For best results, first add 3.0 - 3.3 ltr. of water and mix for at least 3 minutes or until the larger aggregate has thoroughly dispersed and a uniform, free-flowing consistency is obtained.</p> <p>Then add remaining water and mix for additional 2 minutes.</p>
<b>Application</b>	<p>Dampen the surface thoroughly with clean water prior to the application. Before pouring, however, let the mixed grout stand for 2 - 3 minutes after mixing with water to allow entrapped air to escape.</p> <p>Maintain sufficient hydrostatic head to keep the product flowing. Provide channels for the air to escape during grouting. Protect from rain until initial set has been achieved.</p>
<b>Curing</b>	Treat exposed surfaces with Antisol-E Curing Compound or use other approved curing methods such as polyethylene sheeting or wet hessian. (Do not commence fogging until final set has been reached).
<b>Cleaning</b>	Clean equipment and mixer after application with water. Hardened material can only be removed mechanically.
<b>Remarks</b>	<p>Ensure formwork is secure and watertight to prevent movement and leaking during placing and curing. At high temperatures use chilled water for mixing to keep grout temperature below 30°C. In hot weather, base plates and foundations must be shaded from direct sunlight. Condition bags prior to use.</p> <p>For additional information on Sikacrete®-114 or other grouting materials contact our Technical Services Department.</p>

**Notes** 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.

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

## 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.



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