



PRODUCT DATA SHEET

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MAINTENANCE OF CONCRETE

SikaQuick®-2500 NF (FT)

HIGH PERFORMANCE, VERY RAPID-HARDENING, REPAIR MORTAR FOR HORIZONTAL APPLICATIONS

Description	SikaQuick®-2500 NF is a high performance, very rapid-hardening, repair mortar for horizontal applications. It is a shrinkage-compensated formula that is ideal for any structural or aesthetic concrete repair where early return to service is required.
Where to Use	<ul style="list-style-type: none"> Use on grade, above and below grade on concrete Partial depth rehabilitation of concrete slabs, parking garages, balconies and/or bridge decks Concrete repair applications requiring return-to-service within hours Place SikaQuick®-2500 NF at a minimum thickness of 6 mm (¼ in) For horizontal repair applications exceeding 50 mm (2 in), contact Sika Canada or use King RS-S10 fast setting concrete Contact Sika Canada for recommendations or information on uses or conditions not listed
Advantages	<ul style="list-style-type: none"> Very rapid hardening as defined by ASTM C928 Compatible with Sikafloor® flooring systems and Sikalastic® traffic coating systems Allows application of an epoxy coating within four (4) hours Easy to use; economical patching and labour saving material Contains no added chlorides Open to foot traffic in 45 minutes, to vehicle traffic in 1 hour [23 °C (73 °F)] Not a vapour barrier Very high early strength for a reduced construction schedule Excellent bond to parent concrete without requiring a bonding agent Excellent resistance to freeze-thaw cycling Excellent resistance to salt scaling Designed with natural, normal-density, non-reactive, fine aggregate to eliminate potential alkali-aggregate reactivity (AAR) Meets the requirements of CFIA for use in food plants

Technical Data

Packaging	22.7 kg (50 lb) triple-lined bags and polywrapped on wooden pallets.
Colour	Concrete Grey
Yield	Approx. 11.5 L (0.40 ft³)
Shelf Life	6 months in original, unopened packaging. Store dry, ensuring that product is not exposed to rain, condensation or high humidity.
Mix Ratio	1.8 - 2.1 L (0.475 - 0.55 US gal.) of water per bag
Properties at 23 °C (73 °F) and 50 % R.H.	
Mass Density ASTM C109	2150 kg/m³ (134 lb/ft³)
Flow ASTM C1437	100 - 150 %
Set Time ASTM C266	
Initial:	20 minutes
Final:	25 minutes
Compressive Strength ASTM C109*	
1 hour	18 MPa (2600 psi)
3 hours	25 MPa (3625 psi)
1 day	40 MPa (5800 psi)
7 days	45 MPa (6500 psi)
28 days	50 MPa (7250 psi)
<i>*The following data was obtained under laboratory conditions with a material temperature of 21 °C (70 °F). Higher or lower temperatures can respectively accelerate or delay setting time and early-age compressive strength gain.</i>	
Modulus of Elasticity ASTM C469	
28 days	33.0 GPa (4.8 x 106 psi)
Bond Strength by Slant Shear ASTM C882	
1 day	20 MPa (2900 psi)
7 days	25 MPa (3625 psi)
Uniaxial Drying Shrinkage ASTM C157	
(50 % Humidity Cure)	
28 days	-330 µm/m
56 days	-335 µm/m
Uniaxial Drying Shrinkage ASTM C157	
(100 % Humidity Cure)	
28 days	100 µm/m
56 days	145 µm/m

Restrained Shrinkage Ring ASTM C1581	(50 % Humidity Cure)
Age at cracking	No cracks after 28 days
Initial strain	-1 µm/m
Maximum strain	-23.5 µm/m
Strain rate	0.06 MPa/day (Low cracking potential)
Freeze-Thaw Resistance ASTM C666	
300 cycles	99.0 % (Excellent durability factor)
Salt Scaling Resistance ASTM C672	
50 cycles	0.01 kg/m ² (0.002 lb/ft ²)
Rapid Chloride Permeability ASTM C1202	
28 days	157 Coulombs (Very low)
VOC Content	0 g/L
Chemical Resistance	Consult Sika Canada

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

HOW TO USE

Surface Preparation	Following ICRI Guideline 310.2, the concrete surface must be clean, sound and mechanically prepared to obtain a surface profile of CSP 6 – 10 (ex : hydrodemolition, scarification, scabbling + sandblasting, etc.). Follow ICRI Guideline 310.1 for the preparation of the repair perimeter, the repair area geometry and for the cleaning of the concrete and reinforcing steel surfaces. Verify the absence of micro cracking following ICRI Guideline 310.2.
Mixing	Mix using a heavy duty low speed electric drill/mixer (300 - 450 rpm) and mixing paddle (Jiffy or Exomixer®/spiral type) or a mortar mixer. Start with 1.8 L (0.475 US gal.) of water added to the mixing vessel. Add one bag of SikaQuick®-2500 NF while continuing to mix. Add up to another 300 mL (10 US fl. oz) of additional water to achieve the desired consistency up to a maximum of 2.1 L (0.55 US gal.) per 22.7 kg (50 lb) bag. Continue mixing for a minimum of two (2) minutes and stop only when material has obtained a consistent homogeneous consistency. SikaQuick®-2500 NF sets rapidly. Mix only an amount that can be placed and leveled within 10 - 15 minutes. If necessary, reduce the batch size while maintaining the same water:materials ratio. Do not add additional water or re-temper after initial mixing procedure.
Application	Mix and substrate temperatures should be maintained between 5 °C (40 °F) and 30 °C (86 °F). Do not place SikaQuick®-2500 NF when ambient temperature is below 5 °C (40 °F); refer to ACI 306 "Guide to Cold Weather Concreting". In warm weather, ice water may be used as mix water to cool mix temperature and to avoid short working time; refer to ACI 305 "Guide to Hot Weather Concreting". Consolidate by forcing against the edge of the repair area and continue placing material towards the centre. For slab finishing, the use of a wood or magnesium float is recommended.
Curing	Curing is essential to optimize the physical properties of SikaQuick®-2500 NF and minimize plastic shrinkage. Protect from moisture loss (i.e. covered with a plastic sheet) for at least three (3) hours after material has reached initial set. Alternatively, apply a water-based curing compound that complies with ASTM C309 such as Sika® Florseal WB-18 & -25 after material has reached initial set. Curing is particularly critical in rapid moisture loss conditions such as high temperatures, high winds and low humidity. Protect freshly applied mortar from direct sunlight, wind, rain and frost.
Clean Up	Clean all tools and equipment immediately after use with water. Once hardened, material can only be removed manually or mechanically.
Limitations	<ul style="list-style-type: none"> ▪ Important: protect stored material from exposure to rain, condensation and high humidity as moisture may penetrate packaging, causing lumps ▪ For best results, condition product to 18 to 29 °C (65 to 84 °F) prior to mixing and installation. Lower temperatures may result in slower strength development and longer cure times ▪ Minimum ambient and surface temperatures: 5 °C (40 °F) and rising ▪ Minimum application thickness: 6 mm (¼ in) ▪ Maximum application thickness: 50 mm (2 in) ▪ Not compatible with normal-setting bonding agents, e.g. SikaTop® Armatec-110 EpoCem® and Sikadur®-32 Hi-Mod. ▪ Use only potable water. ▪ As with all cement-based materials, avoid contact with aluminum to prevent adverse reaction and possible product failure. Insulate potential areas of contact by coating aluminum bars, rails, posts etc. with an appropriate epoxy such as Sikadur®-32 Hi-Mod.
Health and Safety Information	User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data..

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, within their shelflife. 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 recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. 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 or may be downloaded from our website at: www.sika.ca

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