



PRODUCT DATA SHEET

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PRECAST STRUCTURAL POST-TENSIONED CONCRETE

Sikadur®-31 SBA Cold Weather

HIGH MODULUS AND HIGH STRENGTH, SOLVENT-FREE AND MOISTURE TOLERANT,
STRUCTURAL EPOXY RESIN PASTE ADHESIVE FOR COLD CONDITIONS

Description	Sikadur®-31 SBA Cold Weather is a unique, two component epoxy resin based, structural adhesive. It is moisture tolerant during application and curing and provides high-modulus and high strength properties once cured. The material is specifically formulated as an adhesive paste, available in different temperature grades to accommodate specific site conditions and construction requirements. The Sikadur®-31 SBA group of adhesives has a proven track record and is widely used in bonding hardened concrete in the erection of segmental bridges, amongst other applications.
Where to Use	<ul style="list-style-type: none"> Structural bonding of precast, post-tensioned concrete bridge segments. Sealing of joints between concrete sections in segment-by-segment erection. Segmental bridges in cold weather temperatures between -6 to 7 °C (20 to 45 °F). Structural bonding of building components including steel and timber sections.
Advantages	<ul style="list-style-type: none"> Easy to apply, non-sag paste for vertical applications. Convenient and easy to mix ratio. A:B=2:1 by volume. Excellent adhesion to concrete, steel, timber and most construction materials. Moisture tolerant before, during and after cure. Other temperature governed grades also available. Sikadur®-31 SBA Slow Set version is available to meet assembly and strength gain requirements. High-modulus, high-strength, structural adhesion. Conformance to ASTM C881, Type VI requirements and ASBI guidelines.

Technical Data	
Packaging	11.4 L (3 US gal.) units consisting of: Component A (Resin) 7.62 L (2.01 US gal.) Component B (Hardener) 3.78 L (1 US gal.)
Colour	Concrete grey
Consistency	Non-sag paste
Yield	Approximately 1 m ² /L (12 ft ² / US gal.) at 1 mm thickness
Shelf Life	2 years in original, unopened containers. Store in cool dry location between 4 and 35 °C (40 and 95 °F). Condition material between -6 and 7 °C (20 and 45 °F) before using. Easier use is at the higher temperature.
Mix Ratio	A : B = 2 : 1 by volume
Properties (Material conditioned to 7°C (45°F) and tested at temperatures detailed below)	
Pot Life, 3.78 L (1 US gal.)	Less than 3 minutes at 23 °C (73 °F) Approx. 20 minutes at 7 °C (45 °F)
Open Time	Approx. 60 minutes at 7 °C (45 °F)
Compressive Strength ASTM D695	
3 days	≥ 13.8 MPa (2000 psi) at -6 °C (20 °F)
7 days	≥ 41.4 MPa (6000 psi) at -6 °C (20 °F)
Contact Strength ASTM C882	
48 hours	≥ 6.9 MPa (1000 psi) at 7 °C (45 °F)
Bond Strength Hardened Concrete to Hardened Concrete ASTM C882	
2 days (moist cure at 7 °C (45 °F))	≥ 6.9 MPa (1000 psi)
Heat Deflection Temperature ASTM D648	
7 days at 23 °C (73 °F) (fiber stress loading = 1.8 MPa [264 psi])	≥ 49 °C (120 °F)
<i>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.</i>	

HOW TO USE

Surface Preparation All surfaces must be clean and sound. They may be dry or damp, but must be free of standing water and frost. Best results are achieved when the substrate is dry. Remove all dust, dirt, laitance, grease, curing compounds, impregnations, waxes, foreign products, disintegrated, loose and friable materials and any other contaminants.

Mixing	Pre-stir each component to ensure even consistencies and colours. Empty all of Component B (hardener) into the pail containing Component A and thoroughly mix the combined components for a minimum of three (3) minutes, using a low-speed (400 - 600 rpm) drill fitted with a Sika mixing paddle, until a uniform grey colour is achieved. During the mixing operation, scrape down the sides and bottom of the mixing pail with a flat or straight edge tool at least once, to ensure no unmixed epoxy remains and a consistent grey colour is produced before applying. Mix only that quantity which can be used within its pot life.
Application	Apply the mixed Sikadur®-31 SBA Cold Weather to the concrete surface using a trowel, spatula or glove protected hand. Note: Work well into the surface, especially if the substrate is damp. Spread the paste to a thickness of 3 mm (1/8”) to one face or 1.5 mm (1/16”) on both faces of the sections to be joined, depending upon project requirements. Note: Segments must be post-tensioned within the open time of the epoxy.
Clean Up	Clean all tools and equipment immediately with Sika® Epoxy Cleaner. Once hardened, the material can only be removed mechanically. Clean soiled hands and skin thoroughly using Sika® Hand Cleaner towels and hot water.
Limitations	<ul style="list-style-type: none"> ▪ Not for use as an adhesive for fresh, concrete or mortar. ▪ Use the correct grade of material for prevailing temperatures. ▪ Mixed material must be applied within the specified pot life. ▪ Use of product outside of designated temperature ranges is not recommended. ▪ Use the correct setting grade (regular or slow) depending on the method of erection. ▪ Do not thin Sikadur®-31 SBA adhesives; solvents will prevent proper cure. ▪ Do not hand mix Sikadur®-31 SBA adhesives; mechanically mix only. ▪ Ensure one Component B is added to one Component A. ▪ Lower temperatures will prolong pot life, open time, strength development and curing time. Higher temperatures will reduce all times. ▪ Not intended as an aesthetic adhesive; colour may alter due to variations in exposure to U.V. lighting.

Health and Safety Information For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent SAFETY DATA SHEET containing physical, ecological, toxicological and other safety-related data.

KEEP OUT OF REACH OF CHILDREN
FOR INDUSTRIAL USE ONLY

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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