

Sikadur® 35 Hi-Mod LV

High-Modulus, Low-Viscosity, High-Strength, Epoxy Grouting/Sealing/Binding Adhesive

Description	Sikadur® 35 Hi-Mod LV, is a two-component, solvent free, moisture-insensitive, low-viscosity, high-strength, multipurpose, epoxy resin adhesive.
Where to Use	<ul style="list-style-type: none"> ■ Pressure injection of cracks in structural concrete, masonry, wood, etc. ■ Grouting bolts, dowels, pins, etc. ■ Gravity feed of cracks in horizontal concrete and masonry. ■ Epoxy resin binder for epoxy mortar patching and overlay of interior, horizontal surfaces. ■ Seal interior slabs and exterior above grade slabs from water, chlorides, and mild chemical attack and to improve wearability.
Advantages	<ul style="list-style-type: none"> ■ Low viscosity. ■ Convenient easy mix ratio A:B = 2:1 by volume. ■ High strength, structural adhesive for "can't dry" surfaces. ■ Deep penetration and tenacious crack bonding in structural concrete. ■ High early-strength developing adhesive. ■ Excellent chemical resistance. ■ Meets ASTM C 881, Type I, II, IV and V, Grade 1, Class B and C. ■ Ministry of Transport Ontario acceptance. ■ Ministry of Transport Québec acceptance.

Technical Data

Packaging	9 L (2.38 US gal.) unit and 450 mL (15.2 fl. oz) Pre-Pack cartridge, 12/case					
Colour	Clear, amber					
Yield	1 L = 1 m ² of epoxy adhesive, 1 mm thick. 1 L of adhesive when mixed with 5 L by loose volume of oven-dried silica sand yields approx. 3.5 L of epoxy mortar. (1 US gal. = 231 in ³ . 1 US gal. of adhesive when mixed with 5 US gal. by loose volume of oven-dried silica sand yields approx. 808 in ³ of epoxy mortar.)					
Shelf Life	2 years in original, unopened packaging. Store dry at 5° - 32°C (41° - 89°F). Condition product to 18° - 29°C (65° - 84°F) before using.					
Mixing Ratio	A:B = 2:1 by volume					
Properties at 23°C (73°F) and 50% R.H.						
Viscosity	450-550 cps					
Pot Life	25 min					
Tack Free Time	4°C (39°F)*	23°C (73°F)*	32°C (89°F)*	4°C (39°F)*	23°C (73°F)*	32°C (89°F)*
3-5 mils Neat	14-16 hrs	3-3.5 hrs	1.5-2 hrs			
Compressive Strength ASTM D 695, MPa (psi)	Neat			Mortar (1:5)		
	4°C (39°F)*	23°C (73°F)*	32°C (89°F)*	4°C (39°F)*	23°C (73°F)*	32°C (89°F)*
4 hrs	-	-	-	-	-	6 (870)
8 hrs	-	-	22 (3190)	-	3 (435)	28 (4061)
16 hrs	-	25 (3626)	43 (6236)	-	33 (4786)	39 (5656)
1 day	-	47 (6816)	63 (9137)	-	34 (4931)	47 (6816)
3 days	25 (3626)	67 (9717)	72 (10 442)	42 (6091)	47 (6816)	48 (6961)
7 days	55 (7977)	74 (10 732)	72 (10 442)	43 (6236)	54 (7832)	61 (8847)
14 days	71 (10 297)	77 (11 167)	72 (10 442)	47 (6816)	59 (8557)	61 (8847)
28 days	86 (12 473)	81 (11 748)	72 (10 442)	48 (6961)	61 (8847)	61 (8847)
* Product cured and tested at the temperatures indicated						
Modulus of Elasticity ASTM D 695	Neat			Mortar		
28 days	2.41 GPa (3.5 x 10 ⁵ psi)			5.59 GPa (8.1 x 10 ⁵ psi)		
Tensile Properties ASTM D 638	Neat			Mortar		
14 days	Tensile strength 58 MPa (8412 psi)			5.8 MPa (841 psi)		
	Elongation at break 4.2%			0.3%		
	Modulus of elasticity 2.8 GPa (4.0 x 10 ⁵ psi)			5.24 GPa (7.6 x 10 ⁵ psi)		
Flexural Properties ASTM D 790	Neat			Mortar		
14 days	Modulus of rupture 96 MPa (13923 psi)			15 MPa (2175 psi)		
	Tangent modulus of elasticity in bending 2.5 GPa (3.6 x 10 ⁵ psi)			6.5 GPa (9.4 x 10 ⁵ psi)		
Shear Strength ASTM D 732	Neat			Mortar		
14 days	35 MPa (5076 psi)			16 MPa (2320 psi)		
Deflection Temperature ASTM D 648	Neat			Mortar		
14 days, Fiber stress loading = 1.8 MPa (264 psi)	53°C (127°F)			54°C (129°F)		



Bond Strength ASTM C 882

(Hardened concrete to hardened concrete)

2 days	Dry cure	19 MPa (2755 psi)
14 days	Moist cure	19 MPa (2755 psi)

Water Absorption ASTM D 570

7 days	2 hr boil	1.1%
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How to Use

Surface Preparation

Surface must be clean and sound. It may be dry or damp, but free of standing water. Remove dust, laitance, grease, curing compounds, impregnations, waxes, foreign particles and disintegrated materials.

Concrete - Sandblast or use other approved mechanical means to provide an open roughened texture.

Steel - Sandblast to white-metal finish.

Mixing

Pre-mix each component. Proportion 1 part component B to 2 parts component A by volume into a clean pail. Mix thoroughly for 3 min with Sika paddle on low-speed drill (300-450 rpm) until uniformly blended. Mix only that quantity that can be used within its pot life.

To prepare an epoxy mortar - Slowly add 4-5 parts by loose volume of an oven-dried silica sand to 1 part of pre-mixed Sikadur® 35 Hi-Mod LV and mix until uniform in consistency.

Application

To gravity feed cracks - Pour neat Sikadur® 35 Hi-Mod LV into V-notched crack. Continue placement until completely filled. Seal underside of slab prior to filling if cracks reflect through.

To pressure inject cracks - Use automated injection equipment or manual method. Set appropriate injection ports based on system used. Seal ports and crack with Sikadur® 31 Hi-Mod Gel or Sika® AnchorFix® 4CA/3CA. When the epoxy adhesive seal has cured, inject Sikadur® 35 Hi-Mod LV with slow, steady pressure.

To anchor bolts, dowels and pins - Annular space around bolt should not exceed 3 mm (1/8 in). Depth of embedment is typically 10-15 times the bolt diameter. Grout with neat Sikadur® 35 Hi-Mod LV.

To seal slabs - Spread neat Sikadur® 35 Hi-Mod LV over slab. Allow penetration. Remove excess to prevent surface film. Seal interior slabs and above grade, exterior slabs only.

For an epoxy mortar - Prime prepared surface with neat Sikadur® 35 Hi-Mod LV. Place prepared epoxy mortar before primer becomes tack-free. Place the epoxy mortar using trowels. Compact and level with vibrating screed or trowels then finish with finishing trowel. Sikadur® 35 Hi-Mod LV mortar is for interior use only.

Clean Up

Uncured material can be removed with Sika® Equipment Cleaner/Epoxy Thinner. Cured product can only be removed mechanically.

Limitations

- Minimum application temperature: 4°C (39°F).
- Do not thin with solvents.
- Use oven-dried sand only.
- Maximum epoxy mortar thickness: 38 mm (1 1/2 in) per lift.
- Epoxy mortar is for interior use only.
- Do not seal exterior slabs on grade.
- Minimum age of concrete must be 21 - 28 days depending on curing and drying conditions.
- Porous substrates must be tested for vapour transmission prior to mortar application or slab sealing.
- Not for injection of cracks under hydrostatic pressure.
- Do not inject cracks greater than 6 mm (1/4 in).

Caution

Component A - Irritant - Prolonged contact with skin may cause irritation. Avoid eye contact.

Component B - Irritant - Contact with skin may cause severe burns. Avoid eye contact. Product is a strong sensitizer. Use of safety goggles and chemical-resistant gloves recommended. Avoid breathing vapours. Use adequate ventilation. Use of a NIOSH/MSHA organic vapour respirator is recommended. Consult product label for additional information.

First Aid

In case of skin contact, wash with soap and water. For eye contact flush immediately with plenty of water for at least 15 min. Contact a physician. For respiratory problems, transport victim to fresh air. Remove contaminated clothing and wash before re-use.

For more information, consult Sika Material Safety Data Sheet.

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 shelf life. 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 proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request or can be accessed in the Internet under www.sika.ca.

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