Construction

Product Data Sheet
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Identification no. 389-35N
Sikadur 55 SLV

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Super low-viscosity, moisture-tolerant epoxy resin, crack healer/penetrating sealer

Description	Sikadur 55 SLV is a 2-component, 100% solids, moisture-tolerant, epoxy crack healer / penetrating sealer, having a fast tack-free time to minimize downtime. It is a super low-viscosity, high-strength adhesive formulated specifically for sealing both dry and damp cracks. It conforms to the current ASTM C-881, Types I and II, Grade-1, Class-C* and AASHTO M-235 specifications. * except for gel time
Where to Use	■ Sikadur 55 SLV structurally repairs cracked concrete. ■ For interior slabs and exterior above-grade slabs. ■ For elevated horizontal decks, parking garages and other structures exposed to foot and pneumatic tire traffic.
Advantages	■ Super low viscosity/low surface tension for excellent penetration into cracks. ■ Penetrates cracks by gravity down to 2 mils (0.002" / 0.05 mm) in width. ■ Prolongs life of cracked concrete. ■ Penetrates/seals surface of slabs from water absorption, chloride-ion intrusion, and chemical attack. ■ **Structurally** improves concrete surface. ■ Can be open to traffic in 6 hours at 73°F (23°C). ■ High bond strength, even in damp cracks. ■ **U.S. Patent No. (pending)** for ultra low viscosity healer/sealer to strengthen cracked concrete.
Coverage	1 gal. (3.8 liters) yields 231 cu. in. (3,785 cm^3) Typical coverage is 150-175 sq. ft./gal. (3.7-4.3 m^2/L) for surface sealing. Coverage varies with porosity and surface profile of substrate. Higher porosity concrete will reduce coverage. For crack healing, follow Application instructions and allow to pond over cracks.
Packaging	3 gal. (11.35 l) unit = 'A' = 2 gal. (7.6 l) + 'B' = 1 gal. (3.8 l)

Typical Data *[Material and curing conditions @ 73°F (23°C) and 50% R.H.]*

Shelf Life	2 years in original, unopened containers			
Storage Conditions	Store dry at 40°-95°F (4°-35°C). **Condition material to 65°-75°F (18°-24°C) before using.**			
Color	Clear, amber			
Mixing Ratio	Component 'A' : Component 'B' = 2:1 by volume			
Viscosity (Mixed)	Approximately 105 cps			
Pot Life	Approximately 20 minutes			
Tack-Free Time	**40°F (4°C)***	**60°F (15°C)***	**73°F (23°C)***	**90°F (32°C)***
	> 11 hrs.	11 hrs.	6 hrs.	2.5 hrs.

Tensile Properties (ASTM D-638) **73°F (23°C)**

7 day	Tensile Strength	7,100 psi (48.9 MPa)
	Elongation at break	10%

Bond Strength (ASTM C-882)

Hardened Concrete to Hardened Concrete	**2 day (moist cure)**	2,500 psi (17.2 MPa)
	14 day (moist cure)	2,500 psi (17.2 MPa)
Hardened Concrete to Steel	**2 day (moist cure)**	1,500 psi (10.3 MPa)
	14 day (moist cure)	1,600 psi (11.0 MPa)

Flexural Properties (ASTM D-790)

7 day	Flexural Strength	8,500 psi (58.6 MPa)
	Tangent Modulus of Elasticity	3.2 x 10^5 psi (2,206 MPa)

Shear Strength (ASTM D-732) **7 day** 5,800 psi (40.0 MPa)

Heat Deflection Temperature (ASTM D-648) **7 day**

[fiber stress loading = 264 psi (1.8 MPa) 110°F (43°C)

Water Absorption (ASTM D-570) **7 day** (24 hour immersion) 0.60%

Compressive Properties (ASTM D-695)

Compressive Strength, psi (MPa)

	40°F (4°C)*	**60°F (15°C)***	**73°F (23°C)***	**90°F (32°C)***
1 day	-	320 (2.2)	1,100 (7.6)	4,800 (33.1)
3 day	2,000 (13.8)	6,500 (44.8)	8,300 (57.2)	8,000 (55.2)
7 day	7,800 (53.8)	10,400 (71.7)	10,900 (75.1)	8,300 (57.2)
14 day	9,600 (66.2)	11,000 (75.8)	11,800 (81.4)	10,000 (68.9)
28 day	11,700 (80.7)	12,000 (82.7)	12,000 (82.7)	10,000 (68.9)

Compressive Modulus **7 day** **3.0 x 10^5 psi (2,068 MPa)**

*Material cured and tested at the temperature indicated.

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How to Use

Surface Preparation

Substrate must be clean, sound and free of surface moisture. Remove dust, laitance, grease, oils, curing compounds, waxes, impregnations, foreign particles, coatings and disintegrated materials by mechanical means (i.e. shotblasting, sandblasting, etc.). For best results, substrate should be dry. Surfaces prepared by Low Pressure Water Cleaning or High Pressure Water Jetting methods should be allowed to dry for 24 hrs. minimum [at 73°F (23°C)].

Mixing

Mix 1 part Component 'B' to 2 parts Component 'A' by volume into a clean pail. Mix thoroughly for 3 minutes with Sika paddle or jiffy mixer on a low-speed (400-600 rpm) drill until uniformly blended. Mix only that quantity which can be used within its pot life.

Application

To gravity feed cracks: Sikadur 55 SLV is applied to horizontal surfaces by flat squeegee or broom. Spread material over area and allow to pond over cracks. Let material penetrate into cracks and substrate. Remove excess epoxy with roller leaving no visible surface film. For cracks greater than 1/8 in. (3 mm) wide, fill crack with oven-dried sand before applying Sikadur 55 SLV. Seal cracks from underside, when accessible, to prevent leakage.

A second treatment may be required on very porous substrates. Apply second treatment before broadcasting

After treatment, wait at least 20 minutes at 73°F (23°C). Cover with broadcast of an oven-dried 20/40 silica sand or similar sand. Distribute evenly over the surface to excess at a rate of 30-40 lbs./100 sq. ft.. Allow to cure 6 hours minimum at 73°F (23°C). Remove any loose sand and open to traffic once epoxy has cured. Consult Sika Technical Service at 1-800-933-SIKA for additional information.

To pressure inject cracks: Use automated injection equipment. Set appropriate injection ports. Seal ports and cracks with Sikadur 31, Hi-Mod Gel, Sikadur Injection Gel or Sikadur AnchorFix-3/4. When the epoxy adhesive has cured, inject Sikadur 55 SLV with steady pressure. Consult Technical Service at 1-800-933-SIKA for additional information.

Limitations

- Do not thin. Addition of solvents will prevent proper cure.
- Material is a vapor barrier after cure.
- Do not apply if rain is imminent. Water exposure or humidity will affect surface appearance and may cause surface whitening.
- Not an aesthetic product. Color may alter due to variations in lighting and/or UV exposure.
- Sealed concrete surface may appear blotchy due to differential absorption.
- Allow sufficient time for the substrate to dry after rain or other inclement conditions.
- Application temperature of substrate must be minimum 5°F (3°C) above the dew point.
- Minimum ambient and substrate temperature 40°F (4°C). Maximum application temperature 95°F (35°C).
- Do not inject cracks greater than 1/4 in. (6 mm) Consult Technical Service at 1-800-933-SIKA.
- Minimum age of concrete is 21-28 days, depending on curing and drying conditions.
- Not designed to seal or inject cracks under hydrostatic pressure during application.

WARNING

Component 'A' - IRRITANT; SENSITIZER. Avoid direct contact. Contains modified epoxy resin and Diglycidyl Ether of Bisphenol A (CAS 25085-99-8). Causes eye irritation. May cause skin/respiratory irritations. Prolonged and/or repeated contact with skin may cause allergic reaction/sensitization. May be harmful if swallowed. **HMIS:H-2, F-1, R-0, PPE-C.**

Component 'B' - CORROSIVE, IRRITANT, SENSITIZER. Contains 2,4,6-Tri(Dimethylamino methyl) phenol (90-72-2), Amines (Mixture) and Benzyl Alcohol (100-51-6). Contact with skin and eyes causes severe burns. Causes eye/skin/respiratory irritation. Prolonged and/or repeated skin contact may cause an allergic reaction/sensitization. Harmful if swallowed. **HMIS:H-3, F-1, R-0, PPE-D.**

Deliberate concentrations of vapors of 'A' and/or 'B' Components for purposes of inhalation is harmful and can be fatal.

First Aid

Eyes: Hold eyelids apart and flush thoroughly with water for 15 minutes. **Skin:** Remove contaminated clothing. Wash skin thoroughly for 15 minutes with soap and water. **Inhalation:** Remove person to fresh air. **Ingestion:** Do not induce vomiting. Contact physician. **In all cases, contact a physician immediately if symptoms persist.**

Handling and Storage

Avoid direct contact with eyes and skin. Wear chemical resistant clothing/gloves/goggles. Avoid breathing vapors. Use with adequate general and local ventilation. If ventilation is poor, use a properly fitted, NIOSH-approved respirator. Wash thoroughly after handling product. Remove contaminated clothing and launder before reuse.

Clean Up

In case of spills ventilate area and contain spill. Collect with absorbent material. Ventilate area. Avoid contact. Dispose of in accordance with current, applicable local, state and federal regulations. Uncured material can be removed with approved solvent. Follow solvent manufacturer's instructions for use and warnings. Cured material (when component 'A' combined with Component 'B') can only be removed by mechanical means.

KEEP CONTAINER TIGHTLY CLOSED • KEEP OUT OF REACH OF CHILDREN • NOT FOR INTERNAL CONSUMPTION • FOR INDUSTRIAL USE ONLY

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