Construction

Sikadur® 32, Hi-Mod LPL

High-modulus, high-strength, extended pot life, epoxy bonding/grouting adhesive

Description	Sikadur® 32, Hi-Mod LPL is a multi-purpose, 2-component, 100% solids, moisture-tolerant, structural epoxy adhesive. Sikadur® 32, Hi-Mod LPL offers a long pot life and contact time even at 100°F (38°C). Sikadur® 32, Hi-Mod LPL conforms to the current ASTM C-881, Types I and II, Grade-2, Class-C and AASHTO M-235 specifications.
Where to Use	■ Hot weather concrete placements requiring a bonding adhesive. ■ Bond fresh, plastic concrete to hardened concrete and steel. ■ Grout horizontal cracks in structural concrete and wood by gravity feed. ■ Machinery and baseplate grout. ■ Structural adhesive for concrete, masonry, metal, wood, etc.
Advantages	■ Extended pot life and contact time at elevated temperatures. ■ High-strength bonding/grouting adhesive. ■ Tolerant of moisture before, during, and after cure. ■ Excellent adhesion to most structural materials. ■ Convenient easy-to-mix ratio A:B = 1:1 by volume. ■ Easy-to-use for bonding/grouting applications.
Coverage	**Bonding Adhesive -** 1 gal. covers approximately 80 ft.^{2} on smooth surface. **Base Plate Grout -** 1 gal. mixed with 1 1/2 parts oven-dried aggregate by loose volume yields approximately 420 in.^{3} of grout.
Packaging	1 and 4 gal. units.

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

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

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	Dark gray.
Mixing Ratio	Component 'A' : Component 'B' = 1:1 by volume.
Viscosity (Mixed)	Approximately 2,800 cps.
Pot Life	Approximately 90 minutes @ 73°F (23°C). (8 fl. oz. volume) Approximately 60 minutes @ 100°F (38°C). (8 fl. oz. volume)

Contact Time:

Substrate Temperature	40°F (4°C)	73°F (23°C)	90°F (32°C)
Material Temperature 73°F (23°C)	10-14 hr.	6-7 hr.	2-2.5 hr.
Material Temperature 100°F (38°C)	6-8 hr.	5-6 hr.	1.5-2 hr.

Tensile Properties (ASTM D-638) 14 day

Tensile Strength	5,800 psi (40.0 MPa)
Elongation at Break	5 %
Modulus of Elasticity	4.9 x 10^5 psi (3,381 MPa)

Flexural Properties (ASTM D-790)

14 day	Flexural Strength (Modulus of Rupture)	9,100 psi (62.8 MPa)
	Tangent Modulus of Elasticity in Bending	7.3 X 10^5 psi (5,037 MPa)

Shear Strength (ASTM D-732)	**14 day**	Shear Strength	6,400 psi (44.1 MPa)
Water Absorption (ASTM D-570)	**7 day**	(4 hours)	0.15%
Deflection Temperature (ASTM D-648)		**14 day**	108°F (42°C)
		(fiber stress loading = 264 psi {1.8 MPa})	

Bond Strength (ASTM C-882)

14 day (moist cure)	Plastic concrete to hardened concrete	2,200 psi (15.2 MPa)
14 day (moist cure)	Plastic concrete to steel	2,200 psi (15.2 MPa)
2 day (dry cure)	Hardened concrete to hardened concrete	3,100 psi (21.3 MPa)
14 day (moist cure)	Hardened concrete to hardened concrete	2,900 psi (20 MPa)

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Compressive Properties (ASTM D-695)		
Compressive Strength, psi (MPa)	**40°F* (4°C)***	**73°F* (23°C)***
1 day	-	-
3 day	-	10,700 (73.8)
7 day	2,500 (17.2)	11,000 (75.9)
14 day	8,300 (57.2)	12,000 (82.3)
28 day	10,000 (68.9)	13,000 (89.7)
Compressive Modulus	**28 day**	2.6 x 10^5 psi (1,794 MPa)

* Material cured and tested at the temperatures indicated.

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 and any other contaminants.
Preparation Work: Concrete - Should be cleaned and prepared to achieve a laitance and contaminant free, open textured surface by blast cleaning or equivalent mechanical means.
Steel - Should be cleaned and prepared thoroughly by blast cleaning or other equivalent mechanical means.

Mixing

Pre-mix each component. Proportion equal parts by volume of Component 'A' and Component 'B' into clean pail. Mix thoroughly for 3 minutes with Sika paddle on low-speed (400-600 rpm) drill until blend is a uniform color. Mix only that quantity that can be applied within its pot life.

Application

To bond fresh concrete to hardened concrete - Apply by brush, roller, broom, or spray. Place fresh concrete while Sikadur® 32, Hi-Mod LPL is still tacky. If coating becomes glossy and loses tackiness, remove any surface contaminants then recoat with additional Sikadur® 32, Hi-Mod LPL and proceed.

To grout base plates - Add 1 1/2 parts of oven-dried aggregate to 1 part of mixed Sikadur® 32, Hi-Mod LPL by volume. Place grout under baseplate. Avoid contact with the underside of the plate. A 1/4- to 3/8-in. (6-10 mm) space should remain between the top of the grout and the bottom of the plate. Maximum thickness of grout per lift is 1.5 in. (38 mm) If multiple lifts are needed, allow preceding layer to cool to touch before applying additional layer. The remaining 1/4 to 3/8-in. (6-10 mm) space should be filled with neat Sikadur® 32, Hi-Mod LPL. Pour a sufficient quantity of neat epoxy to allow the level to rise slightly higher than the underside of the bearing plate.

To gravity feed cracks - Pour neat material into vee-notched crack. Continue placement until completely filled. Seal underside of slab prior to filling if cracks reflect through.

Limitations

- Minimum substrate and ambient temperature 40°F (4°C).
- For spray applications, consult Technical Service.
- Use only oven-dry aggregate.
- Material is a vapor barrier after cure.
- For applications on exterior, on-grade substrates, consult Technical Service.
- Not an aesthetic product. Color may alter due to variations in lighting and/or UV exposure.

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