

Sikadur® 42, Grout-Pak PT

Pre-proportioned, epoxy, anchorage protection system

Description	Sikadur® 42, Grout-Pak PT is a 3-component, 100% solids, moisture-tolerant, epoxy anchorage protection system.
Where to Use	<ul style="list-style-type: none"> To protect the anchorages of post-tensioning tendons or bars (i.e. pour-back box) on segmental bridge projects.
Advantages	<ul style="list-style-type: none"> Ready to mix, pre-proportioned kit. Excellent adhesion. Impermeable and resistant to chemicals, corrosion, impact and stress. Moisture-tolerant. Low heat development/low peak exothermic system for large pours. High compressive strength. Long working time. High vibration resistance. Fast strength gain. Minimal shrinkage/expansion. High effective bearing area. Good flowability.
Packaging	0.5 cu. ft. kit consists of epoxy resin (Component 'A' and 'B') and 50 lb. aggregate. (Component 'C') in a multi-wall bag.

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 75°-85°F (24°-29°C) before using. Component 'C' must be kept dry.		
Color	Dark Gray		
Consistency	Flowable (when conditioned properly)		
Application (Pot) Life	Approximately 90 minutes		
Gel Time (ASTM D-2471)	Approximately 3.25 hrs.		
Tensile Strength (ASTM C-307)	7 day	2,200 psi (15.1 MPa)	
Flexural Properties (ASTM C-580)			
	7 day	Flexural Strength (Modulus of Rupture)	3,700 psi (25.5 MPa)
		Tangent Modulus of Elasticity	1,400 ksi (9,655 MPa)
Water Absorption (ASTM C-413)	7 day	Total Water Absorption (2-hour boil)	0.04%
Bond Strength (ASTM C-882 modified)			
	7 day	Bond Strength to Concrete (wet cure)	3,100 psi (21.3 MPa)
		Bond Strength to Steel (wet cure)	3,600 psi (24.8 MPa)
Coefficient of Thermal Expansion (ASTM C-531)			
	73° - 212°F (23°-100°C)	19.2 x 10 ⁻⁶ in./in./°F	(10.0 x 10 ⁻⁶ mm/mm/°C)
	0° - 160°F (-18°-71°C)	12.6 x 10 ⁻⁶ in./in./°F	(6.8 x 10 ⁻⁶ mm/mm/°C)
Peak Exotherm (ASTM D-2471)	118°F (48°C)		
Specimen Size Tested: 13 in. x 10 in. x 6 in. (330 mm x 254 mm x 152 mm)			
Thermal Compatibility (ASTM C-884)	Passes test (5 cycles)		
Linear Shrinkage (ASTM C-531) 7 day	0.022%		
Effective Bearing Area (ASTM C-1339)	>95% final surface area of grout in contact with bearing plate		
Compressive Creep (ASTM C-1181), 400 psi (2.7 MPa) @ 140°F (60°C)			
	1 day	0.0085 in./in. (0.0085 mm/mm)	
	7 day	0.0086 in./in. (0.0086 mm/mm)	
	28 day	0.0093 in./in. (0.0093 mm/mm)	
Heat Deflection Temperature (ASTM D-648)	125°F (52°C)		
	7 day	[fiber stress loading = 264 psi (1.8 MPa)]	

Construction



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Compressive Properties (ASTM C-579B)

Compressive Strength, psi (MPa)

	40°F* (5°C)	73°F* (23°C)	90°F* (32°C)
8 hour	-	-	8,200 (56.5)
16 hour	-	10,000 (68.9)	13,000 (89.6)
1 day	-	11,000 (75.8)	14,000 (96.5)
3 day	6,500 (44.8)	14,200 (97.9)	15,000 (103.4)
7 day	7,200 (49.6)	15,000 (103.4)	15,000 (103.4)
14 day	9,000 (62.1)	16,000 (110.4)	16,500 (113.9)
28 day	11,000 (75.9)	17,000 (117.3)	17,500 (120.8)

Compressive Modulus (ASTM C-469) 7 day 2,600 ksi (17,940 MPa)

* Material cured and tested at the temperatures indicated.

How to Use

Surface Preparation Substrate and other contact areas must be clean, sound, and free of standing water. Remove dust, laitance, oils, grease, curing compounds, waxes, impregnations, foreign particles, coatings and disintegrated materials by mechanical means (i.e. sandblasting, bush hammering). Sandblast metal contact surfaces to a commercial white finish for maximum adhesion. Apply grout immediately to prevent re-oxidizing. Concrete substrate shall have reached its desired strength [3,000 psi (20.7 MPa) minimum] and must be dimensionally stable.

Mixing Pour the entire contents of Components 'A' & 'B' into an appropriate mixing vessel (e.g. 5 gal. bucket) and mix for 30 seconds with a 1/2 in. Jiffy mixing paddle (5 in. blade diameter) on a **low-speed** (400 - 600 rpm) 3/4 in. drive rotary drill, taking care not to entrain air during mixing. **It is critical to the performance of the grout that there be no appreciable air bubbles in the resin.** Slowly add the **entire** contents of Component 'C' and mix until uniformly blended (approx. 5 minutes).

Application Pour the mixed epoxy grout into the prepared forms from one side only to eliminate air entrapment. Pour back box should have vent holes around periphery to prevent air pockets from developing. Maintain the liquid head to ensure intimate contact with the pour-back box. Plungers may be used to ease placement. Place sufficient epoxy grout in the forms to rise slightly above the underside of the base plate. Grout depth of 1 in. (25 mm) minimum required.

Tooling & Finishing **Forming:** The flowable consistency of the epoxy grout system requires the use of forms to contain the material. In order to prevent leakage or seepage, completely seal all forms. In applications where forms will be stripped, apply polyethylene film or bond breaker to all forms to prevent adhesion of the grout. Prepare form work to maintain a 2 in. (50 mm.) liquid head to facilitate placement. A grout box that can be attached to the form will enhance the grout flowability. In base plate applications, projected anchor bolts should be wrapped with neoprene foam rubber (or similar) to prevent grout from adhering to the bolts. The use of expansion joints is recommended on large pours to minimize the potential for cracking in the epoxy grout [maximum 3-4 ft. (0.9-1.2 m.) spacing in each direction].

Limitations

- Minimum substrate and ambient temperature should be 40°F (5°C).
- Do not thin. Addition of solvents will prevent proper cure.
- Material is a vapor barrier after cure.
- Minimum grout depth should be 1 in. (25 mm.). Maximum grout depth should be 12 in. (305 mm).
- Anchorage pour-back box should be shielded from direct sunlight and rain for a minimum of 24 hours before epoxy grouting, and after grouting until tack free.
- Component 'C' must be kept dry.
- Cold material may require chaining, rodding and pushing during placement.
- For applications requiring good self-leveling and better flow capabilities, use **Sikadur® 42, Grout-Pak** (standard formulation - product code 0335-30N).
- For proper seating in base plate applications, allow grout to rise above the bottom of the base plate.
- **Do not batch. Mix complete units.**
- Not an aesthetic product. Color may alter due to variations in lighting and/or UV exposure.

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