

PRODUCT DATA SHEET

SikaQuick®-1000

RAPID HARDENING REPAIR MORTAR WITH EXTENDED WORKING TIME

PRODUCT DESCRIPTION

SikaQuick®-1000 is a one-component, rapid hardening, early strength gain, cementitious, patching mortar for concrete. SikaQuick®-1000 LD is a low dust version of this formula.

USES

- On grade, above grade and below grade concrete conditions
- Highway overlays and repairs
- Structural repair material for concrete roadways, parking structures, bridges, dams and ramps
- Full depth patching repairs (may require multiple lifts)
- Economical patching material for horizontal flatwork repairs of mortar lines and concrete surfaces

CHARACTERISTICS / ADVANTAGES

- Specially suited for warmer weather applications when extended working time is required
- Epoxy coatings can be applied as early as 6 hours at 73° F (23° C).
- Freeze / thaw resistant
- Easy to use - labor-saving material
- Not gypsum-based
- High early strength
- Open to foot traffic in 4 hours / Open to vehicular traffic in 6 hours at 73° F (23° C)
- Easily applied to clean, sound substrates
- SikaQuick®-1000 LD is an available, low dust version of this product.

APPROVALS / STANDARDS

- Rapid hardening as defined by ASTM C 928

PRODUCT INFORMATION

Chemical Base	<ul style="list-style-type: none"> ▪ SikaQuick®-1000 is a blend of cement, select aggregates and specialty additives ▪ SikaQuick®-1000 LD is a blend of cement, select aggregates, low dust and specialty additives
Packaging	50 lb (22.7 kg) bag
Appearance / Color	Gray powder
Shelf Life	12 months from date of manufacture if stored properly in original, unopened and undamaged, sealed packaging
Storage Conditions	Store dry at 40° – 95° F (4° – 35° C) Protect from moisture. If damp, discard material

TECHNICAL INFORMATION

Compressive Strength	3 hours	1,250 psi (8.6 MPa)	(ASTM C 109) 73° F (23° C), 50% R.H.
	1 day	4,000 psi (27.5 MPa)	
	7 days	5,000 psi (34.5 MPa)	
	28 days	7,000 psi (48.3 MPa)	
Modulus of Elasticity in Compression	28 days	4.6 x 10 ⁶ psi (32 GPa)	(ASTM C-469) 73° F (23° C), 50% R.H.
Flexural Strength	1 day	700 psi (4.8 MPa)	(ASTM C 293) 73° F (23° C), 50% R.H.
	7 days	900 psi (6.2 MPa)	
	28 days	1,000 psi (6.9 MPa)	
Splitting Tensile Strength	1 day	200 psi (1.4 MPa)	(ASTM C 496) 73° F (23° C), 50% R.H.
	7 days	300 psi (2.1 MPa)	
	28 days	400 psi (2.8 MPa)	
Tensile Adhesion Strength	28 days	Approximately 300 psi (2.1 MPa) Substrate failure	(ACI 503R) 73° F (23° C), 50% R.H.
Shrinkage	28 days	0.06%	(ASTM C 157 modified per ASTM C-928) 73° F (23° C), 50% R.H.
Abrasion Resistance	28 days	0.026 inch (0.66 mm) of wear at 1 hour	(ASTM C 779) 73° F (23° C), 50% R.H.
Freeze-Thaw Stability	28 days	98%	(ASTM C 666)
Freeze Thaw De-Icing Salt Resistance	50 cycles	0.080 lb / ft ² (391 grams / m ²)	(ASTM C 672)
Rapid Chloride Permeability	28 days	< 1,000 Coulombs	(ASTM C 1202 / AASHTO T 277) 73° F (23° C), 50% R.H.

APPLICATION INFORMATION

Mixing Ratio	4.5 – 5 pints (2.1 – 2.4 L)		
Coverage	Neat	0.43 ft ³ (0.012 m ³)	
	Extended with 25 lbs (11.4 kg) of 3/8 inch (10 mm) pea gravel	0.58 ft ³ (0.017 m ³)	
(Yield figures do not include allowance for surface profile, porosity or material waste)			
Consumption / Yield / Dosage (PRINT single line)			
Layer Thickness	Min.	Max.	
	Neat	1/4 inch (6 mm)	2 inches (50 mm)
Extended	1 inch (25 mm)	6 inches (152 mm)	
<ul style="list-style-type: none"> Do not feather edge Do not exceed 7 inches (178 mm) slump when extended 			

Product Temperature	65° – 75° F (18° – 24° C)	
Ambient Air Temperature	> 40° - 95° F (4° - 35° C)	
Substrate Temperature	> 40° - 95° F (4° - 35° C)	
Set Time	35 – 85 minutes	(ASTM C 266) 73° F (23° C), 50% R.H.
Final Set Time	> 120 minutes	(ASTM C 266) 73° F (23° C), 50% R.H.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

- Concrete surface must be clean and sound.
- Remove all deteriorated concrete, dirt, oil, grease, and other bond-inhibiting materials from the area to be repaired.
- Be sure repair area is not less than 1/4" (6 mm) deep.
- Preparation work should be done by high pressure water blast, scabblor or other appropriate mechanical means to obtain an exposed aggregate surface profile of $\pm 1/8"$ (3 mm) [minimum CSP-6].
- To ensure optimum repair results, the effectiveness of decontamination and preparation should be assessed by a Tensile Adhesion Strength (pull-off) test.
- Saw cutting perimeter edges of concrete repair area at a dovetail is preferred.
- Substrate should be Saturated Surface Dry (SSD) with clean water prior to application. No standing water should remain during application.
- Rust, scale, mortar, concrete, dust and other loose and deleterious material which reduces bond or contributes to corrosion shall be removed from steel reinforcement.
- Surfaces shall be prepared using abrasive blast cleaning techniques or high pressure water blasting to achieve a bright metal finish.

PRIMING

- **Concrete substrate:** Prime the prepared substrate with a scrub coat of SikaQuick®-1000 / SikaQuick®-1000 LD prior to placement of the mortar. The repair mortar has to be applied into the wet scrub coat before it dries.
- **Reinforcing Steel:** Steel reinforcement should be thoroughly prepared by mechanical cleaning to remove all traces of rust. Where corrosion has occurred due to the presence of chlorides, the steel should be high pressure washed with clean water after mechanical cleaning. For priming of reinforcing steel use Sika® Armatec® corrosion protection products (consult current Product Data Sheets).

MIXING

- Wet down all tools and mixer to be used.
- Pour the required amount of clean, potable water [approximately 70° F (21° C)] into a suitably sized and clean mixing container, using a calibrated measuring jug or similar, to ensure strict control of the water content. Do not over-water.
- Add 1 bag while continuing to mix with a low-speed drill (400 - 600 rpm) and mortar mixing paddle, or in an appropriate mortar mixer.
- Once all the powder has been added, mix to a uniform consistency, maximum 3 minutes, until a lump-free blend is achieved.
- Thorough mixing and proper proportioning of the powder and liquid is necessary.
- To help control setting times, colder water may be used in hot weather and warmer water may be used in cold weather.
- Inaccurate proportioning of the powder to liquid will result in a finished product that may not conform to the typical published performance property values.
- **With water or undiluted SikaLatex® R:** Pour 4.5 pints (2.1 L) of liquid into the mixing container. Slowly add powder, mix and adjust as above. Add up to another 1/2 pint (0.24 L) maximum of liquid to achieve desired consistency. Do not over-water.

- **With diluted SikaLatex® R:** SikaLatex® R admixture may be diluted up to 5:1 (water: SikaLatex® R) for projects requiring minimal polymer modification. Pour 4.5 pints (2.1 L) of the mixture into the mixing container. Slowly add powder, mix and adjust as above.

EXTENSION WITH AGGREGATES

- For applications greater than 1" (25 mm) in depth, add 3/8" (10 mm) coarse aggregate.
- The typical addition rate is 25 lbs (11.4 kg) of aggregate per bag. It is approximately 2 gallons (7.6 L) by loose volume of aggregate.
- The aggregate must be non-reactive (reference ASTM C 1260, C 227 and C 289), clean, well graded, Saturated Surface Dry (SSD), have low absorption and high density, and comply with ASTM C 33 size number 8 per Table 2.

- Variances in aggregate may result in different strengths.
- Do not use limestone aggregate.
- Do not exceed a slump of 7" (178 mm). This may cause excessive bleeding and retardation and may reduce the strength and performance of the material.

APPLICATION

- A neat mix of SikaQuick®-1000 / SikaQuick®-1000 LD mortar must be scrubbed into the mechanically prepared, SSD substrate. Be sure to fill all pores and voids.
- Force material against edge of repair, working toward center. After filling repair, screed off excess.
- Allow material to set to desired stiffness, then finish with wood or sponge float for a smooth finish, or broom or burlap-drag for a rough finish.
- If a smoother finish is desired, a magnesium float should be used.
- To assist in the finishing process, use SikaFilm® finishing aid. Consult current Product Data Sheet.
- Mixing, placing, and finishing should not exceed 30 minutes maximum.
- Refer to ACI 305, the "Guide to Hot Weather Concreting" or ACI 306, the "Guide to Cold Weather Concreting" when there is a need to place this product while either hot or cold temperatures prevail. Thinner placements will be more sensitive to the temperature conditions.

CURING TREATMENT

- As per ACI recommendations for portland cement concrete, moist curing is required.
- Moist cure with wet burlap and polyethylene, a fine mist of water or with a water based,* compatible curing compound meeting ASTM C 309.
- Curing compounds adversely affect the adhesion of following lifts of mortar, leveling mortar or protective coatings.
- Moist curing should commence immediately after finishing.
- Protect freshly applied mortar from direct sunlight, wind, rain and frost.
- To prevent from freezing, cover with insulating material (e.g. curing blanket).

* Pretesting of curing compound is recommended.

LIMITATIONS

- Avoid application in direct sunlight, during precipitation and/or when strong winds prevail.
- Use only clean, potable water
- As with all cement based materials, avoid contact with aluminum to prevent adverse chemical reaction and possible product failure. Insulate potential areas of contact by coating aluminum bars, rails, posts etc. with an appropriate epoxy such as Sikadur®-32 Hi-Mod.
- Bonding agents (e.g. Sika® Armatec® 110 EpoCem) should not be used. Use of the neat mortar as a scrub

- coat is recommended and preferred. If bonding agents are used, follow cure times for the bonding agents used as a guide prior to putting SikaQuick®-1000 / SikaQuick®-1000 LD in service. Assure suitability with the manufacturer of the bonding agent.
- SikaQuick®-1000 / SikaQuick®-1000 LD does not form a vapor barrier when cured.

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

OTHER RESTRICTIONS

See Legal Disclaimer.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

LEGAL DISCLAIMER

- **KEEP CONTAINER TIGHTLY CLOSED**
- **KEEP OUT OF REACH OF CHILDREN**
- **NOT FOR INTERNAL CONSUMPTION**
- **FOR INDUSTRIAL USE ONLY**
- **FOR PROFESSIONAL USE ONLY**

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