PRODUCT DATA SHEET

SikaQuick®-2500

VERY RAPID HARDENING, REPAIR MORTAR

PRODUCT DESCRIPTION

SikaQuick®-2500 is a one-part, cementitious, very rapid hardening, early strength gain, cementitious, patching mortar for concrete.

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

- Very rapid hardening as defined by ASTM C 928
- Epoxy coatings can be applied as early as 4 hours at 73°F (23°C)
- Freeze / thaw resistant
- Easy to mix and apply - labor-saving
- Not gypsum-based
- High early strength
- Fast-setting
- Open to foot traffic in 45 minutes / Open to vehicular traffic in 1 hour at 73°F (23°C)
- Use in cold temperatures with SikaQuick Winter Boost [at ambient and substrate temperatures of 20°F - 45°F (-7°C - 7°C)]

APPROVALS / STANDARDS

- Meets ASTM C 928, Type R3

PRODUCT INFORMATION

<table>
<thead>
<tr>
<th>Packaging</th>
<th>50 lb (22.7 kg) bag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance / Color</td>
<td>Gray powder</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>12 months from date of manufacture if stored properly in original, unopened and undamaged, sealed packaging</td>
</tr>
</tbody>
</table>
| Storage Conditions      | Store dry at 40°F - 95°F (4°C - 35°C)  
Protect from moisture. If damp, discard material. |

Product Data Sheet
SikaQuick®-2500
November 2018, Version 01.02
020302040040000012

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## TECHNICAL INFORMATION

### Compressive Strength

<table>
<thead>
<tr>
<th>Time</th>
<th>73°F (23°C)</th>
<th>20°F (-7°C) with 1 cup of SikaQuick® Winter Boost*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 hour</td>
<td>2,500 psi (17.2 MPa)</td>
<td>-</td>
</tr>
<tr>
<td>2 hours</td>
<td>4,000 psi (27.6 MPa)</td>
<td>1,400 psi (9.7 MPa)</td>
</tr>
<tr>
<td>1 day</td>
<td>5,700 psi (39.3 MPa)</td>
<td>4,500 psi (31.0 MPa)</td>
</tr>
<tr>
<td>7 days</td>
<td>7,500 psi (51.7 MPa)</td>
<td>7,000 psi (48.3 MPa)</td>
</tr>
<tr>
<td>28 days</td>
<td>8,500 psi (58.6 MPa)</td>
<td>8,000 psi (55.2 MPa)</td>
</tr>
</tbody>
</table>

* Consult SikaQuick® Winter Boost Product Data Sheet.

### Modulus of Elasticity in Compression

<table>
<thead>
<tr>
<th>Time</th>
<th>4.6 x10^6 psi (32 GPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 days</td>
<td>(ASTM C 469)</td>
</tr>
</tbody>
</table>

### Flexural Strength

<table>
<thead>
<tr>
<th>Time</th>
<th>800 psi (5.5 MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>(ASTM C 293)</td>
</tr>
<tr>
<td>7 days</td>
<td>1,000 psi (6.9 MPa)</td>
</tr>
<tr>
<td>28 days</td>
<td>1,100 psi (7.6 MPa)</td>
</tr>
</tbody>
</table>

### Splitting Tensile Strength

<table>
<thead>
<tr>
<th>Time</th>
<th>300 psi (2.1 MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>(ASTM C 496)</td>
</tr>
<tr>
<td>7 days</td>
<td>500 psi (3.4 MPa)</td>
</tr>
<tr>
<td>28 days</td>
<td>600 psi (4.1 MPa)</td>
</tr>
</tbody>
</table>

### Tensile Adhesion Strength

Approximately 300 psi (2.1 MPa) Substrate failure; after 28 days

### Slant Shear Strength

<table>
<thead>
<tr>
<th>Time</th>
<th>1,800 psi (12.4 MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>(ASTM C 882 modified)*</td>
</tr>
<tr>
<td>7 days</td>
<td>2,500 psi (17.2 MPa)</td>
</tr>
<tr>
<td>28 days</td>
<td>2,700 psi (18.6 MPa)</td>
</tr>
</tbody>
</table>

* Mortar scrubbed into mechanically prepared, SSD substrate at 73°F (23°C), 50 % R.H.

### Shrinkage

<table>
<thead>
<tr>
<th>Time</th>
<th>0.06 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 days</td>
<td>(ASTM C 157 modified per ASTM C 928)</td>
</tr>
</tbody>
</table>

### Abrasion Resistance

<table>
<thead>
<tr>
<th>Time</th>
<th>0.026 inch (0.66 mm) of wear at 1 hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 days</td>
<td>(ASTM C 779)</td>
</tr>
</tbody>
</table>

### Freeze-Thaw Stability

<table>
<thead>
<tr>
<th>Time</th>
<th>98%</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 days</td>
<td>(ASTM C 666)</td>
</tr>
</tbody>
</table>

### Freeze Thaw De-Icing Salt Resistance

<table>
<thead>
<tr>
<th>Time</th>
<th>0.080 lb/ft² (391 grams/m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 cycles</td>
<td>(ASTM C 672)</td>
</tr>
</tbody>
</table>

### Rapid Chloride Permeability

<table>
<thead>
<tr>
<th>Time</th>
<th>&lt; 500 Coulombs</th>
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</table>
APPLICATION INFORMATION

Mixing Ratio
5 – 5.5 pints (2.4 – 2.6 L)

Coverage
Neat
Extended with 25 lbs (11.4 kg) of 3/8 inch (10 mm) pea gravel
Extended with 50 lbs (22.7 kg) of 3/8 inch (10 mm) pea gravel

Coverage
Neat
0.43 ft³ (0.012 m³)
Extended with 25 lbs (11.4 kg) of 3/8 inch (10 mm) pea gravel
0.58 ft³ (0.017 m³)
Extended with 50 lbs (22.7 kg) of 3/8 inch (10 mm) pea gravel
0.77 ft³ (0.022 m³)

(Yield figures do not include allowance for surface profile, porosity or material waste)

Layer Thickness
Minimum*  Maximum (per lift)
Neat
1/4” (6 mm) 1” (25 mm)
Extended
1” (25 mm) 6” (152 mm)

* Do not feather edge.
* Do not exceed 7” (178 mm) slump when extended.
* Greater application thickness can be achieved with the addition of up to a maximum 50 lbs (22.7 kg) of 3/8 inch (10 mm) coarse aggregate.
* The maximum aggregate extension is 50 lbs (22.7 kg) of coarse aggregate per bag. Maximum thickness per lift = 8” (203 mm).
* Minimum thickness is 1/2” (12.7 mm) with the use of SikaQuick® Winter Boost.

Product Temperature
65° – 75° F (18° – 24° C)

Ambient Air Temperature
> 45° F (7° C)
20° - 45° F (-7° - 7° C) with the use of SikaQuick® Winter Boost

Substrate Temperature
> 45° F (7° C)
20° - 45° F (-7° - 7° C) on a frost-free surface with the use of SikaQuick® Winter Boost

Set Time
12 – 24 minutes
ASTM C 266
73° F (23° C), 50% R.H.

Final Set Time
20 – 40 minutes
ASTM C 266
73° F (23° C), 50% R.H.

Application Time
Approximately 15 minutes
Product temperature will affect the Application Time:
* Above 73° F (23° C) will reduce the Application Time and workability
* Below 73° F (23° C) will extend the Application Time and workability

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) in depth.
* Preparation work should be done by high pressure water blast, scabbling or other appropriate mechanical means to obtain an exposed aggregate surface profile of ±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 angle 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.

With SikaQuick® Winter Boost
* All the above recommendations have to be followed.
* The concrete must be frost-free before the application.
* Consult current Product Data Sheet SikaQuick® Winter Boost for Dosage recommendations.
**MIXING**

- **Concrete Substrate:** Install a scrub coat of SikaQuick®-2500 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).

**PRIMING**

- **Concrete Substrate:** Install a scrub coat of SikaQuick®-2500 prior to placement of the mortar. The repair mortar has to be applied into the wet scrub coat before it dries.

**CURING TREATMENT**

- **Concrete Substrate:** Install a scrub coat of SikaQuick®-2500 prior to placement of the mortar. The repair mortar has to be applied into the wet scrub coat before it dries.

**APPLICATION**

- **Concrete Substrate:** Install a scrub coat of SikaQuick®-2500 prior to placement of the mortar. The repair mortar has to be applied into the wet scrub coat before it dries.

**EXTENSION WITH aggregates**

- **Concrete Substrate:** Install a scrub coat of SikaQuick®-2500 prior to placement of the mortar. The repair mortar has to be applied into the wet scrub coat before it dries.

- **Concrete Substrate:** Install a scrub coat of SikaQuick®-2500 prior to placement of the mortar. The repair mortar has to be applied into the wet scrub coat before it dries.
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 aluminium to prevent adverse chemical reaction and possible product failure. Insulate potential areas of contact by coating aluminium 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®-2500 in service. Ensure suitability with the manufacturer of the bonding agent.
- For early application of epoxy coatings, on site testing is recommended for verification. Consult coatings manufacturer for advice.
- SikaQuick®-2500 does not form a vapor barrier when cured.
- Ensure temperature do not drop below 20°F the first 3 hours after application of the SikaQuick®-2500 mixed with SikaQuick® Winter Boost.

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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