

**Product Data Sheet**

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SikaQuick® FNP

## SikaQuick® FNP

Fast-setting, one-component, polymer-modified, self consolidating, structural repair mortar with fiber and integral corrosion inhibitor for form and pour/pumpable applications

<b>Description</b>	SikaQuick FNP is a self consolidating mortar for form and pour/pumping in concrete repair applications. It provides high pumpability for structural repair of columns and beams.
<b>Where to Use</b>	<ul style="list-style-type: none"> <li>■ Horizontal, vertical and overhead repairs</li> <li>■ Parking garages, bridges, beams, columns, tunnels, building facades, retaining walls and other structural applications</li> <li>■ Pre-placed aggregate applications</li> <li>■ Marine structures such as piers, dams, sea walls, etc.</li> </ul>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>■ High fluidity for ease of pumping and pouring in congested repairs</li> <li>■ Fiber reinforced</li> <li>■ Integral corrosion inhibitor</li> <li>■ One-component for easy mixing</li> <li>■ Up to 8" (203mm) in thickness with aggregate - 3" (76mm) neat</li> <li>■ Freeze/Thaw resistant</li> <li>■ Extremely low shrinkage</li> <li>■ Excellent bond strength</li> </ul>
<b>Coverage</b>	~0.5 cu.ft. per 55 lb bag.
<b>Packaging</b>	55 lb bag; 48 bags per pallet

**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.

<b>Shelf Life:</b>	1 year in original, unopened packaging.
<b>Storage Conditions:</b>	Store dry at 40°-95°F (4°-35°C).
<b>Condition material:</b>	Condition material to 65°- 75°F before using.
<b>Pot Life</b>	60 minutes
<b>Initial Set (ASTM C 266)</b>	70-100 min
<b>Final Set (ASTM C 266)</b>	2-3 hours
<b>VOC (Method EPA 24)</b>	0 g/L

<b>Compressive Strength (ASTM C 109)</b>	<b>psi (MPa)</b>
Day 1	3,500 (24.1)
Day 7	6,000 (41.4)
Day 28	7,500 (51.7)
<b>Flexural Strength (ASTM C 293)</b>	<b>psi (MPa)</b>
Day 1	700 (4.8)
Day 7	1,300 (9)
Day 28	1,500 (10.3)
<b>Modulus of Elasticity (ASTM C 469)</b>	<b>psi</b>
Day 28	5x10 <sup>6</sup> psi
<b>Chloride Perm. (ASTM C 1202/ AASHTO T277)</b>	< 750 coulombs
<b>Freeze Thaw Resistance (ASTM C 666)</b>	98%
<b>Scaling Resistance (ASTM C 672)</b>	0 (No Scaling)
<b>Shrinkage (ASTM C 157 modified per ASTM C 928)</b>	< 0.06%
<b>Direct Bond Strength (ASTM C 1583)</b>	500-600 psi (3.4 - 4.1 MPa)



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## How to Use

### Surface Preparation

Remove all deteriorated concrete, dirt, oil, grease, and all bond-inhibiting materials from surface. Be sure repair area is not less than 1/4 in. in depth. Preparation work should be done by high pressure water blast, scabbler, or other appropriate mechanical means to obtain an exposed aggregate surface with a minimum surface profile of  $\pm 1/8$  in. (CSP-7-8). Saturate surface with clean water. Substrate should be Saturated Surface Dry (SSD) with no standing water during application.

**Reinforcing Steel:** Steel reinforcement should be thoroughly prepared by mechanical cleaning to remove all traces of rust. Where corrosion has occurred, the steel should be high-pressure washed with clean water after mechanical cleaning. For priming and protection of reinforcing steel use Sika® Armatec® 110 EpoCem (consult Product Data Sheet).

### Mixing

Start with 7/8 gal of water and add up to 1 gal per 55lbs bag in a mixing container. Add SikaQuick® FNP while continuing to mix. Mix to a uniform consistency, maximum 3 minutes. Mechanically mix with a low-speed drill (400-600 rpm) a mud paddle.

### Application

- Pre-wet surface to SSD.
- Ensure good intimate contact with the substrate. To accomplish this, material should be scrubbed into the substrate or other suitable means should be employed such as vibration of the material or pumping under pressure.
- Vibrate form while pouring or pumping.
- Pump with a variable pressure pump. Continue pumping until a 3 to 5 psi increase in normal line pressure is evident, then STOP pumping.
- Form should not deflect. Vent to be capped when steady flow is evident and forms stripped when appropriate.
- For applications greater than 3" in depth, add 3/8" coarse aggregate. The addition rate is 25 lbs. of aggregate per bag of SikaQuick® FNP. (25 lbs. of 3/8" aggregate is approximately 2.0 gallons 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, 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. No additional mix water is required.

### Curing

As per ACI recommendations for portland cement concrete, curing is required. Moist cure with wet burlap and polyethylene, a fine mist of water or a water based\* compatible curing compound. Curing compounds adversely affect the adhesion of following layers of mortar, leveling mortar or protective coatings. Moist curing should commence immediately after finishing. Protect newly applied material from direct sunlight, wind, rain and frost. \*Pretesting of curing compound is recommended.

### Limitations

- Application thickness recommended:

	Min	Max
Neat	1/4"	3"
Extended	1"	8"

- Minimum ambient and surface temperatures 40°F (4°C) and rising at time of application. Refer to the American Concrete Institute (ACI) for cold-weather or hot-weather application guidelines.
- Do not add any additives (plasticizers, accelerators, retarders, etc.) or cement to SikaQuick® FNP
- 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, with an appropriate epoxy such as Sikadur® 32 Hi-Mod.
- Egg beater paddle type is not recommended for SikaQuick® FNP as it will introduce a lot of air into the mix

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