

# SikaQuick® VOH

Fast Setting, one component, cementitious vertical and overhead repair mortar with superior high build properties

Construction

<b>Description</b>	SikaQuick® VOH is a fast setting, one component, ready-to-use repair mortar for vertical and overhead applications using specialty cement blends.
<b>Where to Use</b>	<ul style="list-style-type: none"> <li>■ Fast repairs to overhead and vertical concrete and mortar surfaces on grade, above and below grade.</li> <li>■ As a repair material for building facades, parking structures, industrial plants, bridges, etc.</li> <li>■ As a fast setting repair material for new construction defects.</li> </ul>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>■ Minimal time required between lifts.</li> <li>■ Fast finishing time</li> <li>■ Time/labor-saving material; application up to 3 inches on vertical surfaces in one layer</li> <li>■ Easy to use; just add water</li> <li>■ High bond strength ensures excellent adhesion</li> <li>■ High early and ultimate strength</li> <li>■ Increased freeze/thaw durability and resistance to deicing salts</li> <li>■ Suitable for exterior and interior applications.</li> <li>■ Not a vapor barrier</li> <li>■ Overhead thickness up to 2"</li> <li>■ Fiber reinforced and polymer modified</li> <li>■ Contains corrosion inhibitor</li> </ul>
<b>Coverage</b>	~.44 cu. ft.
<b>Packaging</b>	44 lb 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. THIS DATA REFLECTS MATERIAL TESTED AT A MIXING RATIO OF 6.25 PINTS/UNIT.

<b>Shelf Life:</b>	One year in original, unopened bags.		
<b>Storage Conditions:</b>	Store dry at 40°-95°F (4°-35°C).		
<b>Product Conditioning:</b>	Condition material to 65°-75°F before using.		
<b>Color:</b>	Concrete gray.		
<b>Mixing Ratio:</b>	6 - 6.5 pints/unit		
<b>Density (Wet mix):</b>	~ 125 lbs. / cu. ft.		
<b>Application Time:</b>	Approximately 20 minutes.		
<b>Finishing Time:</b>	20-30 minutes		
<b>Lift Height:</b>	Max: 3"	Min: 1/8"	
<b>Time Between Lifts:</b>	After final set		
<b>Splitting Tensile Strength, psi (ASTM C-496)</b>		<b>1 day</b> 200	<b>7 days</b> 250
			<b>28 days</b> 500
<b>Compressive Strength, psi (ASTM C-109):</b>	<b>3 hrs</b> >2000	<b>1 day</b> >3000	<b>7 days</b> >4500
			<b>28 days</b> 5500
<b>Flexural Strength, psi (ASTM C-293):</b>		<b>1 day</b> 400	<b>7 days</b> 600
			<b>28 days</b> 1000
<b>Bond Strength*, psi (ASTM C-882 modified):</b>		<b>1 day</b> 1000	<b>7 days</b> 1600
			<b>28 days</b> 2000
<b>Modulus of Elasticity, psi (ASTM C-469)</b>			<b>7 days</b> >2.2 x 10 <sup>6</sup>
<b>Rapid Chloride Permeability (ASTM C1202)</b>		Low Range	
<b>Bond Strength, psi - Direct Tensile (IRCI No. 210.3):</b>		Substrate failure >250	
<b>Shrinkage (50% R.H.) (ASTM C-157; ICRI protocol):</b>		<.05%	
<b>Initial Set, min. (ASTM C-266)</b>		20-25	
<b>Final Set, min. (ASTM C-266)</b>		30-40	

\*Mortar scrubbed into substrate



## How to Use

### Surface Preparation

**Concrete/Mortar:** Remove all deteriorated concrete, dirt, oil, grease, and all bond-inhibiting materials from surface. Preparation work should be done by high pressure water blast, scabber or other appropriate mechanical means to obtain an exposed aggregate surface profile of +/- 1/16 in. (CSP-5). After preparation, substrate strength should be verified prior to patch placement. 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 due to the presence of chlorides, the steel should be high pressure washed with clean water after mechanical cleaning.

### Priming:

**Reinforcement Steel:** For priming of reinforcement steel use Sika® Armatec® 110 EpoCem (Consult Technical Data Sheet).

**Concrete Substrate:** A scrub coat of SikaQuick® VOH should be applied prior to placement of mortar. The repair mortar has to be applied into the wet scrub coat before it dries. The use of Sika® Armatec® 110 EpoCem as a bonding agent for concrete is not recommended.

### Mixing

Wet down all tools and mixer to be used. Mix mechanically with a low-speed drill (400 - 600 rpm) and mixing paddle or mortar mixer. Mix to a uniform consistency, maximum 3 minutes. Manual mixing can be tolerated only for less than a full unit. Thorough mixing and proper proportioning of the powder and liquid is necessary. Inaccurate proportioning of the powder to liquid will result in a finished product that may not conform with stated properties.

**With water:** Start mixing with 6 pints of water per 44 lb. bag. Adjust the water dosage by a maximum amount of +/- 1/2 pint, if necessary, to achieve the desired consistency. Do not over-water. Over-watering may result in difficulty handling and/or not meeting stated property values.

**With Latex R:** Start mixing with 6 pints of SikaLatex® R per 44 lb. bag. Adjust the SikaLatex® R dosage by a maximum amount of +/- 1/2 pint, if necessary, to achieve the desired consistency.

### Application

The mixed SikaQuick® VOH must be worked well into the prepared substrate, filling all pores and voids. Compact well. Force material against edge of repair working towards the center. Thoroughly compact the mortar around exposed reinforcement. After filling repair, consolidate, then screed. Finish with steel, magnesium, wood, plastic floats, or damp sponges, depending on the desired surface texture. Where multiple lifts are required, score top surface on each lift to produce a roughened substrate for next lift. Allow preceding lift to harden before applying fresh material. Saturate surface of the lift with clean water. If previous layers are over 6 hours old, mechanically prepare the substrate and dampen.

### Tooling and Finishing

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 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.

\* Pretesting of curing compound is recommended.

### Removal

Cured product must be removed mechanically.

### Over Painting

Acrylic waterbased systems - 4 hrs  
Epoxy/PU based systems - 6 hrs  
Compatibility and adhesion testing is always recommended.

### Limitations

- Application thickness: Minimum: With water: 1/8 inch (3 mm). Maximum in one lift: 3 inches (75 mm) vertical, 2 inches (51 mm) overhead.
- Minimum ambient and surface temperatures 45°F (7°C) and rising at time of application.
- To control setting times, cold water should be used in hot weather and hot water used in cold weather.
- Do not use solvent based curing compounds. 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® Hi-Mod 32.
- Remixing product after it begins to set is prohibited.
- Do not use Sika® Armatec® 110 EpoCem as a bonding agent with SikaQuick® VOH.

# Construction

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Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's most current Product Data Sheet, product label and Safety Data Sheet which are available online at <http://usa.sika.com/> or by calling Sika's Technical Service Department at 800-933-7452. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instruction for each Sika product as set forth in the current Product Data Sheet, product label and Safety Data Sheet prior to product use.

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**Sika Corporation**  
201 Polito Avenue  
Lyndhurst, NJ 07071  
Phone: 800-933-7452  
Fax: 201-933-6225

**Sika Canada Inc.**  
601 Delmar Avenue  
Pointe Claire  
Quebec H9R 4A9  
Phone: 514-697-2610  
Fax: 514-694-2792

**Sika Mexicana S.A. de C.V.**  
Carretera Libre Celaya Km. 8.5  
Fracc. Industrial Balvanera  
Corregidora, Queretaro  
C.P. 76920  
Phone: 52 442 2385800  
Fax: 52 442 2250537



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**Product Data Sheet**  
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SikaRepair 222

# SikaRepair® 222

One-component, early strength gaining, cementitious patching material

<b>Description</b>	SikaRepair 222 is a one-component, early strength gaining, cementitious, patching material for horizontal repair of concrete.
<b>Where to Use</b>	<ul style="list-style-type: none"> <li>■ On grade, above and below grade on concrete and mortar.</li> <li>■ As a repair material for spalled horizontal concrete surfaces, walkways, ramps, steps, etc.</li> </ul>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>■ Easy-to-use; just add water.</li> <li>■ Not a vapor barrier.</li> <li>■ Suitable for exterior and interior applications.</li> <li>■ Not flammable, non-toxic.</li> <li>■ Easily applied to clean, sound substrate.</li> <li>■ High early strengths.</li> </ul>
<b>Yield</b>	Approximately 0.42 cu. ft. Approximately 0.62 cu. ft. (222+32 lbs. of 3/8" pea gravel).
<b>Packaging</b>	50 lb. multi-wall bag. SikaLatex R - 1 gal. plastic jug; 4/carton, 5 gal. pails

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

<b>Shelf life</b>	One year in original, unopened bags.	
<b>Storage Conditions</b>	Store dry at 40°-95°F (4°-35°C). <b>Condition material to 65°-75°F before using.</b>	
<b>Color</b>	Concrete gray	
<b>Mixing Ratio</b>	¾ gallon to ⅞ gallon of liquid per 50 lb. bag	
<b>Application Time</b>	Approximately 30 minutes	
<b>Finishing Time</b>	50-120 minutes	
<b>Note:</b> All times start after adding Component 'B' to Component 'A' and are highly affected by temperature, relative humidity, substrate temperature, wind, sun, and other jobsite conditions.		
<b>Compressive Strength (ASTM C109)</b>		<b>With undiluted Latex R</b>
1 day	1,800 psi (12.4 MPa)	2,300 psi (15.9 MPa)
7 days	4,000 psi (27.6 MPa)	4,500 psi (31.0 MPa)
28 days	5,000 psi (34.5 MPa)	5,500 psi
<b>Flexural Strength (ASTM C293)</b>		
28 days	750 psi (5.2 MPa)	1,200 psi (8.2 MPa)
<b>Splitting Tensile Strength (ASTM C496)</b>		
28 days	450 psi (3.1 MPa)	700 psi (4.8 MPa)
<b>Bond Strength *(ASTM C882 modified)</b>		
28 days	2,000 psi (13.8 MPa)	2,000 psi (13.8 MPa)

\* Mortar scrubbed into substrate.

## How to Use

**Surface Preparation** Remove all deteriorated concrete, dirt, oil grease and all bond inhibiting materials from surface. Preparation work should be done by high pressure water blast, scabblor, or other appropriate mechanical means to obtain an exposed aggregate surface with a minimum surface profile of ±1/8 inch. (CSP-6). Saturate surface with clean water. Substrate should be saturated surface dry (SSD) with no standing water during application.

**Priming** For priming of reinforcing steel use Sika Armatex 110 EpoCem (consult Technical Data Sheet).  
**Concrete Substrate:** Prime the prepared substrate with a brush or sprayed applied coat of Sika Armatex 110 EpoCem (consult Technical Data Sheet). Alternately, a scrub coat of SikaRepair 222 can be applied prior to placement of the mortar. The repair mortar has to be applied into the wet scrub coat before it dries.

**Mixing** **With water:** Wet down all tools and mixer to be used. Add approximately 3/4 gallon of water to mixing vessel. Slowly add 1 bag of SikaRepair 222 while continuing to mix. Mechanically mix with a low-speed drill (400-600 rpm) and Sika paddle or in an appropriate size mortar mixer. Add an additional 1/8 gallon of water if needed.  
**With Latex R:** Pour 3/4 gallon of Sika Latex R into the mixing container. Slowly add powder, mix and adjust as above.



**With diluted Latex R:** Sika Latex R may be diluted up to 5:1 (water: Sika Latex R) for projects requiring minimal polymer-modification. Pour 3/4 gallon of the mixture into the mixing container. Slowly add powder, mix and adjust as above.

**SikaRepair 222 Concrete:** For applications greater than 1 inch depth, add a 3/8 inch coarse aggregate. Aggregate must be non-reactive (reference ASTM C1260, C227 and C289), clean, well-graded, saturated surface dry (SSD), have low absorption and high density, and comply with ASTM C33 size number 8 per Table 2. Addition rate must not exceed 32 lbs. of aggregate/bag of SikaRepair 222 (32 lbs. of 3/8 in. aggregate is approximately 2.5 to 3.0 gal. by loose volume of aggregate). **Water may be varied to achieve the desired consistency. Do not overwater.**

<b>Application and Finish</b>	The prepared mortar must be scrubbed into the substrate, filling all pores and voids. Force material against edge of repair, working toward center. After filling repair, consolidate, then screed. Allow mortar to set to desired stiffness, then finish. Mixing, placing and finishing should not exceed 45 minutes maximum.														
<b>Curing</b>	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 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.														
<b>Limitations</b>	<ul style="list-style-type: none"> <li>■ <b>Application thickness: (with water and diluted Latex R)</b> <table border="0"> <tr> <td><i>Min.</i></td> <td><i>Max. inches one lift</i></td> </tr> <tr> <td>Neat</td> <td>1/4 inch (6 mm) 1 inch (25 mm)</td> </tr> <tr> <td>Extended</td> <td>1 inch (25 mm) 4 inches (100 mm)</td> </tr> </table> </li> <li>■ <b>Application thickness: (with undiluted Latex R)</b> <table border="0"> <tr> <td><i>Min.</i></td> <td><i>Max. inches one lift</i></td> </tr> <tr> <td>Neat</td> <td>1/8 in (3 mm) 1 inch (25 mm)</td> </tr> <tr> <td>Extended</td> <td>1 inch (25 mm) 4 inches (100 mm)</td> </tr> </table> </li> <li>■ Minimum ambient and surface temperatures 45°F (7°C) and rising at time of application.</li> <li>■ Addition of coarse aggregates may result in variations of the physical properties of the mortar.</li> <li>■ Use only potable water.</li> <li>■ Not intended for use as an overlay material.</li> <li>■ 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 Hi-Mod 32.</li> </ul>	<i>Min.</i>	<i>Max. inches one lift</i>	Neat	1/4 inch (6 mm) 1 inch (25 mm)	Extended	1 inch (25 mm) 4 inches (100 mm)	<i>Min.</i>	<i>Max. inches one lift</i>	Neat	1/8 in (3 mm) 1 inch (25 mm)	Extended	1 inch (25 mm) 4 inches (100 mm)		
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<b>Caution</b>	<b>Sika Latex R - Irritant:</b> May cause skin/eye/respiratory irritation. Avoid breathing vapors. Use with adequate ventilation. Avoid skin and eye contact. Safety goggles and rubber gloves are recommended.														
<b>Irritant</b>	<b>Suspect carcinogen</b> - Contains portland cement and sand (crystalline silica). Skin and eye irritant. Avoid contact. Dust may cause respiratory tract irritation. Avoid breathing dust. Use only with adequate ventilation. May cause delayed lung injury (silicosis). IARC lists crystalline silica as having sufficient evidence of carcinogenicity in laboratory animals and limited evidence of carcinogenicity in humans. NTP also lists crystalline silica as a suspect carcinogen. Use of safety goggles and chemical resistant gloves is recommended. If PELs are exceeded, an appropriate, properly fitted NIOSH approved respirator is required. Remove contaminated clothing.														
<b>First Aid</b>	In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes, and contact a physician. For respiratory problems, remove person to fresh air.														
<b>Clean Up</b>	In case of spillage, scoop or vacuum into appropriate container, and dispose of in accordance with current, applicable local, state, and federal regulations. Keep container tightly closed and in an upright position to prevent spillage and leakage. <b>Mixed components:</b> Uncured material can be removed with water. Cured material can only be removed mechanically.														

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**Sika Corporation**  
201 Polito Avenue  
Lyndhurst, NJ 07071  
Phone: 800-933-7452  
Fax: 201-933-6225

**Sika Canada Inc.**  
601 Delmar Avenue  
Pointe Claire  
Quebec H9R 4A9  
Phone: 514-697-2610  
Fax: 514-694-2792

**Sika Mexicana S.A. de C.V.**  
Carretera Libre Celaya Km. 8.5  
Fracc. Industrial Balvanera  
Corregidora, Queretaro  
C.P. 76920  
Phone: 52 442 2385800  
Fax: 52 442 2250537



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# SikaRepair® 223

One component, early strength  
gaining, cementitious patching material

<b>Description</b>	SikaRepair® 223 is a one-component, early strength gaining, cementitious, patching material for vertical and overhead repair of concrete.
<b>Where to Use</b>	<ul style="list-style-type: none"><li>■ On grade, above, and below grade on concrete and mortar.</li><li>■ As a repair material for vertical and overhead concrete surfaces.</li></ul>
<b>Advantages</b>	<ul style="list-style-type: none"><li>■ Easy-to-use.</li><li>■ Suitable for exterior and interior applications.</li><li>■ Easily applied to clean, sound substrate.</li><li>■ High early strengths.</li><li>■ Increased abrasion resistance.</li><li>■ Increased freeze/thaw resistance.</li><li>■ Not a vapor barrier.</li><li>■ Not flammable.</li></ul>
<b>Coverage</b>	Approximately 0.41 cu. ft.
<b>Packaging</b>	SikaRepair® 223 - 50 lb. multi-wall bag. SikaLatex R - 1 gal. plastic jug; 4/carton, 5 gal. pails

### 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>	One year in original, unopened bags.	
<b>Storage Conditions</b>	Store dry at 40°-95°F (4°-35°C). <b>Condition material to 65°-75°F before using.</b>	
<b>Color</b>	Concrete gray	
<b>Mixing Ratio</b>	gallon to 1 gallon of liquid per 50 lb. bag	
<b>Application Time</b>	Approximately 15 min. after adding powder to Latex or Latex R. Application time is dependent on temperature and relative humidity.	
<b>Finishing Time</b>	20 to 60 min after combining powder and liquid: depends on temperature, relative humidity, and type of finish desired.	
<b>Flexural Strength (ASTM C-293)</b>		<b>with undiluted Latex R</b>
<b>28 days</b>	850 psi (5.9 MPa)	1,200 psi (8.2 MPa)
<b>Splitting Tensile Strength (ASTM C-496)</b>		
<b>28 days</b>	550 psi (3.8 MPa)	700 psi (4.8 MPa)
<b>Bond Strength * (ASTM C-882 modified)</b>		
<b>28 days</b>	1,800 psi (12.4 MPa)	2,000 psi (13.8 MPa)
<b>Compressive Strength (ASTM C-109)</b>		
<b>1 day</b>	>3,500 psi (20.7 MPa)	>4,000 psi (22.8 MPa)
<b>7 days</b>	6,000 psi (41.4 MPa)	6,200 psi (42.8 MPa)
<b>28 days</b>	>7,500 psi (48.3 MPa)	>8,000 psi (51.7 MPa)

\*Mortar scrubbed into substrate

Construction



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## How to Use

<b>Surface Preparation</b>	Remove all deteriorated concrete, dirt, oil, grease, and all bond-inhibiting materials from surface. Be sure repair area is not less than 1/4 inch in depth. Preparation work should be done by scabblor or other appropriate mechanical means to obtain an exposed aggregate surface with a minimum surface profile of ±1/8 inch (CSP-6). Saturate surface with clean water. Substrate should be saturated surface dry (SSD) with no standing water during application.
<b>Priming</b>	For priming of reinforcing steel use Sika® Armatec® 110 EpoCem (consult Technical Data Sheet). <b>Concrete Substrate:</b> Prime the prepared substrate with a brush or sprayed applied coat of Sika® Armatec® 110 EpoCem (consult Technical Data Sheet). Alternately, a scrub coat of SikaRepair® 223 can be applied prior to placement of the mortar. The repair mortar has to be applied into the wet scrub coat before it dries.
<b>Mixing</b>	<b>With water:</b> Wet down all tools and mixer to be used. Add approximately 3/4 gallon of water to mixing vessel. Slowly add 1 bag of SikaRepair® 223 while continuing to mix. Mechanically mix with a low-speed drill (400-600 rpm) and Sika paddle. 1/4 gallon of water may be added to achieve desired consistency. Do not over water. Maintain a mix temperature of 65°-75°F for maximum performance by using hot or cold water as needed. <b>With Latex R:</b> Pour 3/4 gallon of SikaLatex® R into the mixing container. Slowly add powder while continuing to mix mechanically as above. Add remaining SikaLatex® R (up to 1/4 gallon) to adjust the desired consistency. <b>note:</b> SikaLatex® R must be protected from freezing. If frozen, discard. <b>With diluted Latex R:</b> SikaLatex® R may be diluted up to 5:1 (water:SikaLatex® R) for projects requiring minimal polymer-modification. Pour 3/4 gallon of the mixture into the mixing container. Slowly add powder and mix as above. Add remaining diluted SikaLatex® R (up to 1/4 gallon) to adjust the desired consistency.
<b>Application</b>	At the time of application, surfaces should be saturated surface dry (SSD) with no standing water. Mortar must be scrubbed into the substrate, filling all pores and voids. Force material against edge of repair, working toward center. After filling repair, consolidate, then screed. Material may be applied in multiple lifts. The thickness of each lift not to be less than 1/2 inch minimum. Where multiple lifts are required score top surface of each lift to produce a roughened surface for next lift. Allow preceding lift to reach final set, 30 minutes minimum before applying fresh material. Saturate surface of the lift with clean water. Scrub fresh mortar into preceding lift. Allow mortar to set to desired stiffness, then finish with wood or sponge float for a smooth surface, or texture as required. For repairs greater than 1 inch in depth, the use of SikaRepair® 222 extended with coarse aggregate, and appropriate formwork is also recommended. <b>Important:</b> Maximum bond is achieved with application of a scrub coat on properly prepared, saturated surface dry (SSD) substrate.
<b>Tooling &amp; finishing</b>	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 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.
<b>Limitations</b>	<ul style="list-style-type: none"> <li>■ Application thickness: (with water and diluted Latex R) Minimum 1/4 inch (6 mm). Maximum in one lift 1.5 inch (38 mm).</li> <li>■ Application thickness: (with undiluted Latex R) Minimum 1/8 inch (3 mm). Maximum in one lift 1.5 inch (38 mm).</li> <li>■ Minimum ambient and surface temperatures 45°F (7°C) and rising at time of application.</li> <li>■ Use only potable water.</li> <li>■ Do not use solvent-based curing compound.</li> <li>■ 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® Hi-Mod 32.</li> </ul>



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# Construction

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**Sika Corporation**  
201 Polito Avenue  
Lyndhurst, NJ 07071  
Phone: 800-933-7452  
Fax: 201-933-6225

**Sika Canada Inc.**  
601 Delmar Avenue  
Pointe Claire  
Quebec H9R 4A9  
Phone: 514-697-2610  
Fax: 514-694-2792

**Sika Mexicana S.A. de C.V.**  
Carretera Libre Celaya Km. 8.5  
Fracc. Industrial Balvanera  
Corregidora, Queretaro  
C.P. 76920  
Phone: 52 442 2385800  
Fax: 52 442 2250537







# Sika Armatec® 110 EpoCem®

**Bonding Agent and Reinforcement Protection**

## DESCRIPTION

Sika Armatec 110 EpoCem is a 3-component, solvent-free, moisture-tolerant, epoxy-modified, cementitious product specifically formulated as a bonding agent and an anti-corrosion coating.

## WHERE TO USE

- ▲ As an anti-corrosion coating for reinforcing steel in concrete restoration.
- ▲ As added protection to reinforcing steel in areas of thin concrete cover.
- ▲ As a bonding agent for repairs to concrete and steel.
- ▲ As a bonding agent for placing fresh, plastic concrete to existing hardened concrete.

## ADVANTAGES

- ▲ Excellent adhesion to concrete and steel.
- ▲ Acts as an effective barrier against penetration of water and chlorides.
- ▲ Long open time - up to 24 hours.
- ▲ Not a vapor barrier.
- ▲ Can be used exterior on-grade.
- ▲ Contains corrosion inhibitors.
- ▲ Excellent bonding bridge for cement or epoxy based repair mortars.
- ▲ High strength, unaffected by moisture when cured.
- ▲ Spray, brush or roller application.
- ▲ Non-flammable, solvent free.

## COVERAGE

**Bonding agent:** minimum (theoretical) on smooth, even substrate 80 sq.ft./gal. (=20 mils thickness). Coverage will vary depending on substrate profile and porosity.

**Reinforcement Protection:** 40 sq. ft./gal. (=20 mils thickness) (2 coat application).

## PACKAGING

3.5 gal. unit. (47.6 fl. oz. Comp. A + 122.1 fl. oz. Comp. B + 46.82lb. Comp. C) Comp. A+B in carton, Comp. C in multi-wall bag. 1.65 gal. unit. (22.7 fl.oz. A + 57.6 fl.oz. B + 4 bags @ 5.5 lb.) Factory-proportioned units in a pail.

## HOW TO USE

### SURFACE PREPARATION

**Cementitious substrates:** Should be cleaned and prepared to achieve a laitance and contaminant-free surface prepared in accordance with the requirements specified by the overlay or repair material by blastcleaning or equivalent mechanical means. Substrate must be saturated surface dry (SSD) with no standing water.

**Steel:** Should be cleaned and prepared thoroughly by blastcleaning.

### MIXING

Shake contents of both Component 'A' and Component 'B'. Empty entire contents of both Component 'A' and Component 'B' into a clean, dry mixing pail. Mix thoroughly for 30 seconds with a Sika paddle on a low speed (400-600 rpm) drill. Slowly add the entire contents of Component 'C' while continuing to mix for 3 minutes until blend is uniform and free of lumps. Mix only that quantity that can be applied within its pot life.

### APPLICATION

**As a bonding agent** - Apply by stiff-bristle brush or broom. Spray apply with Goldblatt Pattern Pistol or equal equipment. For best results, work the bonding slurry well into the substrate to ensure complete coverage of all surface irregularities. Apply the freshly mixed patching mortar or concrete wet on wet, or up to the maximum recommended open time, onto the bonding slurry.

### TYPICAL DATA FOR SIKA ARMATEC 110 (Material and curing conditions @ 73F and 50% R.H.)

<b>SHELF LIFE</b>	1 year in original, unopened packaging.	
<b>STORAGE CONDITIONS</b>	Store dry at 40-95F (4-35 C). <b>Condition material to 65-75F (18-24C) before using.</b> If components A and B are frozen, discard. Protect Component C from humidity.	
<b>COLOR</b>	Concrete gray	
<b>DENSITY (MIXED)</b>	125 lb./cu.ft. (2.0 kg)	
<b>POT LIFE</b>	Approximately 90 minutes	
<b>COMPRESSIVE STRENGTH</b> (ASTM C-109)	3 days	4500 psi (31.0 MPa)
	7 days	6500 psi (44.8 MPa)
	28 days	8500 psi (58.6 MPa)
<b>FLEXURAL STRENGTH</b> (ASTM C-348)	28 days	1250 psi (8.6 MPa)
<b>SPLITTING TENSILE STRENGTH</b> (ASTM C-496)	28 days	600 psi (4.1 MPa)

### IMPORTANT DATA FOR SIKA ARMATEC 110 AS A CORROSION PROTECTIVE COATING

<b>WATER</b>		
Water Permeability at 10 bar (145 psi) Control	8.92 x 10 <sup>-15</sup>	ft./sec.
	7.32 x 10 <sup>-10</sup>	ft./sec.
Water vapor diffusion coefficient μ H <sub>2</sub> O	110	

<b>CARBON DIOXIDE</b>		
Carbon dioxide diffusion coefficient μ CO <sub>2</sub>	14000	

<b>TEST DATA: Time-to-Corrosion Study</b>		
▲ Sika Armatec 110 more than tripled the time to corrosion		
▲ Reduced corrosion rate by over 40%		

### IMPORTANT DATA FOR SIKA ARMATEC 110 AS A BONDING AGENT

<b>BOND STRENGTH (ASTM C882)</b>		
<b>14 days moist cure, plastic concrete to hardened concrete:</b>		
Wet on Wet	2800 psi	(19.3 MPa)
24hr.open time	2600 psi	(17.9 MPa)
<b>Bond of Steel Reinforcement to Concrete (Pullout Test):</b>		
Sika Armatec 110 coated	625 psi	(4.3 MPa)
Epoxy coated	508 psi	(3.5 MPa)
Plain Reinforcement	573 psi	(3.95 MPa)

**Maximum recommended open time between application of Armatec 110 and patching mortar or concrete:**

<b>95F (35 C)</b>	<b>6 hours</b>
<b>68F (20 C)</b>	<b>12 hours</b>
<b>50F (10 C)</b>	<b>16 hours</b>
<b>40F ( 5 C)</b>	<b>24 hours</b>

Extended open times are possible. For details, please contact Technical Service.

**For corrosion protection** - Apply by stiff-bristle brush or spray at 80 sq. ft./gal. (20 mils). Take special care to properly coat the underside of the totally exposed steel. Allow coating to dry 2-3 hours @ 73F, then apply a second coat at the same coverage. Allow to dry again before the repair mortar or concrete is applied. Pour or place repair within 7 days.

**LIMITATIONS**

- ▲ Substrate and ambient temperature:
  - Minimum 40F (5C)
  - Maximum 95F (35C)
- ▲ Minimum thickness: As a bonding agent 20 mils.
- ▲ For reinforcement protection 40 mils (2 coats, 20 mils each).
- ▲ Not recommended for use with expansive grouts.
- ▲ Use of semi-dry mortars onto Sika Armatec 110 EpoCem must be applied "wet on wet".
- ▲ When used in overhead applications with hand placed patching mortars, use "wet on wet" for maximum mortar build thickness.
- ▲ Substrate profile as specified by the overlay or repair material is still required.

- ▲ 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 Hi-Mod 32.

**CAUTION**

**PART A & B:**

**IRRITANT; SENSITIZER** - Can cause skin sensitization after prolonged or repeated contact. Skin and eye irritant. High concentrations of vapor may cause respiratory irritation. Avoid skin contact. Use only with adequate ventilation. Use of safety goggles and chemical resistant gloves is recommended.

**PART C:**

**IRRITANT; SUSPECT CARCINOGEN** - Contains crystalline silica, quartz (sand); cement. Skin and eye irritant. Dust may cause respiratory tract irritation. Avoid breathing dust. Use only with adequate ventilation. May cause delayed lung injury (silicosis). IARC list crystalline silica as having sufficient evidence of carcinogenicity to laboratory animals and limited evidence of carcinogenicity in humans. NTP also lists crystalline silica as a suspect carcinogen. Use of safety gloves is recommended. In case of high dust concentrations or exceedance of PELs, use an appropriate NIOSH/MSHA approved respirator.

**FIRST AID**

In case of eye contact, wash immediately with soap and water for 15 minutes; immediately consult a physician. In case of skin contact, wash with soap and water; consult a physician for irritation. For respiratory problems, remove person to fresh air and institute artificial respiration if necessary; consult a physician. In case of ingestion, immediately consult a physician. Wash clothing before reuse.

**CLEAN-UP**

In case of spills or leaks, wear suitable protective equipment, contain spill, collect with absorbent material, and transfer to a suitable container. Ventilate area. Avoid contact. Dispose of in accordance with current, applicable local, state, and federal regulations.

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**CONSULT MATERIAL SAFETY DATA SHEET FOR MORE INFORMATION**

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*For the location of your nearest Sika sales office, contact your regional center.*

**Sika Corporation**

201 Polito Avenue  
Lyndhurst, NJ 07071  
Phone: 800-933-7452  
Fax: 201-933-6225

**Sika Canada Inc.**

601 Delmar Avenue  
Pointe Claire  
Quebec H9R 4A9  
Phone: 514-697-2610  
Fax: 514-694-2792

**Sika Mexicana S.A. de C.V.**

Carretera Libre Celaya Km. 8.5  
Corregidora, Queretaro  
C.P. 76920 A.P. 136  
Phone: 52 42 25 0122  
Fax: 52 42 25 0537

## SikaLatex® R

Acrylic latex bonding agent and admixture  
for portland-cement mortar and concrete

<b>Description</b>	SikaLatex® R is an acrylic-polymer latex. It is a non-reemulsifiable, general-purpose admixture to produce polymer-modified concrete and mortar.
<b>Advantages</b>	<ul style="list-style-type: none"> <li>■ Concrete/Mortar/Grout/etc. containing SikaLatex® R exhibits improved adhesion to pre-pared substrates.</li> <li>■ Increased adhesive strength of mortar/concrete when used as a bonding agent or as a bonding grout.</li> <li>■ Increased resistance to freeze/thaw durability.</li> <li>■ Does not produce a vapor barrier.</li> </ul>
<b>Where to Use</b>	<ul style="list-style-type: none"> <li>■ For use with Concrete/Mortar/Grout/etc. to improve and increase the adhesion and performance.</li> <li>■ Use in patching and flash coats. Use with stucco and terrazzo.</li> <li>■ As a bonding grout when mixed with sand and portland cement.</li> </ul>
<b>Coverage</b>	<ul style="list-style-type: none"> <li>■ As an admixture: 4 gals./sack of cement.</li> <li>■ As mixing solution for Concrete/Mortar/Grout/etc., use neat.</li> <li>■ As a primer: estimated coverage on a CSP-3 prepared surface is 300 sq. ft./gal.</li> </ul>
<b>Packaging</b>	1 gal. jug, 4/case; 5 gal. pails; 55 gal. drums.

### Typical Data (Material and curing conditions @ 70°F and 40% 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>	2 years in original, unopened containers
<b>Storage Conditions</b>	Store dry at 40°-95°F. Condition material to 60°-75°F before using. Protect from freezing. If frozen, discard.
<b>Bond Strength (ASTM C-882)</b>	
<b>Slurry, scrub coat</b>	2 parts sand, 1 part cement. SikaLatex R added to produce a creamy consistency
<b>Plastic Concrete to Hardened Concrete</b>	
<b>28 days</b>	> 500 psi (3.4 MPa)



## How to Use

### Substrate Preparation

**Concrete/Mortar:** Remove all deteriorated concrete, dirt, oil, grease, and all bond-inhibiting materials from surface. Be sure repair is not less than 1/8 inch in depth. Preparation work should be done by high pressure water blast, scab-ber, or other appropriate mechanical means to obtain an aggregate-fractured surface with a minimum surface profile of 1/16 inch. Saturate surface with clean water. Substrate should be saturated surface dry (SSD) with no standing water during application.

### Mixing Procedure

**As admixture/mixing solution:** With mixer running, add materials in the following order: SikaLatex® R solution, aggregate, cement. Add more SikaLatex® R solution if required.

**As a bonding agent:** Add 1 part cement, 2 parts sand, and a sufficient amount of undiluted SikaLatex® R to produce a creamy paint consistency. Maximum 4 gals./sack of cement.

**As a primer for acrylic coatings:** No dilution is required. Use as is.

### Application

**Bonding Agent:** Brush grout into area to be resurfaced with stiff-bristled broom or scrub brush. Be sure entire surface and all edges are coated. Apply topping immediately over scrub coat before the bonding slurry dries.

**Admixture:** Immediately trowel SikaLatex® R mortar or concrete mixes into areas to be patched. Do not over-finish. As soon as finish will resist damage, cure with damp burlap and/or white pigmented polyethylene film. Curing should continue for 24 hours. Pre-testing is recommended when adding SikaLatex® R to a specific mix design to assure the results required.

**Primer (for acrylic coatings only):** Apply undiluted SikaLatex® R to prepared concrete substrate using brushes, rollers, soft brooms, or spray. SikaLatex® R must be tack-free (film formation) prior to coating. Estimated coverage on a CSP-3 prepared surface is 300 sq. ft./gal. SikaLatex® R primer may be applied up to 24 hours ahead providing the area is kept dry and clean. Very porous concrete may require a second coat of SikaLatex® R to seal the surface.

### Limitations

- Not resistant to UV rays unless painted, covered or coated.
- Will not adhere to polyethylene, Teflon, silicone, oils and greases, mold release agents and similar materials.
- Do not expose to open flame or temperatures above 120°F (49°C). Excessive heat can cause shorter shelf life.
- Not intended as a firestop.
- Do not use where temperatures rise above 240°F (116°C).
- 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..

### Handling & Storage

Store dry at 40°-95°F. Condition material to 60°-75°F before using. Protect from freezing. If frozen, discard.

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Lyndhurst, NJ 07071  
Phone: 800-933-7452  
Fax: 201-933-6225

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Quebec H9R 4A9  
Phone: 514-697-2610  
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Carretera Libre Celaya Km. 8.5  
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Corregidora, Queretaro  
C. P. 76920  
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# PRO-FINISH

POLYMER MODIFIED  
CEMENT BASED  
CONCRETE FINISHING MATERIAL

1 of 2

Bonded Materials Company • 91-400 Komohana St. • Kapolei, Hawaii 96707-1716 • Phone (808) 673-2000 • Fax (808)673-2020

## DESCRIPTION

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PRO-FINISH is a cement based, poly-modified, quick-setting, concrete finishing material. It is a dry powder blend of portland cement and specialized additives designed specifically for application to concrete surfaces when a Class A finish is desired. PRO-FINISH is mixed with clean water to a thick batter consistency, cures to a light gray concrete color, is paintable, and contains no added gypsum.

## USES

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For filling small bug-holes, skim coating and finishing cast-in-place concrete, tilt-up, pre-stressed and pre-cast concrete, concrete pipe and other concrete surfaces where a smooth, dense surface is required. PRO-FINISH may be used on exterior and interior concrete, on grade, above and below grade, vertical and overhead surfaces.

## FEATURES

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- ◆ Specially designed for contractor use
- ◆ Single component – just add water
- ◆ Excellent adhesion
- ◆ Compatible with coefficient of thermal expansion for concrete
- ◆ Not a vapor barrier
- ◆ Non-reemulsifiable
- ◆ Easy-to-use; fast-setting, labor saving system
- ◆ Factory proportioned packaging insures constant composition, consistent high quality
- ◆ Highly resistant to UV, moisture, salt and acids
- ◆ Excellent exterior durability and impact strength
- ◆ Reduced permeability to water
- ◆ Good shelf life

## APPLICATION

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**SURFACE PREPARATION:** Concrete must be clean and sound. All repair and patchwork should be completed before application of PRO-FINISH. Remove all deteriorated concrete and mortar particles, dirt, oil, grease, and bond inhibiting materials from the work surface. Dampen surface with clean water to a saturated surface dry condition with no standing water.

**MIXING:** Mix material with clean potable water to a uniformly smooth, thick batter consistency. **Do not add more than 5.6 quarts of clean water per 40 pound unit.** PRO-FINISH may appear dry for the first 30 to 60 seconds of the mixing process – do not add additional water during this stage. As mixing continues, the polymer admixtures will begin to activate and the mix will rapidly become fluid and workable. Mixing should proceed until the material has developed its thick batter consistency.

**APPLICATION:** Material sets quickly – do not over mix and do not re-temper. If material sets up before it can be placed, discard it. Spray, brush or trowel material onto substrate, filling all pores and voids. Using a trowel, work quickly and force material into the substrate using hard trowel pressure. Allow setting to desired consistency, then double back with additional material, pressing it firmly into place. Trowel to a smooth, dense finish. Immediately after material has hardened sufficiently, so as not to be damaged, moist cure with a fine mist spray of clean water.



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2 of 2

**Bonded Materials Company** • 91-400 Komohana St. • Kapolei, Hawaii 96707-1716 • Phone (808) 673-2000 • Fax (808)673-2020

**PAINT OR COATING OVER PRO-FINISH:** It is strongly recommended that an acrylic polymer admixture, such as PRO-CRYLIC, be added to the mix water when PRO-FINISH is to be painted or coated. Use one part PRO-CRYLIC to one part by equal volume of clean water as the mixing liquid. The acrylic polymer admixture will improve the adhesion of most paints and coatings.

## LIMITATIONS

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PRO-FINISH is not a wearing surface. Maximum thickness per skim coat application: 1/16". Do not use over painted or gypsum based surfaces. Apply only on clean, sound, properly prepared concrete substrates. **Do not over water or over mix.** Do not re-temper. Do not over trowel. Protect material from excessive exposure to fast drying conditions – high temperatures, direct sunlight, low humidity, or strong winds – by moistening with clean water. **Observe the same safety precautions for using portland cement.**

## PACKAGING AND YIELD

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Packaging: 40 pound pails and 40 pound multi-walled sacks.  
Yield: 40 pounds will cover 130 square feet at 1/32" thick.  
Actual coverage depends on surface condition.

## SALES OFFICES

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OAHU  
150 Puuhale Road  
Honolulu, Hawaii 96819  
Ph: (808) 832-1155  
Fx: (808) 832-1151

KONA  
73-5568 Maiiau St, Bay 2  
Kailua-Kona, Hawaii 96740  
Ph: (808) 326-2477  
Fx: (808) 329-5181

SAIPAN  
P.O. Box 505894 C.K.  
Saipan, MP 96950  
Ph: (670) 322-2477  
Fx: (670) 322-0305

GUAM  
P.O. Box 7086  
Tamuning, Guam 96931-7086  
Ph: (671) 646-7121  
Fx: (671) 649-9338

PHOENIX, ARIZONA  
4330 N. 43<sup>rd</sup> Ave., Ste. B-4  
Phoenix, AZ 85031  
Ph: (623) 873-0001  
Fx: (623) 873-0007

## GUARANTEE

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Recommendations for the use of this product are based on tests we believe to be reliable. Bonded products will perform according to specifications and technical recommendations when applied as directed. Bonded is not responsible for results where the product is used under conditions beyond our control. Under no circumstances will Bonded Materials Company be liable for damages to anyone in excess of the purchase price of the product.

**Bonded products are intended for industrial use only. Keep away from children. Observe product caution.** Every reasonable precaution is taken in the manufacture of our products and compiling of data to assure that they shall comply with exacting standards. Information given is correct to the best of our knowledge and the products, as sold, are satisfactory for the purpose proposed. However, no guaranty of the results, using these products and data, is given because every possible variation in the methods of their use or conditions under which they are applied cannot be anticipated. Not responsible if the material should be used in a manner to infringe any patent held by others.



## HERE TO STAY

### #3 BAR DIAMETER

#### NOMINAL DIAMETER/AREA

- 10 mm (71.26 mm<sup>2</sup>)
- 3/8 in (.110 in<sup>2</sup>)

#### LENGTHS: UP TO 40 FT

#### WEIGHT: .09 LBS/FT

#### GUARANTEED TENSILE STRENGTH ASTM 7205

- 896 MPa
- 130 ksi

#### ULTIMATE TENSILE LOAD – ASTM 7205

- 87.5 kN
- 19,675 lbs

#### TENSILE MODULUS OF ELASTICITY ASTM 7205

- 46 GPa
- 6.7 x 10<sup>6</sup> psi

#### GUARANTEED TRANSVERSE SHEAR CAPACITY – ASTM 7617

- 173 MPa
- 25.1 ksi

#### MOISTURE CONTENT – ASTM D570

- < .5%

#### BOND STRENGTH – ACI 440.3R B3

- 14.1 Msi
- 2,047 psi
- 4,519 lbs

#### FIBER CONTENT: 80% BY WEIGHT

#### PATENT #: 9688030B2

### WHAT IS GATORBAR?

GatorBar is a composite rebar manufactured by Neuvokas Corporation. Their patented process uses the highest quality basalt fiber and epoxy resin.

### WHERE IS GATORBAR USED TODAY?

#3 GatorBar is performing very well in temperature and shrinkage crack control applications such as:

- Pavements
- Sidewalks
- Parking lots
- Patios
- Curb and gutter
- And many more!

### PRODUCT FEATURES

#### GATORBAR OFFERS

**High strength** – Its high tensile strength allows #3 GatorBar to replace #4 black bar at a comparable price.

**Labor savings** – Labor savings estimated at 1 man-hour per ton of steel replaced.

**Freight savings** – Up to 75% freight savings on truckload quantities.

**Extended structure life** – No rust high strength equals long life.

**Reduced injury** – Workers will carry and place 7X less weight per job, reducing repetitive lifting injuries and other bodily strain.

TIE IT OFF AND CHAIR IT UP AS YOU WOULD WITH STEEL,  
THEN POUR WITH CONFIDENCE.

### CONTACT US

#### NEUVOKAS CORP.

PO BOX 220 | 3206 #6 RD.  
AHMEEK, MI 49901

(906) 934-2661

INFO@NEUVOKASCORP.COM  
NEUVOKASCORP.COM