BUILDING TRUST

PRODUCT DATA SHEET

SikaEmaco® 425 Gel Patch

(formerly MEmaco N 425)

NON-SAG CONCRETE REPAIR MORTAR WITH INTEGRAL CORROSION INHIBITOR FOR VERTICAL AND OVERHEAD APPLICATIONS

PRODUCT DESCRIPTION

SikaEmaco® 425 Gel Patch is a trowel-grade, lightweight, polymer-modified, silica fume-enhanced repair mortar with an integral corrosion inhibitor

USES

- Interior and exterior
- Vertical and overhead
- Above and below grade
- Spalls or holes in concrete
- Deteriorated edges

Substrates

- Concrete
- Masonry
- Structural Concrete

CHARACTERISTICS / ADVANTAGES

- Non-sag consistency able to be placed in 2" (51 mm) thick lifts
- Readily sculpted, shaved, and finished to match the existing substrate
- Very low chloride permeability and an integral corrosion inhibitor protect reinforcing steel
- Only requires the addition of potable water
- Low shrinkage produces a stable, durable bond
- Lightweight microscopic beads improve vertical and overhead workability
- Polymer modification improves adhesion and provides increased freeze/thaw stability

PRODUCT INFORMATION

Chemical Base	SikaEmaco® 425 Gel Patch is composed of crystalline (quartz) silica and Portland cement.
Packaging	43 lb (19.5 kg) polyethylene-lined bags
Shelf Life	12 months when properly stored
Storage Conditions	Store in unopened containers in a cool, clean, dry area

TECHNICAL INFORMATION

Compressive Strength	1 day	2,150psi (14.8MPa)	(ASTM C 109, modified*)
	7 days	5,600psi (38.6MPa)	
	28 days	6,750psi (46.5MPa)	

*At 50% relative humidity

Flexural Strength	1 day	500psi (3.4MPa)		(ASTM C 348, modified*)
	7 days	800psi (5.5MPa)		
	28 days	1,110psi (7.7MPa)		
Splitting tensile strength	1 day	310psi (2.1MPa)		(ASTM C 496, modified* (wetcure))
	7 days	560psi (3.9MPa)		
	28 days	610psi (4.2MPa)		
Shear Strength	**Bond Strength**			
	1 day	900psi (6.2MPa)		(ASTM C 882, modified*(mortar scrubbed into substrate))
	7 days	1,900psi (13.1MPa)		
	28 days	2,450psi (16.9MPa)		
Modulus of elasticity in shear	5.6 x 10^5psi (3,861MPa)			(ASTM C 215)
Expansion	1 day	+0.019% in/in wet cure	−0.026% in/in dry cure*	(ASTM C 157)
	7 days	+0.028% in/in wet cure	−0.11% in/in dry cure*	
	28 days	+0.034% in/in wet cure	−0.15% in/in dry cure*	
Coefficient of Thermal Expansion	**Linear coefficient of thermal expansion**			
	5.3 × 10^{-6}in/in/° F			(ASTM C 531)
Water Absorption	4% at 28 days			(ASTM C 642)
Rapid Chloride Permeability	Very low range, coulombs	(AASHTO T-277 (According to ASTM C 1202, table 1))		
Freeze-Thaw Stability	98.8% RDM			(ASTM C 666 A)
Freeze Thaw De-Icing Salt Resistance	**Scaling Resistance**			
	0.0 lbs/ft² (0.0 kg/m²) No Scaling at 50 cycles			(ASTM C 672)

APPLICATION INFORMATION

Coverage	0.43 ft³ per 43 lb bag (0.012 m³ per 19.5 kg bag)
Thinner	**Working Time** 20-30 min at 70° F (21° C)

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.

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.

APPLICATION INSTRUCTIONS

NOTES ON INSTALLATION

- Do not bridge moving cracks or joints.
- Do not overwork material
- Do not add plasticizers, accelerators, retarders, or

other additives.
- Do not extend with aggregate.
- Bonding agents are recommended for large areas as well as permanently damp areas.
- Protect from freezing for 24 hours after application.
- For professional use only; not for sale to or use by the general public.
- Make certain the most current versions of the product data sheet and SDS are being used.
- Proper application is the responsibility of the user. Field visits by Sika personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

SURFACE PREPARATION

1. The substrate must be structurally sound and fully cured (28 days).
2. Saw cut the perimeter of the area being repaired into a square with a minimum depth of ¼" (6 mm).
3. The surface to be repaired must be clean, free of laitance, and saturated surface-dry (SSD) following ICRI Guideline no. 310.2 to permit proper bond.

Reinforcing Steel

1. Remove all oxidation and scale from the exposed reinforcing steel in accordance with ICRI Technical Guideline No. 310.1R.
2. For additional protection from future corrosion, coat the prepared reinforcing steel with Sikagard® P 8100 AP.

MIXING

1. Precondition material to 70° F ±5° (21° C ±3°) before mixing.
2. Mechanically mix at a slow speed with a 3/4" drill and mixing paddle.
3. Add approximately 23/4 quarts (2.6 L) of potable water into a clean mixing container. Gradually sift in powder 1⁄3 at a time while mixing continuously at a slow speed (high speeds may entrain air). Mix for a minimum of 3 minutes to ensure a uniform, lump-free consistency. Do not exceed a total of 3 quarts (2.8 L) of mixing water per 43 lb (19.8 kg) bag.

APPLICATION

1. Dampen the surface with potable water; it must be saturated surface-dry (SSD) with no standing water.
2. With a gloved hand, scrub a small quantity of mixed material into the SSD substrate. Thoroughly key in and work the material throughout the cavity to promote bond. Do not apply more of the bond coat than can be covered with mortar before the bond
3. coat dries.
4. Apply material in lifts of 1/4–2" (6–51 mm). Avoid feather edging. For optimum mechanical bond on successive lifts, thoroughly score each lift and allow it to reach the initial set before the next layer is applied. Placement time is 20–30 minutes at 70° F (21° C) and 50% relative humidity.
5. Trowel, shave, or shape the material to the desired finish after the initial set.
6. The recommended application range of SikaEmaco® 425 Gel Patch is from 40 to 90° F (4 to 32° C). Follow ACI 305 and 306 for hot or cold weather guidelines.

CURING TREATMENT

Cure with an approved water-based curing compound compliant with ASTM C 309 or preferably ASTM C 1315. If the repair area will receive a coating, wet curing is recommended.

CLEANING OF TOOLS

Clean tools and equipment with clean water immediately after use. Cured material must be removed mechanically.

LEGAL DISCLAIMER

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

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

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