

PRODUCT DATA SHEET

SikaEmaco[®] 430

(formerly MEmaco T 430)

RAPID-STRENGTH REPAIR MORTAR WITH EXTENDED WORKING TIME

PRODUCT DESCRIPTION

SikaEmaco[®] 430 is a one-component high-performance cementitious repair mortar. It is especially suited for cold weather installations and the repair of freezer floors.

USES

- Repairs in cold weather conditions
- In-service freezer floor repairs
- Interior and exterior
- Horizontal surfaces
- Applications requiring high early-strength gain
- Structural concrete repairs
- Partial and full-depth repairs

Substrates

- Concrete

CHARACTERISTICS / ADVANTAGES

- Wide temperature application range (20 to 100° F [-7 to 38° C])
- Rapid high early strength with extended working time
- Low residual moisture, can be coated in as little as 6 hours
- Only requires the addition of potable water
- No bonding agent required
- Excellent resistance to freeze/thaw cycling
- Can be extended up to 55% by weight, providing higher yields

PRODUCT INFORMATION

Chemical Base	SikaEmaco [®] 430 contains modified cementitious binder, aggregate, and additives.
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Packaging	55 lb (25 kg) polyethylene-lined bags
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Shelf Life	6 months when properly stored
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Storage Conditions	Store in unopened containers in cool, clean, dry conditions
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Solid content by mass	Property	Value
	Water, % by weight	8.0

Viscosity	Property	Value
	Flow at 5 drops	100

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September 2024, Version 02.01

02030200000002191

TECHNICAL INFORMATION

Abrasion Resistance	30 min	0.0120 inch (0.0305 cm)			(ASTM C 779 A) 28-day, air-cured sample
	60 min	0.0240 inch (0.0610 cm)			
Compressive Strength	3 hrs	1,000 psi (7 MPa)			(ASTM C 109) 70° F (21° C)
	24 hrs	4,500 psi (31 MPa)			
	7 days	7,800 psi (54 MPa)			
	28 days	9,000 psi (62 MPa)			
Modulus of Elasticity in Compression	5.1 x 10 ⁶ psi (35 GPa)				
Flexural Strength	1 Day	7 Day	28 Day	(ASTM C 348)	
	580 psi (4.0 MPa)	880 psi (6.1 MPa)	1,150 psi (7.9 MPa)		
Tensile Strength	Direct tensile bond	1 Day	7 Day	28 Day	(Sika Method)
		100 psi (0.7 MPa)	170 psi (1.2 MPa)	290 psi (2.0 MPa)	
Splitting tensile strength	1 Day	7 Day	28 Day	(ASTM C 496)	
	550 psi (3.8 MPa)	1,100 psi (7.6 MPa)	1,250 psi (8.6 MPa)		
Shear Strength	Slant shear bond	1 Day	7 Day	28 Day	(ASTM C 882)
		1,800 psi (12.4 MPa)	3,000 psi (20.7 MPa)	3,360 psi (23.2 MPa)	
	Direct shear bond	1 Day	7 Day	28 Day	(Michigan DOT)
		150 psi (1.0 MPA)	390 psi (2.7 MPA)	450 psi (3.1 MPA)	
Rapid Chloride Permeability	990 coulombs (very low)			(AASHTO-T277 / ASTM C 1202)	
Freeze-Thaw Stability	98.5 % RDM				(ASTM C 666 A)
Freeze Thaw De-icing Salt Resistance	25 cycles	CaCl*: 0.003 lb/ft ² NaCl: 0.067 lb/ft			(ASTM C 672)
	50 cycles	CaCl*: 0.005 lb/ft ² NaCl: 0.084 lb/ft ²			

*Typical results from 3 days moist-cured and 39 days air-cured samples. Results were obtained when material was mixed with 0.52 gallons (2 L) of water per bag and cured at 72° F (22° C). Expect reasonable variations depending on mixing equipment, temperature, application methods, test methods, and curing conditions.

APPLICATION INFORMATION

Pot Life	~45 minutes, at 70° F (21° C)				
Thinner	50° F (10° C)	70° F (21° C)	90° F (32° C)	(ASTM C 266) 72° F (22° C)	
	Initial set	140 min	75 min		65 min
	Final set	160 min	90 min		75 min

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 CHEMTEL at +1 (800) 255-3924 or if outside the US or Canada, +1 (813) 248-0585.

APPLICATION INSTRUCTIONS

NOTES ON INSTALLATION

For Best Performance

- Do not use SikaEmaco® 430 for patches less than ½" (13 mm) deep.
- Do not use where applications require featheredging.
- Low material and placement temperatures may accelerate setting times. Increased mixing time with higher shear may lessen this phenomenon.
- Do not mix partial bags.
- Do not add plasticizers, accelerators, retarders, or other additives.
- For professional use only; not for sale to or use by the general public.
- Make certain the most current versions of 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.

SUBSTRATE PREPARATION

Concrete:

- Concrete must be structurally sound and fully cured (28 days).
- Saw cut the perimeter of the area being repaired into a square with a minimum depth of 1" (25 mm).
- Refer to current ICRI Guideline no. 310.2R for surface prep requirements to permit proper bond.

Reinforcing Steel

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

MIXING

- Precondition material to 70° F ±5° (21° C ±3°) before

- mixing.
- Use a minimum ½" slow-speed drill and mixing paddle or an appropriately sized mortar mixer. Do not mix by hand.
- Pour ½ gallon (1.9 L) of clean water per bag of SikaEmaco® 430 into mixer.
- Add the powder to the water and mix approximately 3 minutes. Add small amounts of additional water as needed only after the first 2 minutes of mixing. No more than 1 pint of additional water per bag should be required to achieve a flowable mortar. Mix an additional 2 minutes after adding extra water. Use neat material for patches less than 1" (25 mm) in depth.
- For deeper patches, a 55 lb (25 kg) bag of SikaEmaco® 430 may be extended by adding up to 30 lbs (13.6 kg) of thoroughly washed, SSD, sound, non (ASR) reactive 1/4–½" (6–13 mm) rounded aggregate. When using angular aggregate, reduce the maximum amount added to 25 lbs (11.4 kg) to obtain the proper workability.
- Aggregate must comply with the requirements of ASTM C 33.

APPLICATION

- After removing all standing water, thoroughly scrub a thin layer of bond coat into the saturated surface with a stiff-bristled broom or brush. Do not dilute the bond coat with water. Do not apply more of this bond coat than can be covered with mortar before the bond coat dries. Do not retemper the bond coat.
- Immediately place the repair mortar from one side of the prepared area to the other. Work the material firmly into the bottom and sides of the patch to ensure a good bond. Level the SikaEmaco® 430 and screed it to the elevation of the existing concrete. Apply the appropriate finish.
- Finish the completed repair, as required, taking care not to overwork the surface.
- The recommended application range of SikaEmaco® 430 is from 20 to 85° F (-7 to 29° C). Follow ACI 305 and 306 for hot or cold weather.
- A maximum of 45 minutes should be allowed to mix, place, and finish SikaEmaco® 430 at 70° F (21° C).

Topcoating

- Sika has a wide range of polymer flooring products for topcoating. Contact your local representative for more information. For epoxy systems, allow 6 hours at 72° F (22° C) before topcoating.
- For polyester or vinyl ester systems, allow to cure 24 hours at 72° F (22° C) before priming and topcoating. Consult coating supplier for overcoating requirements. CURING Cure with an approved curing compound compliant with ASTM C 309 or preferably ASTM C 1315.

CURING TREATMENT

Cure with an approved curing compound compliant with ASTM C 309 or preferably ASTM C 1315.

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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September 2024, Version 02.01
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SikaEmaco430-en-US-(09-2024)-2-1.pdf

