

KURE-N-HARDEN™

Hardening, sealing, and dustproofing compound

PRODUCT DATA

3 03360

Concrete
Finishes

Description

Kure-N-Harden™ is a water-soluble, inorganic, and silicate-based curing, hardening, sealing, and dustproofing compound. Use it for freshly placed and finished concrete and in renovation of aged concrete. It contains no VOCs.

Yield

150 – 200 ft²/gal (3.68 – 4.9 m²/L)

Coverage may vary with application method, surface conditions, and porosity.

Packaging

5 gallon (18.93 L) pails

55 gallon (208 L) drums

Color

Clear

Shelf Life

1 year when properly stored

Storage

Store in unopened containers in cool, clean, dry area. Protect from freezing in the container; do not store below 35° F (2° C).

Features

- Protects floors during construction
- Easy application, quick drying
- Water based
- Aid for curing new concrete
- Concrete hardener
- Improved abrasion resistance

Benefits

- Cost efficient
- Saves on labor; minimizes downtime
- Has no VOCs; environmentally friendly; easy to clean up
- Minimizes shrinkage cracking; improves strength development
- Withstands light to moderately heavy-duty traffic
- Extends wearability

Where to Use

APPLICATION

- Concrete floors and pavements
- Curing of fresh concrete
- Renovation of aged concrete
- Industrial, processing, and brewing plants
- Educational, medical, and nursing facilities
- Utility, public, and multi-residential buildings

LOCATION

- Interior or exterior
- Below, at, or above grade

How to Apply

Surface Preparation

NEW CONCRETE

1. Freshly finished concrete surfaces require no surface preparation if Kure-N-Harden™ is to be applied immediately after the final finishing operation in place of a resin or acrylic curing compound.
2. On areas where forms have been recently removed, all form oil or breaking compound residue must be removed.

EXISTING CONCRETE (CURED 28 DAYS PLUS)

1. To remove all dust and dirt, sweep all areas to be treated with a fine-bristled broom or hose off with water and let stand until completely dry.
2. The surface must be free from all contaminants that will inhibit the penetration of Kure-N-Harden™ into the pores of the concrete.
3. Any curing, scaling, or coating agents must be chemically or mechanically removed before Kure-N-Harden™ is applied. If acid is used to remove surface coatings, the surface must be flushed sufficiently and neutralized before application of Kure-N-Harden™. A floor buffing machine with an aggressive pad can be used along with Citrus Degreaser (see Form No. 1017985) or other cleaners to remove existing compounds.

Application

Kure-N-Harden™ is not a film-forming product, but should fully saturate the concrete for maximum effect. Perform enough applications for Kure-N-Harden™ to saturate (but not puddle) the concrete by following the instructions below.

Technical Data

Composition

Kure-N-Harden™ is an alkali-silicate hardener.

Compliances

- USDA compliant for use in meat and poultry areas

Test Data

PROPERTY	RESULTS	TEST METHODS
Compressive strength, psi (MPa)		ASTM C 109, modified
Untreated	5,000 (34.5)	
Kure-N-Harden™ treated*	6,000 (41.4)	
20% increase in compressive strength at 3 days over untreated samples		
Comparative abrasion resistance, g loss		Taber Abraser CS-17 Wheel
1,000 g load, 1,000 revolutions		
Untreated sample	8, (100%)	
Kure-N-Harden™ treated*	6, (78%)	
20% increase in abrasion resistance over untreated samples		
Moisture retention, g loss		ASTM C156
Untreated sample	90	
Kure-N-Harden™ treated*	63	
30% improvement in moisture retention		

*Application to fresh mortar. Abrasion resistance measured at 7 days, 70° F (23° C) and 50% relative humidity.

Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.

Chemical Resistance

Alkali silicate hardeners can be used to increase resistance to chemicals including, but not limited to the following:

Acetic acid, <10%	Ethyl alcohol	Phosphoric acid, 80%
Aluminum sulfate	Ferric chloride	Poppy seed oil
Ammonium carbonate	Ferric nitrate	Potassium aluminum sulfate
Ammonium chloride	Ferric sulfate	Potassium carbonate
Ammonium hydroxide	Fish oil	Potassium chloride
Ammonium nitrate	Formaldehyde, 37%	Potassium dichromate
Ammonium sulfate	Formic acid, 90%	Potassium hydroxide, 15%
Anthracene	Fruit juices	Potassium nitrate
Arsenious acid	Glucose	Potassium persulfate
Barium hydroxide	Glycerine	Potassium sulfate
Beef fat	Honey	Rapeseed oil
Benzene	Humic acid	Rosin
Borax	Hydrochloric acid, 10%	Sea water
Boric acid	Hydrogen sulfide	Sodium bicarbonate
Buttermilk	Iodine	Sodium bromide
Calcium chloride	Lactic acid, 25%	Sodium carbonate
Calcium hydroxide	Lead nitrate	Sodium chloride
Calcium nitrate	Lead-refining solutions, 10%	Sodium dichromate
Calcium sulfate	Lignite oils	Sodium hydroxide, 10%
Carbazole	Linseed oil	Sodium nitrate
Carbonic acid	Machine oil	Sodium nitrite
Castor oil	Magnesium chloride	Sodium sulfate
China wood oil	Magnesium nitrate	Sodium sulfite
Chromic acid, 10%	Manure	Sodium thiosulfate
Chrysen	Methyl alcohol	Soybean oil
Cider	Mine water, waste	Sugar
Coal	Mineral spirits	Sulfur dioxide
Coal-tar oils	Molasses	Toluene
Cobalt sulfate	Mustard oil	Zinc chloride
Coconut oil	Nickel sulfate	Zinc nitrate
Copper chloride	Nitric acid, 40%	Zinc sulfate
Copper sulfate	Oleic acid, 100%	
Corn syrup	Olive oil	
Cottonseed oil	Paraffin	
Creosote	Peanut oil	
Cresol	Phenanthrene	
Cumol	Phenol, 25%	

NEW CONCRETE

1. Spray apply undiluted Kure-N-Harden™ on the concrete surface with a low-pressure sprayer following final finishing operation and after all surface water has evaporated and the concrete surface is hard. To ensure proper performance, apply Kure-N-Harden™ to the entire surface area as soon as the surface can bear foot traffic. Keep the entire surface wet for 30 minutes by spraying Kure-N-Harden™ or by brooming excess material from low spots to saturate dry spots. Keep Kure-N-Harden™ from drying out on surface for a full 30 minutes.
2. As Kure-N-Harden™ begins to penetrate into the surface, lightly sprinkle the surface with water to aid penetration.
3. As Kure-N-Harden™ begins to dry a second time, flush the surface with water and squeegee the surface to remove any excess material and other impurities that were brought to the surface.
4. To improve sheen, dry buff with a nonaggressive pad the following day.

BROOM OR ROUGH-FINISHED CONCRETE SURFACES

1. Follow the basic application methods as described above.
2. Move excess material with broom instead of squeegee for newly placed concrete. Rough-finished concrete will absorb the Kure-N-Harden™ material quickly.
3. After 30 minutes, final flushing with water may not be necessary unless puddles of Kure-N-Harden™ remain on the surface. Do not let unabsorbed material stand on the surface.

CAUTION: To ensure full penetration of Kure-N-Harden™, all treated surface areas must remain wet for a minimum of 30 minutes.

4. Failure to remove all excess material from floor surfaces may result in unsightly white stains.
5. On exterior applications environmental factors, such as wind and heat, may greatly reduce the effectiveness of Kure-N-Harden™ as a curing aid.

NOTE: It is the responsibility of the user to adjust the curing rate to properly regulate the hydration of the concrete.

EXISTING CONCRETE (28 DAYS PLUS)

1. Saturate the surface with undiluted Kure-N-Harden™ by sprayer, squeegee, or brooming.
2. If dry spots appear, move excess material onto them or respray them immediately so that entire surface is wet with Kure-N-Harden™ for a minimum of 30 minutes.

3. Complete job using one of the following finishing options.

- If after 30 to 40 minutes the majority of Kure-N-Harden™ has been absorbed into the surface, broom or squeegee any excess material from the low spots so it may be absorbed into the surface or completely removed from it. Flush floor clean with water.
- Use a floor buffing machine with a nonaggressive pad to help work Kure-N-Harden™ into fully cured concrete during application.

Drying Time

1. Kure-N-Harden™ penetrates in approximately 1/2 – 1 hour per application, influenced somewhat by temperature, humidity, and job conditions. Each application must penetrate thoroughly before proceeding with next.
2. A floor treated with Kure-N-Harden™ must completely dry before accepting any traffic. Allow 24 hours before subjecting to heavy traffic.

Clean Up

Clean brushes, tools, and equipment and flush sprayer with clean water immediately after use.

For Best Performance

- Protect Kure-N-Harden™ from freezing.
- In event of freeze/thaw, warm and restir to uniformity. If separation is persistent, discard Kure-N-Harden™—DO NOT APPLY.
- Install joint sealants before application of Kure-N-Harden™; if not possible, test first for adhesion.
- Wash surfaces with water and detergent and allow to thoroughly dry. A test application is mandatory. For subsequent coating applications, perform proper surface preparation and consult the coatings manufacturer for more instructions.
- Spray application will yield best results.
- Dry buffing 24 hours after application will improve sheen of finished floor.
- Application method and concrete porosity will affect final appearance of Kure-N-Harden™. White residue signifies too strong a mix or the surface reaching maximum hardness. Applications should be stopped and the surface flushed with clean hot water, broomed with a stiff-bristled broom and allowed to dry. If any applications remain, a dilution may be required to avoid further problems.

- Applications with pozzolonic additives in the concrete will require additional Kure-N-Harden™.
- Protect metal, glass, wood, paint, and brick from contact with Kure-N-Harden™. If accidentally misapplied to these surfaces, wash with clean water within 30 minutes.
- Allow at least 7 days interval before applying tile or floor covering adhesives over Kure-N-Harden™.
- One application of Kure-N-Harden™ is normally sufficient. Repeat applications will ensure complete densification of concrete surface.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by Degussa personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

Health and Safety

KURE-N-HARDEN™

Warning

Kure-N-Harden™ contains sodium silicate.

Risks

Severe skin and eye irritant. Contact with skin or eyes may cause burns. Causes respiratory irritation. Ingestion may cause burns or other harm. INTENTIONAL MISUSE BY DELIBERATELY INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. Prevent contact with skin, eyes and clothing. Wash thoroughly after handling. DO NOT breathe vapors. Use only with adequate ventilation. Keep container closed. DO NOT take internally. Use impervious gloves, eye protection and if used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable federal, state and local regulations. All label warnings must be observed until container is commercially cleaned or reconditioned.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. SEEK IMMEDIATE MEDICAL ATTENTION. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

Proposition 65

This product does not knowingly contain materials listed by the state of California as known to cause cancer and birth defects or other reproductive harm.

VOC Content

0 lbs/gal or 0 g/L, less water and exempt solvents.

**For medical emergencies only,
call ChemTrec (1-800-424-9300).**

Degussa Building Systems

889 Valley Park Drive
Shakopee, MN, 55379

www.degussabuildingsystems.com

Customer Service 800-433-9517

Technical Service 800-243-6739

LIMITED WARRANTY NOTICE Every reasonable effort is made to apply Degussa exacting standards both in the manufacture of our products and in the information which we issue concerning these products and their use. We warrant our products to be of good quality and will replace or, at our election, refund the purchase price of any products proved defective. Satisfactory results depend not only upon quality products, but also upon many factors beyond our control. Therefore, except for such replacement or refund, Degussa MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, RESPECTING ITS PRODUCTS, and Degussa shall have no other liability with respect thereto. Any claim regarding product defect must be received in writing within one (1) year from the date of shipment. No claim will be considered without such written notice or after the specified time interval. User shall determine the suitability of the products for the intended use and assume all risks and liability in connection therewith. Any authorized change in the printed recommendations concerning the use of our products must bear the signature of the Degussa Technical Manager.

This information and all further technical advice are based on Degussa's present knowledge and experience. However, Degussa assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights. In particular, Degussa disclaims all WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY. DEGUSSA SHALL NOT BE RESPONSIBLE FOR CONSEQUENTIAL, INDIRECT OR INCIDENTAL DAMAGES (INCLUDING LOSS OF PROFITS) OF ANY KIND. Degussa reserves the right to make any changes according to technological progress or further developments. It is the customer's responsibility and obligation to carefully inspect and test any incoming goods. Performance of the product(s) described herein should be verified by testing and carried out only by qualified experts. It is the sole responsibility of the customer to carry out and arrange for any such testing. Reference to trade names used by other companies is neither a recommendation, nor an endorsement of any product and does not imply that similar products could not be used.

For professional use only. Not for sale to or use by the general public.