

PRODUCT DATA

3 03 01 00 Maintenance of Concrete

NOVOLAC AR170 SEVERE SERVICE COATING

Novolac epoxy coating with 98% sulfuric-acid resistance

Description

Novolac AR170 Severe Service Coating is a high-build, 100% solids Novolac epoxy coating. It provides resistance to harsh chemicals, including 98% sulfuric acid, and can be used as a topcoat over epoxy and polyurethane coatings.

Yield

80 ft² per gallon at 20 mils (WFT), depending on substrate smoothness and porosity (2 m²/L)

Packaging

3 gallon (11.4 L) kits, containing
Two 1-gallon (7.6 L) pails of Part A (clear or pigmented)
1 gallon (3.8 L) pail of Part B (clear)
15 gallon (56.8 L) kits, containing
Two 5-gallon (18.9 L) pails of Part A
5 gallon (18.9 L) pail Part B

Color

Red and gray

Shelf Life

1 year when properly stored

Storage

Store in unopened containers at 60 to 80° F (16 to 27° C) in clean, dry conditions.

Features

- Hard wearing-surface
- Chemical resistant
- 100% solids system
- Liquid applied
- Usable with aggregate broadcast

Benefits

- Durable, low-maintenance flooring
- Excellent resistance to sulfuric acid and a wide range of industrial chemicals
- Solvent free; nearly odor-free application
- Seamless protection of concrete
- Creates a slip-resistant floor finish

Where to Use

APPLICATION

- Chemical-resistant industrial flooring
- Primary containment of water and wastewater
- Secondary containment of many chemicals
- Floors, gutters, and troughs
- Manholes, wet wells, and lift stations
- Walls
- Wastewater treatment plants
- Pulp and paper mills
- Metal-treatment plants
- Battery storage areas
- Production areas
- Food-processing plants
- Waste areas

LOCATION

- Horizontal and vertical surfaces
- Interior or exterior below grade

SUBSTRATE

- Concrete and masonry

How to Apply

Surface Preparation

1. Surface must be clean, structurally sound, and fully cured 28 days.
2. Mechanically profile the surface of both old and new concrete by shotblasting to ICRI CSP 4, then remove dust by vacuuming.
3. Prime with Nitoprime 30 or 60. Can be dry or damp.

Priming

HORIZONTAL APPLICATIONS

1. Prime the prepared substrate with Nitoprime 30. Apply Nitoprime 30 at a coverage rate of 150 – 300 ft²/gallon (3.6 – 7.4 m²/L). Refer to the Nitoprime 30 data sheet for more details or call BASF Technical Service.
2. Allow Nitoprime 30 to become tack free (approximately 3 – 4 hours) before applying Novolac AR170 Severe Service Coating.

VERTICAL APPLICATIONS

Prime the prepared substrate with Nitoprime 60. Apply Nitoprime 60 at a coverage rate of 300 – 400 ft²/gallon (7.3 – 9.8 m²/L). Refer to the Nitoprime 60 data sheet for more details or call BASF Technical Service.

Technical Data

Composition

Novolac AR170 Severe Service Coating is a 100% solids Novolac epoxy.

Typical Properties

PROPERTY	VALUE
Tack free time , hrs, 4 – 6 at 75° F (24° C)	
Initial cure , hrs, at 75° F (24° C)	24
Light traffic , hrs, at 75° F (24° C)	16
Full chemical resistance , days, at 75° F (24° C)	7
Mix ratio , by volume	2 to 1
Application temperature range , ° F (° C)	50 – 120 (10 – 49)
Service temperature range , ° F (° C)	50 – 90 (10 – 32)

Test Data*

PROPERTY	RESULTS	TEST METHODS
Mixed viscosity , cps, at 75° F (24° C)	4,000	ASTM D 2393
Pot life , min, at 75° F (24° C)	30 – 45	ASTM D 2471
Bond strength , psi (MPa), 14 day moist cure	2,640 (18.2) 100% concrete failure	ASTM C 882
Compressive strength , psi (MPa)	14,300 (99)	ASTM D 695
Tensile strength , psi (MPa)	5,700 (39)	ASTM D 638
Tensile elongation , %, cured 7 days at 75° F (24° C)	3 – 4	ASTM D 638
Hardness , Shore D	80 – 82	ASTM D 2240
Abrasion resistance , L/mil coating	40	ASTM D 968

* 7 day cure at 70° F (21° C) and 50% relative humidity

All application and performance values are typical for the material, but may vary with test methods, conditions, and configurations.

Chemical Resistance*

Based on 7-day immersion test at 70° F (21° C)

CHEMICAL	RESULTS
Hydrochloric acid, 50%	Regular contact
Hydrofluoric acid, 50%	Regular contact
Nitric acid, 25%	Occasional contact
Sulfuric acid, 10%	Regular contact
Sulfuric acid, 25%	Regular contact
Sulfuric acid, 50%	Regular contact
Sulfuric acid, 98%	Regular contact
Phosphoric acid, 50%	Regular contact
Acetic acid, 10%	Regular contact
Sodium hydroxide, 50%	Regular contact
Ammonia, 10%	Regular contact
Bleach concentrate	Regular contact
Bleach, 5%	Regular contact
Urea (saturated)	Regular contact
Sugar (saturated)	Regular contact
Sodium chloride (saturated)	Regular contact
Methanol	Regular contact
Butanol	Regular contact
Acetone	Occasional contact
Mineral spirits	Regular contact
Xylene	Regular contact
Lubrication oil	Regular contact
Gasoline	Regular contact
Skydrol	Regular contact

* 7 day cure at 70° F (21° C) and 50% relative humidity

Mixing

1. Thorough stir each separate component (epoxy resin Part A and the hardener Part B) before mixing the 2 components together.
2. The mix ratio by volume is 2 parts resin (Part A) with 1 part hardener (Part B). Combine 1 part hardener (Part B) with 2 parts resin (Part A) in a clean, suitably sized container. Scrape the sides of the containers to remove as much material as possible to ensure accurate mixing ratio.
3. Mix the components together using a slow-speed (400 – 600 rpm) drill with Jiffy mixer for at least 3 minutes until uniform in color with no streaks of color in the mixture.

Application

AS A COATING FOR CONCRETE SUBSTRATES

1. Apply the mixed product to the clean, primed surface by roller or brush. Use the shortest nap roller suitable for the prepared substrate profile.
2. Backroll the coating to ensure good wetting of the substrate, uniform thickness of the coating, and removal of any roller marks.
3. Apply two 20-mil coats at the rate of 80 ft²/gallon per coat (2 m²/L).
4. To make the coating slip resistant, broadcast clean, dry sand into the first coat while it is wet. Apply sand to the point of saturation (approximately 80 lbs/100 ft² [3.9 kg/m²]). When coating is dry, sweep excess sand and apply the second coat of Novolac AR170.
5. Recoating must be done within 24 hours at 70° F (21° C). After 24 hours, mechanically abrade the entire surface of the coating and clean with acetone or xylene. Allow AR170 to dry and reapply the coating within 1 hour.

AS A TOPCOAT FOR EPOXY OR POLYURETHANE FLOOR AND WALL COATINGS

1. When applying Novolac AR170 over an existing coating, first conduct a test application.
2. Lightly sand the surface with medium sandpaper or a 60 – 80 mesh 3M screen back. Vacuum up all dust and solvent wipe floor with acetone. Allow to dry.
3. Apply the Novolac AR170 within 1 hour and according to application instructions.

AS A TROWEL-DOWN TOPPING

1. After mixing, slowly add 2 – 3 parts clean, dry sand by volume to 1 part mixed Novolac AR170 epoxy by volume.
2. Trowel or screed the sand-modified Novolac AR170 to desired thickness (minimum 1/4" or 6 mm).

Curing

Tack free: approximately 4 – 6 hours

Traffic ready: 24 hours

Fully cured: 7 days at 75° F (24° C) and 50% relative humidity

Clean Up

Clean equipment immediately after use with xylene. Cured material can be removed by mechanical means only. Clean hands and skin immediately with soap and water, industrial hand cleaner, or denatured alcohol.

For Best Performance

- Precondition all components to 70° F (21° C) for 24 hours before using.
- Minimum ambient, surface, and material temperature should be 50° F (10° C) and rising at time of application.
- 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 version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

Health and Safety

NOVOLAC AR170 SEVERE SERVICE COATING
PART A

Warning

Novolac AR170 Severe Service Coating Part A contains epoxy resin; furfuryl alcohol.

Risks

May cause skin, eye and respiratory irritation. May cause dermatitis and allergic responses. Potential skin and/or respiratory sensitizer. Ingestion may cause irritation. Reports associate repeated or prolonged occupational overexposure to solvents with permanent brain, nervous system, liver and kidney damage. INTENTIONAL MISUSE BY DELIBERATELY INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

Precautions

Use only with adequate ventilation. Keep container closed. Avoid contact with skin, eyes and clothing. Keep container closed when not in use. Wash thoroughly after handling. DO NOT take internally. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. 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 contains materials listed by the State of California as known to cause cancer, birth defects or other reproductive harm.

VOC Content

0 g/L or 0 lbs/gal less water and exempt solvents when components are mixed and applied per Manufacturer's instructions.

NOVOLAC AR170 SEVERE SERVICE COATING
PART B

DANGER – CORROSIVE

Novolac AR170 Severe Service Coating Part B contains benzyl alcohol; 1,2-cyclohexanediamine; salicylic acid.

Risks

Contact with skin or eyes may cause burns. Ingestion may cause irritation and burns of mouth, throat and stomach. Inhalation of vapors may cause irritation. May cause dermatitis and allergic responses. Potential skin and/or respiratory sensitizer. Repeated or prolonged contact with skin may cause sensitization. Reports associate repeated or prolonged occupational overexposure to solvents with permanent brain, nervous system, liver and kidney damage. INTENTIONAL MISUSE BY DELIBERATELY INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

Precautions

DO NOT get in eyes, on skin or clothing. Wash thoroughly after handling. Keep container closed. DO NOT take internally. Use only with adequate ventilation. DO NOT breathe vapors. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. 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, birth defects or other reproductive harm.

VOC Content

0 g/L or 0 lbs/gal less water and exempt solvents when components are mixed and applied per Manufacturer's instructions.

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

**BASF Construction Chemicals, LLC –
Building Systems**

889 Valley Park Drive
Shakopee, MN, 55379

www.BuildingSystems.BASF.com

Customer Service 800-433-9517
Technical Service 800-243-6739



LIMITED WARRANTY NOTICE Every reasonable effort is made to apply BASF 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, BASF MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, RESPECTING ITS PRODUCTS, and BASF 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 BASF Technical Manager.

This information and all further technical advice are based on BASF's present knowledge and experience. However, BASF 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, BASF disclaims all CONDITIONS AND WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY. BASF SHALL NOT BE RESPONSIBLE FOR CONSEQUENTIAL, INDIRECT OR INCIDENTAL DAMAGES (INCLUDING LOSS OF PROFITS) OF ANY KIND. BASF 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.