

PRODUCT DATA

9 09 97 23 Coatings for Concrete and Masonry

# THOROCOAT®

Water-based, high-build,  
100% acrylic waterproof coating

## Description

Thorocoat® water-based, high-build, 100% acrylic waterproof coating for above-grade concrete, masonry, stucco and EIFS.

## Yield

See chart on page 3.

Tilt-up wall applications:

Thorocoat® Smooth, Fine and Coarse can be applied in 1 coat at 60 – 80 ft<sup>2</sup>/gal (1.5 – 2.00 m<sup>2</sup>/L), achieving DFT of 7.5 – 10 mils (190 – 254 microns) for Smooth and 10 – 13 mils (254 – 329 microns) for Fine and Coarse textures. It is recommended that Thoro® CM Primer be applied in order to have a two-coat system, which ensures above grade waterproofing.

Actual coverage may vary depending on substrate texture and porosity. Rough textured surfaces may require additional coats to achieve the minimum film build. The objective is to obtain a pinhole free, consistent film build on all treated surfaces. BASF always recommends applying a test area to determine actual coverage. Apply in an unstretched, uniform manner.

## Features

- Available in smooth, fine, and coarse textures
- Resists wind-driven rain
- Excellent adhesion
- Breathable
- UV resistance
- Carbon dioxide diffusion barrier
- Excellent hiding power
- Excellent color retention
- Freeze/thaw resistant
- Tough finish
- Recoatable
- VOC compliant
- Also available in algae resistant (A+) and perlite texture formulas

## Benefits

- Design versatility
- Helps prevent water penetration into the substrate
- Bonds securely to substrate for long-term durability
- Allows water vapor to escape from the structure; prevents peeling and blistering
- Looks like new long term
- Protects embedded steel from corrosion
- Covers variations in substrate appearance
- Resists color fading
- Suitable for cold climates
- Resists erosion
- Easy and cost-efficient to maintain
- Environmentally friendly
- Versatility

## Packaging

- 5 gallon (18.9 L) pails
- 30 gallon (114 L) drums (for factory tinted material only)

## Color

Thorocoat® is available in 4 bases (pastel, medium, ultra and neutral) and 48 standard colors through the Elements color program. Color formulations are available through the electronic Thoro® Tint Manual. Custom colors are available upon request. For further information, please consult your local BASF distributor or representative.

## Texture

Smooth, fine and coarse

## Shelf Life

15 months when properly stored.

## Storage

Store in unopened containers protected from freezing in a clean, dry area.

## Where to Use

### APPLICATION

- For protecting and decorating

### LOCATION

- Vertical and overhead surfaces
- Exterior or interior
- Above grade

### SUBSTRATE

- Concrete and masonry
- Cement plaster, stucco and EIFS



## Technical Data

### Composition

Thorocoat® contains water, acrylic emulsion, fillers and other proprietary ingredients

### Test Data

#### THOROCOAT® SMOOTH

PROPERTY	RESULTS	TEST METHODS
<b>Density, lbs/gal (kg/L)</b>	11.4 – 12.4 (1.37 – 1.49)	ASTM D 1475
<b>Solids, %</b>		ASTM D 5201
By weight	56.2	
By volume	38	
<b>Viscosity, KU</b>	102 – 110	ASTM D 562 (Stormer)
<b>VOC content, lbs/gal (g/L)</b>	0.90 (107)	ASTM D 3960

#### THOROCOAT® FINE

PROPERTY	RESULTS	TEST METHODS
<b>Density, lbs/gal (kg/L)</b>	13.1 – 14.1 (1.57 – 1.69)	ASTM D 1475
<b>Solids, %</b>		ASTM D 5201
By weight	68.6	
By volume	49	
<b>Viscosity, KU</b>	117 – 125	ASTM D 562 (Stormer)
<b>VOC content, lbs/gal (g/L)</b>	0.57 (68)	ASTM D 3960

#### THOROCOAT® COARSE

PROPERTY	RESULTS	TEST METHODS
<b>Density, lbs/gal (kg/L)</b>	13.2 – 14.2 (1.58 – 1.70)	ASTM D 1475
<b>Solids, %</b>		ASTM D 5201
By weight	69.9	
By volume	50	
<b>Viscosity, KU</b>	117 – 125	ASTM D 562 (Stormer)
<b>VOC content, lbs/gal (g/L)</b>	0.53 (63)	ASTM D 3960

#### THOROCOAT® SMOOTH

PROPERTY	RESULTS	TEST METHODS
<b>Resistance to wind-driven rain</b>	Meets requirement – no water penetration	TT-C-555B
<b>Accelerated weathering, 5,000 hrs</b>	Passes	ASTM G 23, Type D
<b>Visual color change, 5,000 hrs</b>	Passes	ASTM D 1729
<b>Chalking, 5,000 hrs</b>	Passes	ASTM D 4214
<b>Freeze/thaw resistance, 50 cycles</b>	Passed	DOT Method A and B
<b>Water-vapor permeance, perms</b>	13	ASTM D 1653
<b>Moisture resistance,</b>	Meets requirement: no blistering, loss of adhesion, or discoloration	TT-C-555B

### Test Data

THOROcoat® SMOOTH, CONTINUED

PROPERTY	RESULTS	TEST METHODS
<b>Salt spray (fog) resistance,</b> 300 hrs	Passed	ASTM B 117
<b>Carbon-dioxide diffusion</b> R (equivalent air-layer thickness), ft (m) Sc (equivalent concrete thickness), in (cm)	1,318 (402) 39 (100)	PR EN 1062-6
<b>Flexibility,</b> 1" mandrel	No cracking	ASTM D 1737
<b>Dirt pick-up, %</b> after 6 months exposure	92.02; passed	ASTM D 3719
<b>Sand abrasion resistance,</b> at 3,000 L	Passed	ASTM D 968 Method A
<b>Impact resistance,</b> at 30 in-lbs	Passed	ASTM D 2794
<b>Fungus resistance</b>	No growth Meets requirement	ASTM D 3273
<b>Mildew resistance</b> Aspergillus oryzae, 7 days Aspergillus niger, 21 days	No growth No growth	Fed Spec. TT-P-29 (Fed. Std. 141, Method 6152 and 6271.1)
<b>Surface burning characteristics</b> Flame spread Smoke Fuel contribution	1 4 7	ASTM E 84
<b>Flash point, ° F (° C)</b>	> 200 (93)	ASTM D 56 Tag Closed Tester

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

### Yield

TEXTURE	RATE, FT <sup>2</sup> /GAL/COAT (M <sup>2</sup> /L)	WET FILM, MILS (MICRONS)	DRY FILM, MILS (MICRONS)
<b>Smooth</b>	75 – 100 (1.84 – 2.46)	22 – 16 (559 – 406)	8 – 6 (203 – 152)
<b>Fine</b>	75 – 100 (1.84 – 2.46)	22 – 16 (559 – 406)	11 – 8 (279 – 203)
<b>Coarse</b>	75 – 100 (1.84 – 2.46)	22 – 16 (559 – 406)	11 – 8 (279 – 203)

## How to Apply

### Surface Preparation

1. Surface should be clean and sound. Concrete substrates should have a minimum 28 day cure and be free of all bond-inhibiting contaminants.
2. High-pressure water blast (or abrasive blast on hard, dense surfaces) surface to medium grit sandpaper texture (reference ICRI guide 03732 SP 3).
3. Repair any holes, spalled and damaged concrete with appropriate BASF Construction Chemicals repair materials. Remove any protruding concrete accessories and smooth out any irregularities.
4. Some stains may require chemical removal. Be sure to neutralize the compounds and rinse with clean water.
5. Remove any blisters or delaminated areas and sand edges to smooth rough areas and provide transition to old paint areas.
6. Check adhesion of old paint using ASTM D 3359, measuring adhesion by Tape Method A.
7. Treat cracks greater than 1/32" with Patching Compound 746 / 748. Treat cracks larger than 1/4" as expansion joints and fill with appropriate BASF Construction Chemicals sealant.

### CRACKS

1. Locate and properly prepare all cracks.
2. Clean and detail static hairline cracks caused by plastic or drying shrinkage and fill by a brush coat of Thorocoat® Smooth and allow to dry.
3. Clean and detail static cracks greater than 1/32" (0.8 mm) in width and fill with Patching Compound 746 / 748 (see Form No. 1017938).
4. Treat cracks greater than 1/4 by 1/4" (6 by 6 mm) as standard sealant joints according to a reputable sealant manufacturer's instructions. Contact BASF Technical Service for recommendations.

### Mixing Instructions

1. Mix Thorocoat® at slow speed with drill and mixing paddle to ensure uniform color and aggregate disbursement and to minimize air entrapment.
2. In multi-pail applications, mix the contents of each new pail into the partially used pail to ensure color consistency and smooth transitions from pail to pail.

### Application

1. Thorocoat® is meant to be applied as a two-coat system, achieving a total dry-film thickness (DFT) of 12 – 16 mils (304 – 406 microns).
2. Apply Thorocoat® by brush, spray, roller, or spray-and-backroll. Spray apply Thorocoat® Coarse for best results.
3. Thorocoat® is designed as a high-build acrylic coating.
4. Maintain proper uniform wet-film thickness (WFT) during application to ensure the performance characteristics desired (see yield rates section).
5. Always work to a natural break and maintain a wet edge during application.
6. For uniformity of color and texture, application techniques must be consistent throughout the project. Inconsistent application techniques will produce texture or color variations.

### ROLLER

1. Use a quality 1/2 – 1-1/4" nap roller cover (lamb's wool preferred).
2. Completely saturate the roller and keep it loaded with the coating to build the required mils. Never dry roll.
3. Roll the coating in a consistent fanlike pattern to achieve uniform mil thickness.
4. Cross roll to achieve uniform thickness and maintain a wet edge. Backroll in one direction as stroke variations may result in uneven color and texture.

### BRUSH

1. Application by brush is recommended only for small inaccessible areas, e.g., on touch-ups.
2. Use a nylon brush only.

### SPRAY

1. Equipment is available for spraying all grades of Thorocoat®. For fine and coarse textures, it is necessary to use a heavy-duty sprayer designed for the application of coatings that contain sand particles. Gun pressure should be around 30 psi (0.21 MPa). Contact Technical Service for further recommendations.
2. Backrolling after spray application is strongly recommended to achieve uniform texture and film thickness.

### Clean Up

Clean all tools and equipment immediately with water. Cured material may be removed by mechanical means.

### Drying Time

Times assume 70° F (21° C) and 50% relative humidity.

To touch: 1 – 2 hours

To recoat: 2 – 4 hours

To full cure: 5 days

Lower surface or air temperatures and higher relative humidity will extend the drying time.

### For Best Performance

- Protect from freezing. If partially frozen, place containers in heated area and allow to gradually warm. Do not apply heat directly to containers.
- Do not apply when the temperature (substrate or ambient) is 40° F (4° C) or below or is expected to fall below 40° F (4° C) within 24 hours after application.
- Do not apply if rain is expected within 24 hours of application.
- Not for immersion service.
- Do not apply to horizontal traffic-bearing surfaces.
- Do not apply over moving cracks, control joints or expansion joints.
- Do not use as crack bridging coating; refer to Thorolastic® product data sheet.
- Do not apply to existing coatings that are not compatible. Perform appropriate adhesion tests.
- Apply a 4 by 4 ft (1.2 by 1.2 m) test area to verify acceptable color, texture and adhesion before proceeding with any project. The test method for measuring adhesion is ASTM D 3359, Measuring Adhesion by Tape, Method A. On the 0 – 5 scale, a minimum adhesion rating of 4A is required.
- Do not use solvents or thinners to reduce the material.
- 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

THOROcoat®

### **Caution**

Thorocoat® Coarse/Fine contains ethylene glycol and crystalline quartz silica.

Thorocoat® Smooth contains ethylene glycol, ester alcohol, crystalline quartz silica and zinc oxide.

### **Risks**

May cause eye, skin, or respiratory irritation.

Ingestion may cause irritation. Repeated ingestion may cause kidney damage. Contains small amount of free respirable quartz which has been listed as a suspected human carcinogen by NTP and IARC.

Repeated or prolonged overexposure to free respirable quartz may cause silicosis or other serious and delayed lung injury.

### **Precautions**

Avoid contact with eyes, skin and clothing. Use with adequate ventilation. DO NOT take internally. Wash thoroughly after handling. Use impervious gloves, eye protection and if the TLV is exceeded or if used in a poorly ventilated area, use NIOSH/ MSHA approved respiratory protection in accordance with federal, state and local requirements. Keep container closed when not in use. All label warnings must be observed until container is commercially cleaned or reconditioned.

### **First Aid**

Eye contact, flush thoroughly with water for at least 15 minutes. SEEK 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 contains materials listed by the state of California as known to cause cancer, birth defects, or other reproductive harm.

### **VOC Content**

Thorocoat® Coarse/Fine: 63 – 68 g/L or 0.53 – 0.57 lbs/gal, less water and exempt solvents

Thorocoat® Smooth: 93-96 g/L, less water and exempt solvents.

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

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