

THOROcoat®

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

PRODUCT DATA

9 09980

**Coatings for Concrete
and Masonry**

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 ft²/gal (1.5 – 2.00 m²/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. Degussa 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 Thoro® Tint Program Manual (Form No. 1019056) and Thoro® Tint Program Floppy Disk (Form No. 1019054). Custom colors are available upon request. For further information, please consult your local Degussa distributor or representative.

Texture

Smooth, fine, and coarse

Shelf Life

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

THOROCOAT® FINE

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

THOROCOAT® COARSE

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

THOROCOAT® SMOOTH

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

Test Data

THOROcoat® SMOOTH, CONTINUED

PROPERTY	RESULTS	TEST METHODS
Salt spray (fog) resistance, 300 hrs	Passed	ASTM B 117
Carbon-dioxide diffusion R (equivalent air-layer thickness), ft (m) Sc (equivalent concrete thickness), in (cm)	1,318 (402) 39 (100)	PR EN 1062-6
Flexibility, 1" mandrel	No cracking	ASTM D 1737
Dirt pick-up, % after 6 months exposure	92.02; passed	ASTM D 3719
Sand abrasion resistance, at 3,000 L	Passed	ASTM D 968 Method A
Impact resistance, at 30 in-lbs	Passed	ASTM D 2794
Fungus resistance	No growth Meets requirement	ASTM D 3273
Mildew resistance 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)
Surface burning characteristics Flame spread Smoke Fuel contribution	1 4 7	ASTM E 84
Flash point, ° F (° C)	> 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 ² /GAL/COAT (M ² /L)	WET FILM, MILS (MICRONS)	DRY FILM, MILS (MICRONS)
Smooth	75 – 100 (1.84 – 2.46)	22 – 16 (559 – 406)	8 – 6 (203 – 152)
Fine	75 – 100 (1.84 – 2.46)	22 – 16 (559 – 406)	11 – 8 (279 – 203)
Coarse	75 – 100 (1.84 – 2.46)	22 – 16 (559 – 406)	11 – 8 (279 – 203)

How to Apply

Surface Preparation

1. All surfaces must be sound, clean, and free of all dust, dirt, oils, grease, laitance, efflorescence, mildew, fungus, or any biological residues or chemical contaminants that may prevent good adhesion.
2. Use high-pressure waterblasting with or without abrasives added to the water stream to achieve a surface texture similar to 100 grit sandpaper.
3. Some stains and surface contaminants may require chemical removal. When chemical cleaners are used, be sure to neutralize the compounds and fully rinse the surface with clean water.
4. Allow surface to dry before proceeding.

CONCRETE

1. New concrete must be cured a minimum of 28 days before application begins.
2. In addition to laitance and all contaminants, all form-release agents or previously applied sealers must also be removed.
3. Remove all form tie wires and repair holes, small voids, and spalls using the appropriate Thoro® repair product.
4. Abrasive-blast very slick, dense concrete surfaces or prime with Thoro® Primer 2K (see Form No. 1019090).
5. To check for proper adhesion, a test area is recommended.

CONCRETE MASONRY UNITS (CMU)

1. All new CMU should be laid true and fully cured to full load-bearing capacity.
2. Remove all mortar splatter and excess mortar before application of the coating.
3. Repoint or fill all voids with the appropriate Thoro® patching product.
4. For best results, CMU should have a base coat of Thoro® Block Filler (see Form No. 1019087) or Thoro® Intermix (see Form No. 1019078).

PLASTER AND STUCCO

1. Clean the surface and remove all debonded or delaminated plaster or stucco.
2. Repair with Thoroseal® Plaster Mix (see Form No. 1019908) modified with Acryl 60® (see Form No. 1019073).
3. Allow new plaster or stucco to cure a minimum of 7 days at 70° F (21° C) and 50% relative humidity. Allow longer cure times if temperatures are lower or relative humidity is higher.
4. After cleaning and profiling, prime chalky surfaces with Thoro® Primer 2K and allow primer to dry.

GUNITE OR SHOTCRETE

New gunite or shotcrete must be fully cured and free of all rebound or poorly bonded aggregates.

EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS)

1. Refasten or re-adhere any delaminated or loose expanded polystyrene (EPS) insulation according to manufacturer's approved methods.
2. Replace or patch any missing or damaged EPS to its original condition.
3. Finish with a trowel acrylic finish to match and blend with existing texture.
4. Allow repaired areas to fully cure.
5. Refer to the EIFS manufacturer's product data sheets for appropriate repair and procedures.
6. Prime chalky surfaces with Thoro® Primer 2K

BRICK AND POROUS STONE MASONRY

1. After surface cleaning, remove or rake out all soft, loose, unbonded, friable mortar.
2. Repoint or regrout the joints with Dryjoint® (see Form No. 1019075). Allow new mortar to fully cure.

EXISTING ACRYLIC COATINGS

1. Sand or grind the edges of the remaining coating to ensure adhesion and a smooth transition to the new material. Sand the edges of the area to a featheredge.
2. Wash down and allow to completely dry.
3. Prime chalky surfaces with Thoro® Primer 2K.

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 Thorolastic® Knife Grade or Brush Grade elastomeric patching material (see Form No. 1019113).
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 Degussa 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 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

THOROcoat®

Caution

Thorocoat® contains calcium carbonate, titanium dioxide, mica, ethylene glycol, precipitated silica, calcium silicate, aluminum hydroxide, crystalline silica, ester alcohol, propylene glycol, 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® Smooth – 0.90 lbs/gal or 107 g/L

Thorocoat® Fine – 0.57 lbs/gal or 68 g/L

Thorocoat® Coarse – 0.53 lbs/gal or 63 g/L

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

Degussa Building Systems

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