

PRODUCT DATA

9 09 97 23 **Elastomeric Coatings**

THOROLASTIC®

Water-based, 100% acrylic, elastomeric, waterproof coating

Description

Thorolastic® is a high-build, water-based, elastomeric, 100% acrylic, waterproof coating. It elongates over 300% to bridge dynamic cracks and retains its flexibility for years

Yield

50 – 100 ft²/gallon (1.2 – 2.4 m²/L) per coat, depending on substrate porosity and texture.

Theoretical film thicknesses are listed on page 3.

Packaging

5 gallon (18.9 L) pails

Color

Thorolastic® 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.

Features

- Available in smooth, fine, and coarse textures
- Over 300% ultimate elongation
- 98% elongation recovery
- Flexibility at very low temperatures
- Internally plasticized
- Resistant to wind-driven rain
- Breathable
- Carbon-dioxide diffusion barrier
- Excellent color retention and UV resistance
- High resistance to dirt pickup
- Recoatable
- VOC compliant
- Also available in algae resistant (A+) formula

Benefits

- Design versatility
- Bridges dynamic cracks
- Offers durable performance
- Suitable for all climates
- Retains flexibility for durable service
- Helps prevent water penetration into the substrate
- Allows water vapor to escape from the structure; prevents peeling and blistering
- 16 mils equal to 8" concrete cover
- Long-term durability, resists color fading
- Low maintenance
- Easy and cost efficient to maintain
- Environmentally friendly
- Versatility

Texture

Smooth, fine, coarse

Shelf Life

18 months when properly stored.

Storage

Store Thorolastic® in unopened containers in a clean, dry place away from direct sunlight until ready for use. Keep from freezing temperatures.

Where to Use

APPLICATION

- For protecting and decorating

LOCATION

- Vertical
- Exterior
- Above grade

SUBSTRATE

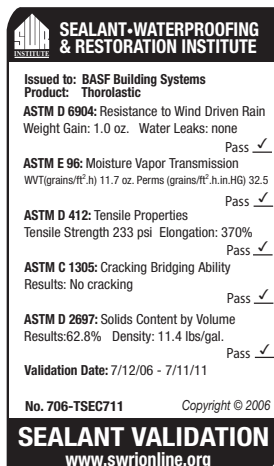
- Stucco
- Concrete structures
- Portland cement plaster
- Brick and concrete masonry units (CMU)
- EIFS



Technical Data

Composition

Thorolastic® contains water, acrylic emulsion, fillers and other proprietary ingredients.



Test Data

THOROLASTIC® SMOOTH

| PROPERTY | RESULTS | TEST METHODS |
|------------------------------------|---------------------------|----------------------|
| Density , lbs/gal (kg/L) | 11.2 – 12.2 (1.34 – 1.46) | ASTM D 1475 |
| Solids* , % | | ASTM D 5201 |
| By weight | 64.2 | |
| By volume | 50 | |
| Viscosity , KU | 127 – 135 | ASTM D 562 (Stormer) |
| VOC content , lbs/gal (g/L) | 0.32 – 0.42 (38 – 50) | ASTM D 3960 |

*Value for white

THOROLASTIC® FINE

| PROPERTY | RESULTS | TEST METHODS |
|------------------------------------|---------------------------|----------------------|
| Density , lbs/gal (kg/L) | 10.2 – 11.2 (1.22 – 1.34) | ASTM D 1475 |
| Solids , % | | ASTM D 5201 |
| By weight | 65.5 | |
| By volume | 56 | |
| Viscosity , KU | 127 – 135 | ASTM D 562 (Stormer) |
| VOC content , lbs/gal (g/L) | 0.32 – 0.42 (38 – 50) | ASTM D 3960 |

THOROLASTIC® COARSE

| PROPERTY | RESULTS | TEST METHODS |
|------------------------------------|--------------------------|----------------------|
| Density , lbs/gal (kg/L) | 9.9 – 10.9 (1.19 – 1.31) | ASTM D 1475 |
| Solids , % | | ASTM D 5201 |
| By weight | 64.5 | |
| By volume | 58 | |
| Viscosity , KU | 127 – 135 | ASTM D 562 (Stormer) |
| VOC content , lbs/gal (g/L) | 0.32 – 0.42 (38 – 50) | ASTM D 3960 |

THOROLASTIC® SMOOTH APPLIED AT 16 MILS DFT

| PROPERTY | RESULTS | TEST METHODS |
|--|------------|--------------|
| Ultimate elongation , % | 344 | ASTM D 412 |
| Elongation recovery , % | | ASTM D 412 |
| After 10 minutes | 96.9 | |
| After 24 hours | 98.4 | |
| Ultimate tensile strength , psi (MPa) | 220 (1.5) | ASTM D 412 |
| Crack bridging , mils (mm) | | PR EN 1062-7 |
| -77° F (-60° C) | 12 (0.3) | |
| 32° F (0° C) | 19.5 (0.5) | |
| 73° F (23° C) | 27.5 (0.7) | |
| Flexibility , in (mm) mandrel, at -30° F (-34° C) | 1/8 (3) | ASTM D 522 |
| Pull-off strength adhesion , psi (MPa) | 210 (1.4) | ASTM D 4541 |
| Wind-driven rain | Passes | TT-C-555B |
| Water-vapor permeance , perms | 10 | ASTM D 1653 |

Test Data

THOROLASTIC® SMOOTH APPLIED AT 16 MILS DFT

| PROPERTY | RESULTS | TEST METHODS |
|---|-----------|--------------------|
| Carbon-dioxide diffusion | | PR EN 1062-6 |
| R (equivalent air layer thickness), ft (m) | 263 (80) | |
| Sc (equivalent concrete thickness), in (cm) | 8 (20) | |
| 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, 60 cycles | Passes | ASTM C 67 |
| Salt spray resistance, 300 hrs | Passes | ASTM B 117 |
| Dirt pick-up, % after 6 months exposure | 94 .33 | ASTM D 3719 |
| Mildew resistance | No growth | ASTM D 3273 / 3274 |

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

Theoretical Film Thicknesses

| COVERAGE RATE FT ² /GAL (M ² /L) | SMOOTH | | FINE | | COARSE | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | WET MILS (MICRONS) | DRY MILS (MICRONS) | WET MILS (MICRONS) | DRY MILS (MICRONS) | WET MILS (MICRONS) | DRY MILS (MICRONS) |
| 50 (4.6) | 32 (813) | 16 (406) | 32 (813) | 18 (457) | 32 (813) | 19 (483) |
| 80 (7.4) | 20 (508) | 10 (254) | 20 (508) | 11 (279) | 20 (508) | 12 (305) |
| 100 (9.3) | 16 (406) | 8 (203) | 16 (406) | 9 (229) | 16 (406) | 9 (229) |

Actual DFT to achieve the stated performance properties is 16 mils (406 microns).

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 (brand) Knife Grade or Brush Grade patching compound. Treat cracks larger than 1/4" as expansion joints and fill with appropriate BASF Construction Chemicals sealant.

CONCRETE

1. New concrete must be cured a minimum of 28 days before application.
2. In addition to laitance and all contaminants, remove all form-release agents or previously applied sealers.

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® CM Primer (see Form No. 1019088). To check for proper adhesion, a test area is recommended.

BRICK AND 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 coating application.
3. Repoint or fill all voids with the appropriate Thoro® patching product.
4. New CMU must have a base coat of Thoro® Block Filler (see Form No. 1019087) or Thoro® Intermix.

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 14 days at 70° F (21° C) and 50% relative humidity or until the pH level has reached 10. 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.

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 sheet for appropriate repair and procedures.

EXISTING ACRYLIC COATINGS

1. Sand or grind the edges of the remaining coating to ensure adhesion and a smooth transition of 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.

CRACK PREPARATION AND PRETREATMENT

1. For cracks larger than 1/32" (0.8 mm) and up to 1/16" (1.6 mm), use Thorolastic® Brush Grade, an acrylic crack filler (see Form No. 1019033).
2. For cracks larger than 1/16 by 1/16" (1.6 by 1.6 mm) but less than 1/4 by 1/4" (6 by 6 mm), use Thorolastic® Knife Grade, an acrylic crack filler (see Form No. 1019033).
3. If using products other than Thorolastic® Knife Grade or Brush Grade, always apply a test application in a low visibility area to ensure compatibility with patching products.
4. For moving cracks larger than 1/4 by 1/4" (6 by 6 mm), use an internally plasticized polyurethane sealant. Consult with sealant manufacturer to ensure compatibility. Always apply a test application in an inconspicuous location to ensure compatibility and aesthetic approval.

Mixing

1. Mechanically mix Thorolastic® at slow speed with a drill and mixing paddle to ensure color uniformity and aggregate disbursement, and 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. Pretreat all cracks as detailed in the crack preparation section.
2. Apply Thorolastic® in 2 coats by brush, spray, roller, or spray-and-backroll. Coarse texture can only be applied by spraying technique.
3. Apply Thorolastic® in 2 coats to achieve a total dry-film thickness (DFT) of 16 – 20 mils (406 – 508 microns).
4. Proper wet-film thickness (WFT) must be maintained 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. The objective is to obtain a pinhole-free, consistent film build on all treated surfaces.

ROLLER

1. Use a quality 3/4 – 1-1/4" (19 – 32 mm) 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 a uniform mil thickness.
4. Cross roll to achieve a uniform thickness and maintain a wet edge. Backroll material in 1 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. Spray application is recommended for the Coarse Texture.
2. Equipment is available for spraying all grades of Thorolastic®. Typically, for smooth, large areas airless equipment is required. For fine and coarse textures, use equipment capable of handling large perlite aggregate, such as rotator/stator or diaphragm pumps with 20 – 40 psi (0.14 – 0.28 MPa) air pressure at the gun. Contact Technical Service for recommendations.
3. Backrolling is recommended with spray application.

Drying Time

1. Drying time to touch is 6 hours at 70° F (21° C) and 50% relative humidity when material is applied at 18 – 20 mils (457 – 508 microns).
2. Recoat in a minimum of 12 – 24 hours.
3. Thorolastic® requires ultraviolet (UV) light to cure.
4. Drying time will be significantly extended in cool or damp weather.
5. Protect the freshly applied Thorolastic® coating from rain and condensation for a minimum of 24 hours after application.

Clean Up

Clean all tools and equipment with soap and water immediately after use. Clean any splatters or spills with water before material dries. Once dried, Thorolastic® will be difficult to remove and may require mechanical removal.

For Best Performance

- Do not apply to frozen or frost-covered surfaces or at temperatures (substrate or ambient) at or below 40° F (4° C) or when temperatures are expected to drop below 40° F (4° C) within 24 hours after application.
- Do not apply if rain is expected within 24 hours of application.
- Do not use on interior applications, undersides of balconies, soffits, below-grade applications or for immersion service.
- Elongation and crack-bridging abilities are reduced with textured grades.
- Do not use where there may be hydrostatic water transfer from the backside of the substrate.
- Do not apply to improperly sealed substrates that are subject to rising dampness or migrating moisture.
- Do not apply Thorolastic® to sloped (less than 60°) or horizontal surfaces.
- Application of nonelastomeric topcoats could reduce the performance properties of Thorolastic®.
- 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.
- Adhesion should be verified by a test area. 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.
- 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

THOROLASTIC®

Caution

Thorolastic® contains ethylene glycol, zinc oxide and crystalline quartz silica.

Risks

May cause skin, eye or respiratory irritation. Ingestion may cause irritation. Repeated ingestion may cause kidney damage.

Precautions

Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Keep container closed when not in use. DO NOT take internally. Use only with adequate ventilation. 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 material listed by the state of California as known to cause cancer, birth defects or other reproductive harm.

VOC Content

0.32 – 0.63 lbs/gal or 38 – 75 g/L, or less water and exempt solvents.

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

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