

# MasterProtect® HB 400

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

FORMERLY THOROCOAT®

## PACKAGING

5 gallon (18.9 L) pails

## YIELD

See charts on page 3

## STORAGE

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

## SHELF LIFE

18 months when properly stored

## VOC CONTENT

Less than 100 g/L  
less water and exempt solvents

## DESCRIPTION

MasterProtect HB 400 is a water-based, high-build, 100% acrylic waterproof coating for above-grade concrete, masonry, stucco and EIFS.

## PRODUCT HIGHLIGHTS

- Available in a broad range of colors and textures for design versatility
- Resists wind-driven rain, helps prevent water penetration into the substrate
- Breathable to allow water vapor to escape
- Excellent adhesion, bonds securely to substrate for long-term durability
- UV resistance provides excellent color retention for a long lasting attractive finish
- Excellent hiding power
- Textured formulations help improve aesthetics of irregular substrates
- Effective carbon dioxide diffusion barrier, protects embedded steel from corrosion
- Freeze/thaw resistant, suitable for cold climates
- Low VOC content for broad compliance across all regions

## APPLICATIONS

- Exterior
- Vertical and overhead surfaces
- Above-grade
- Protecting and waterproofing

## SUBSTRATES

- Concrete
- Masonry
- Cement plaster
- Stucco
- EIFS
- Existing Coatings

## HOW TO APPLY

### SURFACE PREPARATION

1. Surfaces should be clean and sound and free of all bond-inhibiting contaminants.
2. Concrete substrates should be fully cured.
3. Repair any holes, spalled and damaged concrete with appropriate Master Builders Solutions repair materials. Allow appropriate cure time prior to coating.
4. Remove any protruding concrete accessories and smooth out any surface irregularities.
5. High-pressure power wash surface (or abrasive blast on hard, dense surfaces) to create a profile of SP 3, per ICRI Guide 310.2.
6. Some stains may require chemical removal. Neutralize any cleaning compounds used and rinse with clean water.
7. Check adhesion of old coatings according to ASTM D 3359, Measuring Adhesion by Tape Test Method A.
8. Remove any blisters or delaminated areas and sand edges to smooth rough areas and provide transition to old paint areas.

**Technical Data**

**Composition**

MasterProtect HB 400 is a water-based, high-build, 100% acrylic waterproof coating.

**Compliances**

- Alberta Transportation - Type 3 sealer

**Test Data**

MASTERPROTECT HB 400 SMOOTH

| PROPERTY                       | RESULTS               | TEST METHOD          |
|--------------------------------|-----------------------|----------------------|
| <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) |

MASTERPROTECT HB 400 FINE

| PROPERTY                       | RESULTS               | TEST METHOD          |
|--------------------------------|-----------------------|----------------------|
| <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>Gloss, gloss units</b>      | <3                    | ASTM D 523           |

MASTERPROTECT HB 400 COARSE

| PROPERTY                       | RESULTS               | TEST METHOD          |
|--------------------------------|-----------------------|----------------------|
| <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) |

MASTERPROTECT HB 400 SMOOTH

| PROPERTY                                 | RESULTS  | TEST METHOD        |
|--|--|--------------------|
| <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>      | 23   | ASTM D 1653        |
| <b>Moisture resistance,</b>              | Meets requirement: no blistering, loss of adhesion, or discoloration | TT-C-555B          |

### Test Data

MASTERPROTECT HB 400 SMOOTH, CONTINUED

| PROPERTY  | RESULTS                        | TEST METHOD   |
|---|--------------------------------|---|
| <b>Salt spray (fog) resistance,</b><br>300 hrs    | Passed                         | ASTM B 117  |
| <b>Carbon-dioxide diffusion</b>                   |                                | PR EN 1062-6  |
| R (equivalent air-layer thickness), ft (m)        | 1,318 (402)                    |   |
| Sc (equivalent concrete thickness), in (cm)       | 39 (100)                       |   |
| <b>Flexibility,</b><br>1" mandrel                 | No cracking                    | ASTM D 522  |
| <b>Dirt pick-up, %</b><br>after 6 months exposure | 92.02; passed                  | ASTM D 3719   |
| <b>Sand abrasion resistance,</b><br>at 3,000 L    | Passed                         | ASTM D 968 Method A   |
| <b>Impact resistance,</b><br>at 30 in-lbs         | Passed                         | ASTM D 2794   |
| <b>Fungus resistance</b>                          | No growth<br>Meets requirement | ASTM D 3273   |
| <b>Mildew resistance</b>                          |                                | Fed Spec. TT-P-29<br>(Fed. Std. 141, Method 6152<br>and 6271.1) |
| Aspergillus oryzae, 7 days                        | No growth                      |   |
| Aspergillus niger, 21 days                        | No growth                      |   |
| <b>Surface burning characteristics</b>            |                                | ASTM E 84   |
| Flame spread                                      | 1                              |   |
| Smoke   | 4                              |   |
| Fuel contribution                                 | 7                              |   |
| <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,<br>FT <sup>2</sup> /GAL/COAT (M <sup>2</sup> /L) | WET FILM,<br>MILS (MM) | DRY FILM,<br>MILS (MM) |
|------------------------------|--|------------------------|------------------------|
| <b>Smooth Recoat</b>         | 75–125 (1.84–2.45)                                     | 22–13 (0.559–0.33)     | 8–5 (0.203–0.127)      |
| <b>Fine or Coarse Recoat</b> | 75–125 (1.84–2.45)                                     | 22–13 (0.559–0.33)     | 11–6 (0.279–0.152)     |
| <b>Smooth</b>                | 75–100 (1.84–2.46)                                     | 22–16 (0.559–0.406)    | 8–6 (0.203–0.152)      |
| <b>Fine or Coarse</b>        | 75–100 (1.84–2.46)                                     | 22–16 (0.559–0.406)    | 11–8 (0.279–0.203)     |

\*Coverages are estimates for smooth, dense concrete. Coverages will vary on porous or textured surfaces.

- Treat cracks greater than 1/32" with MasterProtect FL 746 or MasterProtect FL 748. Treat cracks larger than 1/4" as expansion joints and fill with appropriate Master Builders Solutions sealant.
- New CMU must have a base coat of MasterProtect FL 749.

### MIXING INSTRUCTIONS

- Prior to use, mix MasterProtect HB 400 at slow speed with drill and mixing paddle to ensure uniform color and aggregate disbursement and to minimize air entrapment.

- In multi-pail applications, mix the contents of each new pail into the partially used previous pail to ensure color consistency and smooth transitions from pail to pail.

### APPLICATION

- MasterProtect HB 400 is meant to be applied as a two-coat system, achieving a total dry-film thickness (DFT) of 12–16 mils (0.3 mm–0.4 mm). For re-coat applications one coat applied at 11–5 mils (0.279–0.127) DFT.

- Apply MasterProtect HB 400 by brush, spray, roller, or spray-and-backroll. Spray apply MasterProtect HB 400 Coarse for best results.
- Maintain proper uniform wet-film thickness (WFT) during application to ensure the performance characteristics desired (see yield rates section).
- Always work to a natural break and maintain a wet edge during application.
- For uniformity of color and texture, application techniques must be consistent throughout the project.

#### ROLLER

1. Use a quality ¾"– 1-1/4" nap roller cover.
2. Completely saturate the roller and keep it loaded with the coating to build the required mils. Never dry roll.
3. Cross roll, maintaining a wet edge, to achieve uniform thickness. Backroll in one direction for consistent appearance.

#### SPRAY

1. Equipment is available for spraying all grades of MasterProtect HB 400. For fine and coarse textures, it is necessary to use a heavy-duty sprayer designed for the application of coatings that contain sand particles. Contact equipment manufacturer for further recommendations.
2. For smooth and fine grades, backrolling in one direction after spray application is recommended to achieve uniform texture and film thickness.

#### BRUSH

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

#### DRYING TIME

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

To touch: 1–2 hours

To recoat: minimum of 6 hours

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

#### FOR BEST PERFORMANCE

- Do not apply when substrate or ambient temperature 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.
- Not intended for use as a horizontal traffic-bearing coating.
- 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.
- Color formulas containing organic colorants are susceptible to fading in exterior applications. Refer to Technical Support for guidance.
- Do not thin the material.
- For professional use only; not for sale to or use by the general public.
- Make certain the most current versions of product data sheet and SDS are being used; visit [www.master-builders-solutions.com/en-us](http://www.master-builders-solutions.com/en-us) to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by Master Builders Solutions personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

#### HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting [www.master-builders-solutions.com/en-us](http://www.master-builders-solutions.com/en-us), e-mailing your request to [mbsbscst@mbcc-group.com](mailto:mbsbscst@mbcc-group.com) or calling 1(800)433-9517. Use only as directed.

**IN CASE OF EMERGENCY: Call CHEMTEL +1 (800) 255-3924 or if outside the US or Canada, +1 (813) 248-0585**

#### CLEAN UP

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

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#### LIMITED WARRANTY NOTICE

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