



ChemMasters

SPECIALTY CONSTRUCTION PRODUCTS

DURAFLOW 450 mMa

SEMI SELF-LEVELING
METHYL METHACRYLATE BODY COAT



P R O D U C T D A T A

DESCRIPTION

Duraflow 450 mMa is a three component, semi self-leveling, methyl methacrylate (mMa) body coat applied at 1/16 - 1/8 inch (0.32 - 0.64 cm) over a properly primed substrate. The three basic components that make up **Duraflow 450 mMa** are **Duraflow 450 mMa Resin**, **Duraflow mMa Filler** and **Duraguard mMa Catalyst**.

An accelerator additive, **Duraguard mMa Accelerator** is available for use in cold temperatures (below 40°F). In areas where the floor will be at below freezing temperatures when in use, it is recommended that **Duraflow 455 mMa** be installed instead of **Duraflow 450 mMa**.

USES

- Interior or exterior, new or older, horizontal concrete surfaces
- Floors subjected to aggressive chemicals, animal or vegetable products and by-products
- Industrial, commercial or warehousing applications
- Resurfacing and leveling spalled, cracked or worn surfaces
- Food processing facilities, packing houses, canneries, wineries, dairies, breweries and bottling plants, commercial kitchens and supermarkets

ADVANTAGES

- Excellent flowability; shows no trowel marks
- Sets rapidly down to -20°F (-5°C) for minimal downtime
- Standard **Duraflow 450 mMa** colors are natural, light gray, dark gray, and tile red. Other colors available subject to minimum order requirements.
- Superior compressive, tensile and flexural strengths; withstands high levels of abrasion and impact loading
- Exceptional resistance to acids and alkalis
- Accepts decorative broadcasts of pigmented aggregates or chips to create highly decorative flooring systems.

TECHNICAL DATA

V.O.C. Content 0 gm/L
 U.S.D.A. and F.D.A. approved for incidental contact
 Density 8.17 lbs./gal 0.98 g/cm³

Resin Viscosity (ASTM D-2393)	300-350 cps
Solids	100%
Application Temperature	-20 to 95°F (-18 to 35°C)
Pot Life	10-20 minutes
Cure Time	1-2 hours
Hardness (ASTM D-2240), Shore D	62
Water Absorption (ASTM D-570)	<0.1%
Elongation @ Break (ASTM D-628)	35%
Compressive Strength (ASTM C 109)	6500 psi (45 MPa)
Tensile Strength (ASTM C 307)	2000 psi (14 MPa)
Flexural Strength (ASTM C 348)	2800 psi (19 MPa)
Coef. Thermal Expansion (VDE 0304)	3.5 ¹⁰⁻⁵ /°F (6.3 ¹⁰⁻⁵ /°K)
Vicat Temperature (DIN 53460)	140°F (60°C)

CHEMICAL RESISTANCE

Distilled water	R	Saltwater	R
ALKALIES			
Ammonia 10%	R	Caustic Soda 50%	R
Potassium Hydroxide 50%	R		
ACIDS			
Acetic Acid 10%	R	Acetic Acid 30%	C
Chromic Acid 20%	R	Citric Acid 30%	R
Formic Acid 10%	C	Hydrochloric concentrate	R
Lactic Acid 30%	R	Nitric Acid 10%	R
Nitric Acid 30%	C	Oxalic Acid 10%	R
Phosphoric Acid 40%	R	Sulfuric Acid 50%	C
SALTS/SALT SOLUTIONS			
Ammonium Chloride	R	Ammonium Sulfate	R
Calcium Chloride	R	Potassium Chloride	R
Sodium Chloride	R	Sodium Carbonate	R
Sodium Hypochlorite	R	Sodium Sulfate	R
PETROCHEMICALS			
Crude Oil	R	Diesel Fuel	R
Gasoline, high octane	C	Kerosene	R
Mineral Oil	R	Paraffin Oil	R
Petroleum	R	White Spirits	R

Key: R= Recommended, C= Consult ChemMasters technical service staff. See Duraguard 420 data sheet if higher chemical resistance is required.

PACKAGING

Duraflow 450 mMa Resin is available in 2.5 gallon (9.5 Liter) pails or 55 gallon (207.9 liter) drums. **Duraguard mMa Catalyst** is packaged in 5 pound (2.3 kg) pails packaged 4 to a case or 55 pound (24.9 kg) boxes. **Duraflow mMa Filler** is packaged in 50 pound (22.7 kg) bags. **Duraguard mMa Accelerator** is packaged in 1 gallon (3.7 liter) pails. Resin, catalyst, filler and accelerator are sold separately.



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Revised Aug 2007

ESTIMATING GUIDE

A standard mixing unit of **Duraflow 450 mMa** is comprised of 2.5 U.S. gallons (9.5 Liters) of resin, a 50 pound (22.9 Kg) bag of **Duraflow mMa Filler**, 10 ounces of **Duraguard mMa Catalyst** (@ 70°F). Typical coverage for this mixing unit is

Duraflow 450 mMa @ 1/8" (125 mils) 35-40Ft.²/unit

DIRECTIONS

SURFACE PREPARATION: The surface must be primed with **Duraguard 400 mMa**, tack-free and clean.

MIXING: The amount of **Duraguard mMa Catalyst** required for each gallon of **Duraflow 450 mMa Resin** is dependant on the surface temperature of the floor. Mixing too much catalyst will cause the material to set extremely quickly and may result in improper bonding to the previous coats of methyl methacrylate. Insufficient catalyst may prevent proper curing. Refer to Duraguard mMa Mixing Chart to ensure proper catalyst dosing. **Duraguard mMa Accelerator** is used in applications at temperatures below 40°F. Refer to Duraguard mMa mixing chart for details on dosing of these components.

Duraflow 450 mMa must be thoroughly mixed before application. Add the appropriate amount of **Duraguard mMa Catalyst** for each gallon (liter) of **Duraflow 450 mMa Resin**. Add the appropriate amount of **Duraguard mMa-Accelerator** if applicable. Mix for 30 seconds using a mechanical drill equipped with a spiral type mixing prop. While continuing to mix, slowly add approximately 20 pounds (9 kg) of **Duraflow mMa Filler** for each gallon of resin. Mix until thoroughly blended, but no longer than 2 minutes. Take care not to incorporate excess air into the mix.

APPLICATION: Spiked shoes are strongly recommended since they allow free movement across the surface and serve to disperse small air bubbles that may be present. Immediately pour all of the mixed **Duraflow 450 mMa** onto the primed concrete. Spread with a guaged rake set at 1/8 inch. Use a porcupine roller to release any entrapped air and to help level the material. Work quickly, material sets rapidly. Continue to pour fresh batches of **Duraflow 450 mMa** into previously applied material being sure to maintain a wet edge. Never pour fresh material into material on the floor that has lost its wet edge. Always work to a termination or natural break point in the floor (i.e., control joints, expansion joints, door thresholds or preset furring or terrazzo strips).

After **Duraflow 450 mMa** is placed, a broadcast application is often used to build the thickness of the system or to provide a decorative finish. Blended sand or pigmented quartz aggregate can be broadcast into the fresh **Duraflow 450 mMa**. Broadcast the sand or aggregate to rejection within 10

minutes of product application. Alternatively, colored chips in assorted colors can be broadcast into a pigmented coat of **Duraflow 450 mMa** to create a decorative surface.

After **Duraflow 450 mMa** thoroughly dries (1-2 hours), sweep off any loose aggregate or chips before applying a topcoat(s) of **Duraguard 420 mMa** or **Duraguard 425 mMa**.

CLEANUP

Clean tools and equipment before material dries and sets with xylene or xylol.

LIMITATIONS

- **Duraflow 450 mMa** is not designed for application in direct sunlight. The topping may blister or pinhole due to out gassing of air in the concrete and high substrate temperatures.
- **Duraflow 450 mMa** is exothermic, generating a large amount of heat when initially mixed. A large mass of material can ignite. Immediately after mixing pour all of the material onto the floor to dissipate the heat.
- **Duraflow 450 mMa** is extremely fast setting. Floors must be completely prepared and ready before material is mixed.
- Good ventilation of the repair area is strongly recommended to aid in the thorough cure of **Duraflow 450 mMa**.

STORAGE

Store factory sealed containers of unmixed material at 50°-75°F (10°-24°C) temperatures away from direct sunlight and sources of heat. Temperatures in excess of 75°F (24°C) cause premature aging of the material. Shelf life of properly stored material is one year from date of manufacture.

CAUTION

FLAMMABLE LIQUID: Keep away from heat or open flames. Use with adequate ventilation. May cause skin, eye and respiratory tract irritation. Do not take internally. Keep out of reach of children.

All label precautions and MSDS must be fully understood before using this product.

This Product is Formulated and Labeled for Industrial and Commercial Use Only

FOR BEST RESULTS AND SAFEST USAGE, USER IS SPECIFICALLY DIRECTED TO CONSULT THE CURRENT MATERIAL SAFETY DATA SHEET AND PACKAGE LABEL FOR THIS PRODUCT

We warrant our products to meet our published specifications and to be free from defects in materials and workmanship to the acceptable quality levels defined in these specifications. If acceptable quality levels are not specified, the acceptable quality levels will be those normally supplied by us for the product. We make no guarantee of the results to be obtained from the use of our products. The determination as to the adaptability of any of our products to the specific needs of the Buyer is solely Buyer's prerogative and responsibility. We are glad to offer suggestions on the use of our products. Nevertheless, there are no warranties given except such expresses warranties offered in connection with the sale of a particular product. Our liability shall be limited to replacement of, or refund of an amount not to exceed the purchase price attributed to, the goods as to which such claim is made. Our selection of one of these alternatives shall be Buyer's exclusive remedy. IN NO CASE SHALL WE BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES, EVEN IF WE HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, GUARANTEES, CO-CONDITIONS AND REPRESENTATIONS, EITHER EXPRESSED OR IMPLIED, WHETHER ARISING UNDER ANY STATUTE, COMMON LAW, USAGE OR TRADE, COURSE OF DEALING OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.