



ChemMasters

SPECIALTY CONSTRUCTION PRODUCTS

DURAFLOW 455 MMA

SEMI SELF-LEVELING
METHYL METHACRYLATE BODY COAT
FOR FREEZER FLOORS



PRODUCT DATA

DESCRIPTION

Duraflow 455 mMa is a three component, semi self-leveling, methyl methacrylate (MMA) body coat applied at 1/8 - 1/4 inch (3 - 6 mm) over a properly primed substrate. Duraflow 455 mMa is specifically designed for use on floors that will be in service a below freezing temperatures. The three basic components that make up **Duraflow 455 mMa** are **Duraflow 455 mMa Resin**, **Duraflow mMa Filler** and **Duraguard mMa Catalyst**.

An accelerator additive, **Duraguard mMa Accelerator** is available for use in cold temperatures installations (below 40°F).

USES

- Overlays for exterior concrete such as parking structures or bridge decks
- Freezer floors subjected to aggressive chemicals, animal or vegetable products and by-products
- Resurfacing and leveling spalled, cracked or worn surfaces in coolers or freezers
- Floors subjected to constantly cold temperatures in food processing facilities, packing houses, canneries, wineries, dairies, breweries and bottling plants, etc.

ADVANTAGES

- Excellent flowability; shows no trowel marks
- Sets rapidly down to -20°F (-5°C) for minimal downtime
- Standard **Duraflow 455 mMa** colors are natural, light gray, dark gray, and tile red. Other colors available subject to minimum order requirements.
- Superior flexibility to resist abrasion and impact even at below freezing temperatures.
- 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	8.35 lbs./gal
Resin Viscosity (ASTM D-2393)	600-800 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	30
Water Absorption (ASTM D-570)	<0.1%
Elongation @ Break (ASTM D-628)	35%
Compressive Strength (ASTM C 109)	4000 psi (27 MPa)
Tensile Strength (ASTM C 307)	1200 psi (8 MPa)
Flexural Strength (ASTM C 348)	1500 psi (10 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 455 mMa Resin is available in 5 gallon (18.9 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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ESTIMATING GUIDE

A standard mixing unit of **Duraflow 455 mM**a is comprised of 2.5 U.S. gallons (9.5 Liters) of resin, a 50 pound (22.9 Kg) bag of **Duraflow mM**a Filler, 12 ounces of **Duraguard mM**a Catalyst (@ 70°F). Typical coverage for this mixing unit is

Duraflow 455 mMa @ 1/8" (125 mils) 35-40 Ft.²/unit

DIRECTIONS

SURFACE PREPARATION: The surface must be primed with **Duraguard 400 mM**a and clean. For complete surface assessment and preparation guidelines, refer to ChemMasters Technical Bulletin, *Floor Preparation Guide*, or contact ChemMasters technical service staff. Allow primer to dry for 1-2 hours, before applying **Duraflow 455 mM**a.

MIXING: The amount of **Duraguard mM**a Catalyst required for each gallon of **Duraflow 455 mM**a 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 mM a Mixing Chart to ensure proper catalyst dosing. **Duraguard mM**a Accelerator is used in applications at temperatures below 40°F. Refer to Duraguard mM a mixing chart for details on dosing of these components.

Duraflow 455 mMa must be thoroughly mixed before application. Add the appropriate amount of **Duraguard mM**a Catalyst for each gallon (liter) of **Duraflow 455 mM**a Resin. Add the appropriate amount of **Duraguard mM**a 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 (9kg) of **Duraflow mM**a 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 455 mM**a onto the primed concrete. Spread with a guaged rake set at 1/8 to 1/4 inch depending on the specified thickness. Use a porcupine roller to release any entrapped air and to help level the material. Work quickly, material sets rapidly.

After **Duraflow 455 mM**a is placed, it must receive an application of broadcast sand or decorative flake to break the surface tension, allow for air release and build the thickness of the system. Broadcast the sand or pigmented aggregate to rejection within 10 minutes of product application. Alternatively, colored chips in assorted colors can be broadcast into

Duraflow 455 mMa to create a decorative surface.

After **Duraflow 455 mM**a thoroughly dries (1-2 hours), sweep off any loose aggregate or chips before applying a topcoat(s) of **Duraguard 430 mM**a or **Duraguard 435 mM**a.

CLEANUP

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

LIMITATIONS

- All methyl methacrylate installations require good ventilation. Proper ventilation assures that the mM a vapors, which are heavier than air are removed from the surface of the floor. Removal of these vapors allows the for a hard continuous film to form at the surface
- **Duraflow 455 mM**a 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 455 mM**a 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 455 mM**a is extremely fast setting. Floors must be completely prepared and ready before material is mixed.

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.