

# PERMASHIELD® DTM



ACRYLIC-URETHANE COATING



MADE IN U.S.A.

## PRODUCT DESCRIPTION:

ITEM NO. 6900, 6950

**PERMASHIELD DTM** is an all purpose, user friendly, water base *direct-to-metal* maintenance coating. It is a one-component, water-based, ZERO VOC, ZERO HAP, NANOPARTICLE, cross-linked acrylic/urethane coating. **Permashield DTM** exhibits outstanding resistance to harsh environmental conditions, and has great film hardness and superior resistance to impacts, abrasions, corrosion, humidity and UV exposure. It dries to a semi-gloss finish and can be tinted to any color.

**PERMASHIELD DTM** is great for indoor or outdoor applications. It can be used directly on coated ferrous surfaces and aluminum, galvanized steel and other non ferrous surfaces. **PERMASHIELD DTM** has superior adhesion can be used for interior or exterior, horizontal or vertical, painted or unpainted applications. Due to its ammonia free composition, it is an excellent choice for jobs where odor is a concern.

### FEATURES:

- ZERO VOC and ZERO HAPs
- Interior / Exterior Application
- Available in Clear, Semi-Gloss, & Low-Gloss
- Available in colors, Semi-Gloss, Low-Gloss & Eggshell
- Direct to Metal (DTM) Self-Priming over non ferrous surfaces
- Superior Block Resistance and Film Hardness
- Outstanding Dirt Pick-up Resistance
- Excellent Scrub Resistance
- Excellent Gloss and Adhesion
- Meets USDA Criteria

### BASIC USES:

- Structural Steel
- Mechanical Machinery
- Fencing
- Power Plants
- Piping
- Storage Facilities
- Processing Equipments
- Cold Storage Facilities
- Food Processing Plants

Product Qualifications	
Cal Green	Yes
OTC (Industrial Maintenance)	Yes
SCAQMD (Industrial Maintenance)	Yes
CARB (Industrial Maintenance)	Yes
LEED (New Construction)	Yes
LEED (New Schools / CHPS)	Yes

### PREPARATION:

*Surface preparation is critical to product performance.*

- The surface to be coated must be dry, clean, and free from all adhesion affecting contaminants like rust, stains, dirt, dust, oils, greases, waxes, solvents, loose materials, etc.
- Remove any loose paints and old coatings with marginal adhesion.
- All repairs necessary should be done before the application.

### TECHNICAL DATA:

Solids by Weight, Clear Base (ASTM D2369) .....33 ± 2%  
 Solids by Weight, White Base (ASTM D2369) .....47% ± 2%  
 Solids By Volume, Clear Base (ASTM D2697) .....43%  
 Solids By Volume, White Base (ASTM D2697) .....42%  
 Viscosity ..... 100 Kus  
 VOC Level ..... < 100 g/L  
 Weight .....9.5 -10 Lbs/gallon

pH .....8  
 Flash Point (ASTM D1310-82) .....None, Water Base  
 Finish@60° .....Gloss (White Base: 72°, Clear Base: 92°)

### FILM PROPERTIES:

Cross Hatch Adhesion  
 (ASTM D 3359) .....(5B) Pass 12 hr crosshatch  
 Oven Stability .....Passes 30 days @120°F  
 Corrosion Resistance  
 @2.0-2.5 mil DFT at 300 Hours .....No Effect  
 @3.0-3.5 mil DFT at 500 Hour .....No Effect  
 Humidity Resistance @100% RH, 100°F. (ASTM D2243-92) ..... 200 Hours  
 \*Rating 1-10, 10=Best

Water Immersion @100°F. (ASTM D870) .....200 Hours

Tensile Strength (ASTM D412) .....3800 psi  
 Adhesion (ASTM D3359) .....5A  
 Abrasion Resistance (ASTM D3389) C-402 Tabor Abrasion, w/1000gm, CS-17 wheel, 1000 cycles ..... 12 mg loss  
 Hardness, Pencil (ASTM D3363) Scratch/Gouge .....F/3H  
 Impact Resistance (ASTM D2794) .....120 lbs  
 Flexibility (ASTM D522) .....180° on 1/2" Madrel  
 Accelerated Weathering(ASTM D4587, QUV Type A Bulb, 500 Hours).....92%  
 Salt Spray Resistance (ASTM B117), CRS, 30 Day Cure .2,000 Hrs @4 DFT  
 Cyclic Prohesion Test (ASTM D5894), 2 cycles, 2000 Hours. ....(Aluminum)

Scrub Resistance (ASTM D2486) .....7000+  
 Rusting (ASTM D610) .....10\*  
 Blistering (ASTM D714) .....10\*  
 Corrosion (ASTM D1654) .....10\*

QUV Weathering (ASTM 4587-91) .....600 Hours  
 Outdoor Weathering Resistance .....Excellent  
 U-V Resistance .....Excellent

### Primers:

**Permashield DTM** is self-priming when applied directly over unsealed, clean and porous surfaces (180 grit surface texture), prepared non-ferrous metals and acrylic coated surfaces.

- Monobond RI:** Ideal for coating ferrous/non-ferrous metals
- Monochem 21:** Maximum adhesion for topcoating oil/solvent/alkyd/unknown base coatings. May sag on vertical applications.

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HIGH PERFORMANCE COATING 09960  
**PROTECTIVE COATINGS**

MONOPOLE INC.  
 UPDATED FEBRUARY 2018



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**Previously Painted Surfaces:**

Acrylic/latex Paint Remove all loose, peeling or poorly bonded paint. Surfaces must be mechanically cleaned and abraded, using 60-80 grit sandpaper. Dull glossy surfaces by sanding or by using a chemical deglosser. Clean surfaces by scrub washing with a solution of 1/2 cup TSP to one gallon of warm water. Pay special attention to areas where build-ups of dirt, grease and oil exist. These areas should be scrubbed clean.

Oil Based Paint: Apply one coat of **MONOCHEM 21** Epoxy Primer. For more information, follow the product data sheet or contact our technical service department. Removing all existing oil based coatings by sandblasting, shot blasting, or bead blasting is another option. This includes all chlorinated rubber and solvent based finishes such as oil based enamels, epoxies, urethanes, etc.

Concrete And Masonry: Must be cured at least 28 days. Level protrusions and repair cavities, voids, holes, cracks, etc. that are larger than 1/16". Dense, non-porous concrete should be grinded, sandblasted, abrasive blasted (ASTM D4259), acid etched (ASTM D4260), or primed with **MONOCHEM 21**.

Non-Ferrous Metals (galvanized, aluminum, stainless steel): Remove all oils or films with a neutral detergent or emulsion cleaner. Blast lightly with fine abrasives or conduct a light etching. Then rinse using a Zinc treatment and coat within 3 hours to avoid oxidation.

Ferrous Metals: Remove all the loose rust, dirt, grease or other contaminants by one of the following depending on the degree of cleanliness required. Blast SSPC-SP3; SSPC-SP2; SSPC-SP6; SSPC-SP7. Blast lightly with fine abrasives or conduct a light etching. Then rinse using Zinc treatment and apply a rust inhibitive primer within 3 hours. **PERMASHIELD 200** is recommended for direct to ferrous metal applications.

**APPLICATION:** (Mix well before using)

- Apply **PERMASHIELD DTM** with a brush, roller or airless sprayer.
- Brush: Polyester synthetic or natural bristle.
- Roller: Short nap 3/8" synthetic cover for smooth surfaces. Long nap synthetic cover for rough surfaces.
- Spray: Conventional Spray: Binks or equal.
- Airless Spray: Graco or equal. Pump ratio 30:1 or higher, 206-718 gun with a fluid tip of 0.13-0.017 or larger orifice. The fluid pressure should be approximately 2000-3000 psi.
- Apply two coats of **PERMASHIELD DTM** to ensure a sealed and uniform finish.

**COVERAGE RATE:**

*Depending on method of application:*

Smooth Surfaces.....300-400 sq/ft/gal  
 Rough Surfaces .....200-250 sq/ft/gal

**Dry Time @70°F.**

- To touch: 30 minutes
- To recoat: 2-3 hour

**WHEN NOT TO USE PERMASHIELD DTM**

- Do not apply to surfaces with rust. A rust encapsulating primer is required.
- Do not apply over poorly bonded paint.
- Do not apply in windy conditions or if rain is expected within 8 hours.
- Do not apply to a surface exhibiting hydrostatic pressure.
- Do not apply if surface temperature is over 90°F. or below 55°F
- Do not apply if surface pH level is above 9.

**CAUTION:**

- Use with adequate ventilation.
- Keep from freezing.
- Keep out of reach of children.

**TINTING:**

**PERMASHIELD DTM** is packaged in both clear and white bases and can be tinted to any color using universal colorants. Up-to 12 ounces of colorant can be added to the clear base and up-to 6 ounces of colorant can be added to the white base.

**NOTE:** ALWAYS apply a test patch to check for adhesion, compatibility and proper results. Responsibility for determining the adhesion of **PERMASHIELD DTM** to an existing finish rests with the applicator. Do not apply **PERMASHIELD DTM** over poorly adhering paints.

**CLEAN UP:**

Clean equipment immediately after use (while still wet) with soap and water.

**PACKAGING:**

**PERMASHIELD DTM** is packaged in one-gallon cans and 5-gallon pails.

**ITEM NO. 6900: PERMASHIELD DTM CLEAR BASE**

\*SHORT-FILL: 12 ounces per gallon (116 ounces/gallon)

**ITEM NO. 6950 PERMASHIELD DTM WHITE BASE**

\*SHORT-FILL: 6 ounces per gallon (122 ounces/gallon)

**SHELF LIFE:**

**PERMASHIELD DTM** will remain usable for two years from the manufactured date in its original unopened container stored at room temperature.

WARRANTY INFORMATION: MONOPOLE believes that the information in this publication is an accurate description of the typical characteristics and/or uses of the product or products. It is your responsibility to thoroughly test the product in your specific application to determine its safety and performance capabilities. Since use of this product is beyond our control, MONOPOLE, INC. cannot assume any risk or liability for results obtained when not used according to our specifications and directions. Unless MONOPOLE provides a specifically written statement of fitness for a particular use, MONOPOLE'S sole warranty is that the product will meet its current sales specifications. MONOPOLE disclaims any other expressed or implied warranties, including the warranty of merchantability and fitness for use. Your exclusive remedy and MONOPOLE'S sole liability for breach of warranty is limited to a refund of the purchase price or replacement of any product proven to be defective. In no event shall the seller be liable for any loss of profits or other consequential damages, including labor charges.