



# TECHNICAL DATA SHEET

## BARACADE® M.E.

### Silicone Micro Emulsion Water Repellent

07190  
WATER REPELLENTS  
THERMAL AND MOISTURE PROTECTION

TAMMS INDUSTRIES  
NOVEMBER 2003 (Replaces 1/00)

- DESCRIPTION:** BARACADE M.E. is a solvent free micro emulsion concentrate. When mixed with water, BARACADE M.E. self emulsifies into a unique product capable of repelling water on concrete and masonry surfaces. BARACADE M.E. is a breathable, non staining, colorless material which penetrates deep into the surface to seal out moisture, reduce efflorescence and minimize the damaging effects of freeze-thaw cycles. BARACADE M.E. protects without altering the appearance or texture of the treated surface and improves resistance to airborne dirt, smog and other air pollutants. BARACADE M.E. is diluted with potable water and can be used effectively in two concentrates. BARACADE M.E./9, which is mixed 9 parts water to 1 part BARACADE M.E. is specifically designed for use on vertical surfaces. BARACADE M.E./4.5 is mixed 4.5 parts water to 1 part BARACADE M.E. and is formulated for use on horizontal surfaces.
- USES:** BARACADE M.E. is formulated to protect vertical and horizontal surfaces, above grade. BARACADE M.E. works effectively on concrete, brick and masonry surfaces.

BARACADE M.E./9 is used on vertical applications including precast, prestressed, exposed aggregate, poured-in-place and concrete block. BARACADE M.E./4.5 is used on horizontal applications including sidewalks, ramps, parking decks, bridge decks and industrial floors.

- COMPOSITION AND MATERIAL:** BARACADE M.E. is an oligomeric alkyl alkoxy siloxane concentrate.
- COMPLIANCE:** BARACADE M.E. complies with the national AIM VOC emission regulations. State and local VOC regulations may vary.
- SURFACE PREPARATION:** Cure new concrete 28 days before application. Surface must be clean, dry, open capillary, structurally sound, free of curing or form release compounds, and other contaminants that will prevent the proper penetration of BARACADE M.E. Prior to application, joints or cracks in movement must be properly sealed with an elastomeric joint sealant. Non-movement cracks or voids wider than 1/64 inch (0.4 mm) must be filled with a suitable patching material. Do not apply BARACADE M.E. to a wet surface. Surfaces must dry a minimum of 24 hours following rain or other moisture. Install caulking before BARACADE M.E. application. Mask or protect adjacent surfaces, including grass, plants, shrubs, glass, autos rubber, and asphalt from overspray or drips. For surfaces that have had prior coatings or treatments, contact TAMMS Technical Service Centers.

- MIXING INSTRUCTIONS:** BARACADE M.E. is supplied in a concentrated form and must be mixed with clean, potable water immediately before application. Prepared solutions must be applied within 12 hours of mixing.
  - Vertical Surfaces:** BARACADE M.E./9, has a 9:1 mix ratio. (9 gallons water to 1 gallon BARACADE M.E.)
  - Horizontal Surfaces:** BARACADE M.E./4.5, has a 4.5:1 mix ratio. (4.5 gallons water to 1 gallon BARACADE M.E.)
  - Special Conditions:** For extremely dense surfaces, porous surfaces, surfaces to be painted, or other conditions not covered above, contact TAMMS Technical Service Centers.
- APPLICATIONS TECHNIQUES:** Apply BARACADE M.E. with low pressure airless spray equipment using no more than 15-20 psi (0.103-0.138 MPa) air pressure. For

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#### Material Properties @ 75°F (25°C)

Flash point of concentrate	77°F
Flash point after dilution	None
Solids by Weight after dilution	10% BARACADE M.E./9 18% BARACADE M.E./4.5
Appearance of Liquid	Pale Yellow
Appearance when dry	Clear
Resistance to UV	Excellent
Abrasion Resistance	Excellent

#### BARACADE M.E. TEST RESULTS

##### NCHRP 244 SERIES II TESTS

	Minimum Requirement BARACADE M.E./4.5	
Reduction in Water Absorption	75%	80%
Water Vapor Transmission	100%	121%
Reduction in Chloride ion Intrusion	75%	83%

##### California Test Method

(Cal trans)	Minimum Requirement BARACADE M.E./4.5	
Water Absorption, 24 hours	1% max	0.65%
Freeze Thaw Cycles	200 max	433
VOCs, ASTM D3960	400 max	349 gms/liter

##### ASTM E514

Water Permeance BARACADE M.E./9	passes
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Values presented are typical and are not necessarily referenced to create specifications.

proper application to most porous substrates, use spray tips with an orifice size no smaller than 0.035 inch (0.889 mm). Some vertical dense surfaces, may require smaller orifice sizes to prevent sags and run downs. Each coat consists of a light fogging spray followed immediately with a flood coat. The fog spray wets the surface to break the surface tension and allows the flood coat the deep penetration required for waterproofing. **The flood coat must be applied before the fog coat dries.**

**7.1 Dense Vertical Surfaces:** On precast concrete and other dense surfaces, apply BARCADE M.E. in several fog coats to the point of saturation **with no "run down."** Roll out excess material to prevent surface build-up and curtaining.

**7.2 Porous Vertical Surfaces:** Spray a fog coat and follow immediately with the flood coat of BARCADE M.E. applied with uniform, overlapping, horizontal strokes. Use sufficient material for saturation and to cause an 8 to 10 inch (20.3 - 25.4 cm) rundown from the point of contact. Fully saturate mortar joints. One coat of material is generally sufficient. Very porous surfaces such as normal weight concrete block may require two coats. Excess material that remains on the surface may result in a glossy appearance and impair subsequent paint or coating applications.

**7.3 Horizontal Surfaces:** Apply two coats of BARCADE M.E. in a uniform coat "wet on wet basis" to the point of saturation. Do not apply more material than can be absorbed into the surface within 10 seconds. Remove excess material with a squeegee or paint roller.

8. **COVERAGE:** Because of variations in surface density, the following coverage rates are approximate and are intended for estimating purposes only. Use test applications on actual surfaces to accurately determine coverage rates. Extremely porous surfaces may require 2 coats of BARCADE M.E.

Vertical Applications: BARCADE M.E./9		Square Feet per Gallon	
Surface Type	No. of Coats	1st Coat*	2nd Coat
Poured and Precast Concrete	Fogs**	120-170	not normally required
Slump Block	1	70-80	not normally required
Brick	1	80-125	not normally required
Stucco	1	80-125	not normally required
Plaster	1	200-300	not normally required
Stone-Tile	1	200-300	not normally required
Standard Block			
(ASTM C90-90) Grade N Type I	2	40-80	60-120
Split Faced Block***	2	40-80	60-120
Horizontal Applications: BARCADE M.E./4.5		Square Feet per Gallon	
Surface Type	No. of Coats	1st Coat*	2nd Coat
Concrete	2	100-150	100-150

\*Does not include fog coat required to break surface tension  
 \*\*Apply several fog coats without rundown  
 \*\*\*Split faced, ribbed and fluted block may have more surface area than smooth faced block and may require more material.

9. **CLEAN-UP INSTRUCTIONS:** Clean drips, runs and overspray residue while still wet, with detergent and water. Dried material may require solvent for removal. Clean application and spray equipment with detergent and water immediately following use.

10. **CAUTIONS:** Do not overdilute BARCADE M.E. Do not apply BARCADE M.E. to frozen or frost filled surfaces, or when the ambient or surface temperature falls below 40°F (4.5°C). Do not apply BARCADE M.E. to surfaces warmer than 95°F (35°C). Do not apply BARCADE M.E. if rain is forecast within 12 hours. Do not apply BARCADE M.E. to non-absorbent materials such as glass, metal, glazed brick, or glazed tile.

11. **ENVIRONMENTAL AND SAFETY PRECAUTIONS: Industrial Use Only.** Avoid breathing vapors or mist. Wear eye protection. In case of eye contact, flood eyes repeatedly with water and call a physician immediately. **DO NOT RUB YES.** Wear protective clothing. Avoid prolonged contact with the skin. Wash hands with soap and water immediately after use, and before smoking or eating. If ingested, give plenty of water and call a physician. Protect shrubbery, plants, grass, asphalt, and rubber surfaces from spills. **KEEP AWAY FROM CHILDREN AND ANIMALS. BARCADE M.E. Concentrate is FLAMMABLE** and has a flash point of 67°F (19.4°C). Close container after use. Mixing equipment must be UL listed as explosion proof. Mix only in well ventilated areas. Do not allow open flames, sparks, heaters, or smoking in storage or mixing area. Consult Material Safety information. **EMERGENCY RESPONSE PHONE NUMBER: (800) 862-2667 TAMMS OR (800) 424-9300 CHEMTREC.**

12. **PACKAGING:** 1, and 5 gallon container. 55 gallon containers on request. (Metric 3.78, 7.56, 18.9 and 208.2 l).

**Storage:** 40 - 85°F (4.5 - 29.4°C).

**Protect from moisture, direct sunlight, and freezing.**

**Shelf Life:** 1 year in protected storage.

**Freight Class:** Class 55.

13. **TECHNICAL SERVICE:** For application procedures or surface conditions not specified above, please contact:

TAMMS INDUSTRIES, INC.  
 3835 State Route 72, Kirkland, IL 60146  
 800-862-2667 FAX: 815-522-2323  
 www.tamms.com

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