

High Performance Pipe Markers (B-681)

Stick it to tough surfaces in harsh environments

- Durable polyester plus over-laminate withstands extreme conditions
- Outdoor durability up to 8 years in temperatures from -40°F to 230°F
- Arrows included on every marker for flow identification



3 Types of Pipe Marker Installation



Description:	High Performance Pipe Markers (B-681) are made from surface printed self-adhesive polyester with clear polyester overlamine.		
Use:	High Performance Pipe Markers (B-681) are designed for use on stainless steel, fiberglass, and any other surfaces for pipe markers. They are especially designed for use in environments where excellent chemical and abrasion resistance is required. They can be used indoors and outdoors.		
Compliance:	High Performance Pipe Markers (B-681) meet the ASME/ANSI A13.1 when used with directional arrows and arrows on a roll tapes. Color, marker size and letter size meet ANSI/ASME standards exactly.		
Standard Legend Colors:	Black and White		
Standard Background Colors:	Blue, Brown, Green, Orange, Red, and Yellow		
Thickness (PSTC-33):	0.005 in. (0.13mm.)		
Standard Sizes/Dimensions:	Marker Size	Fits Pipe Outer Diameter	Letter Height
	XC-8 (2-1/4" x 8")	3/4" - 2-3/8" (19mm - 60mm)	3/4" (19mm)
	XC-12 (2-1/4" x 12")	2-1/2" - 7-7/8" (64mm - 60mm)	1-1/4" (32mm)
	XC-24 (4-1/2" x 24")	8" - 10" (203mm - 254mm)	2-1/2" (64mm)
Gloss:	120 Gardner Units.		
Adhesive Properties:	Adhesion to Steel (PSTC-1) 15 Minute Dwell (Avg.) — 70 oz/in. (76 N/100mm) Ultimate Dwell (72 Hrs.) (Avg.) — 108 oz/in. (118 N/100mm) Tack (ASTM D 2979) (Avg.) — 1170 g (11 N) Drop Shear (PSTC-7) (Avg.) — 20 Hrs.		
Abrasion Resistance:	CS-17 Wheels, 1000 g. wts.		
(Method 5306 of U.S. Federal Test Method Std. No. 191A):	Polyester laminate withstands up to 1000 cycles.		
Minimum Application Temperature:	0°F (-18°C).		

High Performance Pipe Markers (B-681) (Continued)

Service Temperature: -40°F to 230°F (-40°C to 110°C).

Average Outdoor Durability: 5-8 years (Average expected outdoor life of product will depend on user definition of failure, climactic conditions).

Chemical Resistance:	Reagent	7 day Immersion	Dip Test	Rub Test
	30% Sulfuric Acid	NE	NE	NE
	10% Sulfuric Acid	NE	NE	NE
	30% HCl	NE	NE	NE
	10% HCl	NE	NE	NE
	50% NaOH	F	NE	NE
	10% NaOH	F	NE	NE
	Methyl Ethyl Ketone	F	F	NE
	Acetone	F	F	NE
	1,1,1-Trichloroethane	F	F	NE
	Methanol	F	NE	NE
	IPA (Isopropanol)	F	NE	NE
	ASTM #3 Oil	NE	NE	NE
	SAE 20 Oil	NE	NE	NE
	Alconox/	NE	NE	NE
	Toluene	F	F	NE
	Mineral Spirits	F	NE	NE
	Glacial Acetic Acid	NE	NE	NE
	5% Acetic Acid	NE	NE	NE
	Diesel Fuel	F	NE	NE
	Heptane	F	F	NE
	10% Ammonia	NE	NE	NE
	Kerosene	F	NE	NE
	20% Sodium Carbonate	NE	NE	NE
	2% Sodium Carbonate	NE	NE	NE
	10%NaCl	NE	NE	NE
	Water	NE	NE	NE
	Bleach	NE	NE	NE

NE: No Effect **F:** Failed

7 Day Immersion: Immersed in reagent for 7 days.

Dip Test: Five 10 minute dips in reagent with 30 minute recovery.

Rub Test: Rubbed sample for one minute with swab soaked in reagent.

Shelf Life: 1 year when stored at 70°F (21°C) and 40% to 50% R.H.