



LAMINATING
EPOXY

ADHESIVES

PROCESS
EQUIPMENT

Technical Data

M1019 Resin/M2010 Hardener

Surface Coat Epoxy

The M1019/M2010 epoxy surface coat is formulated for use as a mold surface coat. This coating has very good hardness and can be buffed to provide a glossy mold surface. This combination can be applied with a brush or roller and exhibits good hiding characteristics with one 8 to 12 mil coating. A minimum of 6 to 8 mils is necessary to prevent fisheyes on the plug surface. Additional coats can be applied if desired once the first coat has cured to a stable tacky state, usually within 3 hours at room temperature. This product is formulated to work with polymer mold release systems as well as traditional mold wax. Test the surface coat on the wax you intend to use as there will be some differences in surface energy and resistance to surface imperfections.

MIXING

Combine PRO-SET M1019 Resin with PRO-SET M2010 Hardener following the ratios by weight or volume shown in the table. Stir the mixture thoroughly and transfer to a roller pan or brush apply directly to the plug or mold surface.

APPLICATION

The M1019/M2010 mixture will get progressively more tacky so any rolling or tipping should be completed within 30 minutes at room temperature. A laminate skin coat can be applied between 3 and 4 hours at room temperature (72°F) with no surface prep necessary. If this overcoat window is exceeded and the surface is hard, scrub the surface with a Scotchbright® pad and water, then wipe dry with paper towel before continuing with the laminate process.

COVERAGE

Coverage at 10 mils is approximately 150 sq. ft. per mixed gallon of resin and hardener.

CURING

PRO-SET M1019/M2010 mixtures maintain excellent working properties until gel takes place, and at room temperature, will cure to a slightly brittle B-stage. An elevated temperature cure or post-cure of 100°F to 250° F **is required** for mixture to reach final cure.

We recommend building samples using proposed materials and procedures to understand working and curing characteristics under your shop conditions.

HANDLING CHARACTERISTICS *(Not for specification purposes)*

Property	Mixed Resin/Hardener
Density	10 lb/gal
Viscosity @ 72°F (ASTM D-2393)	7,500 cps

Mix Ratio (M1019 Resin:M2010 Hardener)Target	Acceptable Range
by weight.	100:26.1 (3.83:1) 100:26.6 to 100: 25.5
by volume	100:33.4 (3:1) 100:34.2 to 100:32.9

Pot Life (ASTM D-2471)	100g	500g
@72°F	160 min	135 min
@100°F	49 min	42 min

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LAMINATING EPOXY – PHYSICAL PROPERTIES

M1019 Resin/M2010 Hardener

Physical Property	Test Method	RT x 15 hr +	RT x 15 hr +
		125°F x 16 hr	180°F x 8 hr
Hardness (Shore D)	ASTM D-2240	87	88
Compression Yield (psi)	ASTM D-695	18,253	18,344
Tensile Strength (psi)	ASTM D-638	9,249	11,735
Tensile Elongation (%)	ASTM D-638	2.75	5.0
Tensile Modulus (psi)	ASTM D-638	8.26E+05	7.63E+05
Flexural Strength (psi)	ASTM D-790	15,648	16,883
Flexural Modulus (psi)	ASTM D-790	6.91E+05	6.36E+05
Heat Deflection Temperature (HDT) (°F)	ASTM D-648	164	220
Onset of Tg by DSC (°F) **		164	217
Ultimate Tg by DSC (°F) **		255	255
Izod Impact, notched (Ft-lb/in)	ASTM D-256	0.46	0.65

** Determined using a Differential Scanning Calorimeter (DSC).

Value reported is the onset of the glass transition

Test Specimens were neat epoxy (without fiber reinforcement)

Typical Values; not to be construed as specification

November 2008