



MVS-450 Epoxy Fairing Compound

**Materials For The Fabrication and Repair Of
Traditional & Composite Construction Items**

DESCRIPTION

MVS-450 is a two component, lightweight paste material that has proven to be quite useful for a number of uses. It is well suited for splining and fairing onto wood, metal and composite surfaces. It easily fills voids and provides smooth transitions in offset or stepped areas. MVS-450 bonds very well to these properly prepared surfaces and can be finished with standard shaping and sanding tools. MVS-450 was developed to be very easily sanded, so it is not necessary to finish spline a surface before hardening, as it can be quickly sanded to the final contour when cured. The MVS-450 system was developed to be moisture resistant, so the cured surface is blush-free and will not gum sandpaper in the finishing process.

This material has a very creamy smooth viscosity that mixes easily and applies with little effort. It quickly wets the surface being applied to, and bonds extremely well upon curing. The cured material is slightly flexible, so there is no reason for concern when applying thin layers, as the flexibility helps to resist cracking under stress or vibration. If necessary, MVS-450 can be applied in thicker layers, up to 1 to 1.5 inches per layer without concern for sagging. MVS-450 remains in place at these thicknesses, even when placed in a 150°F oven! It will not sag in service.

PRODUCT FEATURES

- **EXCELLENT MOISTURE RESISTANCE - EASY APPLICATION & GOOD LONG-TERM STABILITY**
- **GOOD THIXOTROPIC QUALITIES, HANGS IN PLACE - EVEN AT ELEVATED TEMPERATURE**
- **LIGHTWEIGHT MATERIAL WITH HIGH STRENGTH AND GOOD TOUGHNESS**
- **ADHERES VERY WELL TO WOOD, COMPOSITES AND PRIMED METAL SURFACES**
- **EASY TO MIX - EASY TO APPLY - EASY TO SAND - GOOD MATERIAL !**

PRODUCT SPECIFICATIONS

	MVS-450 Part A	MVS-450 Part B	ASTM Method
Color	Off White	Gray	Visual
Viscosity, centipoise	Smooth Paste	Smooth Paste	D2392
Specific Gravity, gms./cc	1.032	0.682	D1475
Mix Ratio	100 : 65 By Weight; 100 : 100 By Volume		PTM&W
Pot Life, 4 fl. Oz. Mass @ 77°F	85 - 95 minutes		D2471

HANDLING and CURING

The MVS-450 fairing compound is very easy to use. The resin and hardener components are smooth viscosity pastes that mix together readily and produce an equally smooth mixed paste that can be applied from thin films to well over an inch in thickness. This material uses a unique new technology to produce a paste material that has a "wet" spreadable viscosity, yet is virtually non-sagging. In developmental tests, MVS-450 applied over an inch thick to a vertical surface did not sag, even when tested in a 150°F oven!

As with any two-component material, only as much material as can be used in the working time of the product should be mixed at a time. This will prevent premature hardening of the material in the mixing container. Also, material in mass will thicken as time passes, which makes it harder to apply and substantially lowers the adhesive qualities of the material. At ambient temperatures of 70°F to 75°F, MVS-450 has a working time of 2 to 2.5 hours as it is applied to a surface. Mixed material sitting in a can or pail will gel much faster than this, of course, so it is best to spread the material onto the surface and work it down to the final desired thickness. MVS-450 can be applied with a spatula, putty knife or trowel, and the cured material is easily shaped with a Shurform tool and can be easily sanded with standard papers.

MVS-450 cures completely at room temperature, and no additional heat is required for full cure. As with most longer pot life room temperature curing epoxy systems, full properties will be reached in approximately 7 days. However, the material can be shaped, sanded and finished much sooner than this. For example, at normal ambient temperatures, in approximately 4 to 5 hours the material will be stiff enough for another layer to be

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HANDLING and CURING, continued

applied. At this point, it is not necessary to sand the surface to get a good bond between the two layers. However, if the material is allowed to cure for longer than 6 to 7 hours, it must be allowed to cure overnight (16 to 18 hours total) and the surface must be sanded before additional layers or finishes can be applied. After the required thickness has been applied, the cured MVS-450 can be shaped and/or sanded in 16 to 18 hours. Before primers, paints or other finishes are applied to the cured MVS-450 it should be lightly sanded to roughen the surface slightly and improve the adhesion of the finish.

TYPICAL MECHANICAL PROPERTIES

	MVS-450 A/B	ASTM Method
Mix Ratio, By Weight By Volume	100 : 65 100 : 100	PTM&W
Pot Life, @ 77°F	85 - 95 minutes	D2471
Color	Gray	Visual
Mixed Viscosity, @ 77°F, centipoise	Smooth Thixotropic Paste	D2393
Cured Hardness, Shore D	75 D	D2240
Specific Gravity, grams, cc	.86	D1475
Density, lb./gallon	7.16	D792
Tensile Strength, psi	3,770 psi	D638
Elongation at Break, %	1.99 %	
Tensile modulus, psi	302,530 psi	
Flexural Strength, psi	7,009 psi	D790
Flexural Modulus, psi	307,382 psi	
Compressive Strength, psi	7,828 psi	D695
Glass Transition Temperature, DMA, T _g Peak	178°F	D4065
Thermal Coefficient of Expansion, Range: 75°F - 105°F	3.372 x 10 ⁻⁵ in./in./°F	D696

PACKAGING WEIGHTS

	Quart Kit (Special Order)	Gallon Kit	Pail Kit
MVS-450 A	2 lb.	7.5 lb.	37 lb.
MVS-450 B	1.3 lb.	5 lb.	24.5 lb.
Kit Weight	3.3 lb.	12.5 lb.	61.5 lb.
Kit Volume	.46 Gallons	1.75 Gallons	8.6 Gallons

SAFETY and HANDLING

PTM&W epoxy products are made from raw materials carefully chosen to minimize or even eliminate toxic chemicals, and therefore offer the user high performance products with minimum hazard potential when properly used. Generally, the PTM&W epoxy resins and hardeners will present no handling problems if users exercise care to protect the skin and eyes, and if good ventilation is provided in the work areas. However, all epoxy resins and hardeners can be irritating to the skin, and prolonged contact may result in sensitization; and breathing of mist or vapors may cause allergic respiratory reaction, especially in highly sensitive individuals. As such, avoid contact with eyes and skin, and avoid breathing vapors. Wear protective rubber apron, clothing, gloves, face shield or other items as required to prevent contact with the skin. In case of skin contact, immediately wash with soap and water, followed by a rinse of the area with vinegar, and then a further wash with soap and water. The vinegar will neutralize the hardener and lessen the chances of long term effects. Use goggles, a face shield, safety glasses or other items as required to prevent contact with the eyes. If material gets into the eyes, immediately flush with water for at least 15 minutes and call a physician. Generally, keep the work area as uncluttered and clean as possible, and clean up any minor spills immediately to prevent accidental skin contact at a later time. Keep tools clean and properly stored. Dispose of trash and empty containers properly. Do not use any of these types of products until Material Safety Data Sheets have been read and understood.

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