PT1540 Graphite-Filled Intermediate Hi-Temperature Epoxy Surface Coat

DESCRIPTION

PT1540 is a black, graphite filled epoxy system that has very unique properties which makes it well suited for a number of tooling and production applications. It is intended for use as a surface coat on tooling or parts that will be exposed to moderate heat in service.

The consistency of PT1540 has been designed to allow quick, easy application to large areas with minimum effort. It is a thin paintable material that will hang on contoured surfaces with no run-off. This thin, yet thixotropic viscosity has made PT1540 a very popular material for use in the fabrication of a broad number of parts and structures. PT1540 spreads smoothly with minimum air entrapment and picks up fine surface detail easily. Parts and structures made with PT1540 have good heat resistance, so they will withstand the heat of paint bake ovens, as well as extreme environmental temperatures in service. Two hardeners are available for use with this resin, with the Part B1 having a longer working time, which is useful when there are larger surface areas to cover.

PRODUCT SPECIFICATIONS

	PT1540 Part A	PT1540 Part B	PT1540 Part B1	ASTM Method
Color	Black	Amber	Amber	Visual
Viscosity,	90,000 - 100,000 cps	800 - 900 cps	1700 cps	D2392
Specific Gravity, gms./cc	1.202	1.063	1.09	D1475
Mix Ratio		100 : 15	100 : 13	PTM&W
Pot Life, 4 fl.oz. Mass @ 77°F		20 - 25 minutes	45 - 55 minutes	D2471

HANDLING and CURING

PT1540 generally will gel hard at room temperature after at least an overnight cure. Hardener B1 may take a little longer to gel hard, due to the longer pot life of this system. The material should be given an oven post cure for best long-term service. An oven post cure is mandatory for applications where the cured material will be exposed to elevated temperatures in service. A typical cure schedule would be to allow the material to cure overnight at room temperature (75°F minimum), followed by an oven post cure of 4 to 6 hours at 150°F to 175°F.

PACKAGING WEIGHTS

	Gallon Kit	Pail Kit
PT1540 Part A	9 lb.	45 lb.
PT1540 Part B	1.35 lb.	6.75 lb.
PT1540 Part B1	1.2 lb.	6 lb.

TYPICAL MECHANICAL PROPERTIES

	PT1540 A/B	PT1540 A/B1	ASTM Method
Mix Ratio, By Weight	100 : 15	100 : 13	PTM&W
Color	Black	Black	Visual
Mixed Viscosity, centipoise	Thin Thixotropic Paste	Thin Thixotropic Paste	D2393
Pot Life, 4 fl. Oz. Mass, @77^{O}F	20 - 25 minutes	45 - 55 minutes	D2471
Cured Hardness, Shore D	82 - 85 Shore D	87 - 90 Shore D	D2240
Specific Gravity, grams, cc	1.18	1.19	D1475
Density, lb./cu. Inch lb. / gallon	.0427 9.86	.0429 9.91	D792
Specific Volume, cu. in./lb.	23.4	23.3	
Tensile Strength, psi *	6,560 psi		D638
Compressive Strength, psi *	14,600 psi		D695
Glass Transition Temperature, TMA:Tg (Peak) *	271^{O}F		D3386

*** These properties were developed with PT1540 Part B, and are typical of PT1540's performance.**

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, breathing of mist or vapors may cause allergenic respiratory reaction, especially in highly sensitive individuals. As such, avoid contact with eyes and skin, and avoid breathing vapors. Wear protective rubber apron, clothing, nitrile rubber 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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