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P600PC-001

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Nanosperse P600PC nanocomposite performance booster is designed to enhance the critical properties of **protective coatings**. Protective coatings must protect substrates from damage originating from scratches and corrosion.

Nanosperse P600PC is designed to enhance the properties of coatings used to protect most metal alloy, semiconductor, and ceramic substrates. Typical applications for these coatings include electronic and medical applications. P600PC is designed to impart hardness and toughness, good wetting properties and low coefficients of thermal expansion.

Coatings normally fail because they are too soft, too brittle, contain holes resulting from coating defects, or have thermal expansion properties that are not properly matched to the substrate. Nanosperse P600PC performance enhancer is designed to overcome these issues. By combining nano-technology with sound polymer design, significant performance improvements can be realized. These performance improvements are measurable as an increase in modulus and a decrease in the coefficient of thermal expansion. P600PC also enhances wet-ability, mitigating coating defects.

Unlike other performance boosters, Nanosperse nanocomposites cannot be used at low concentrations. The recommended ratio's are normally greater than 50%. This is necessary in order to stabilize the nano-phase.

Nanosperse P600PC is an interpenetrating network nanocomposite produced by combining a high performance thermoset resin with an engineered thermoplastic resin.

Percent Solids = 25%

Viscosity = (cps @ 25°C) adjusted to suit the application method

Critical property data* for Nanosperse P600PC is given below:

Flexural Strength (GPa) = 0.14 GPa

Flexural Modulus (GPa) = 3.8 GPa

Fractural Energy (J) = 0.5 J

Glass Transition Temp. (Tg) via TMA: 260°C.

Coefficient of Thermal Expansion @ 320°C(ppm) = 60

* Nanosperse P600PC combines hardness with toughness, while maintaining other critical properties. Although it may not yield the highest values for any one specific property, it was designed to yield excellent overall properties. Nanosperse P600PC should be added to existing coatings to boost the performance of a "weak" property.