

Torlon® 4000TF

polyamide-imide

Torlon 4000TF is a neat resin polyamide-imide (PAI) fine powder designed for compounding with other polymers and specialty additives. It is the base resin utilized in all Torlon injection molded compounds. Its powder form enables designers to enhance custom compounds and specialty applications with the well-known properties of Torlon polyamide-imide, from its unstoppable performance under extreme conditions to excellent resistance against wear, creep and chemicals.

Torlon 4000TF is a fine-particle powder suitable for compression molded parts. It has a maximum particle size of 150 µm with 95% less than 75 µm. The majority of material is the range of 30-40 µm. The IV for this grade is greater than 0.50, the typical range is 0.50-0.65. A coarse-particle powder version, Torlon 4000T, is also available. A water soluble analog of Torlon 4000T is available as Torlon AI-50.

The strength and wear properties of compression molded compounds can be uniquely improved through addition of Torlon 4000TF powder. Polytetrafluoroethylene (PTFE) and related fluoropolymer compounds show higher strength,

greatly reduced creep behavior and better performance in wear-resistant applications, when Torlon 4000TF is added. Torlon 4000TF serves as a high temperature, high performance matrix binder for other diverse compression molded parts such as clutches, brake pads and their components, fused metal powders and thermoplastic magnets. The fine powder also may be used in thermal spray processes such as flame spray and high-velocity oxyfuel (HVOF) spray techniques.

In addition to molded components, Torlon PAI powders are suitable for use in other high performance forms. For example, these powders are soluble in dipolar aprotic solvents such as N-methyl pyrrolidone (NMP), dimethylacetamide (DMAC), dimethylsulfoxide (DMSO) and dimethylformamide (DMF). Solutions of these systems can be sprayed into coatings, cast into films, spun into fibers and cast or spun into specialty membranes. High strength, high temperature capable adhesives can be also formulated from Torlon PAI powders. Torlon PAI powders may be incorporated into epoxy and other thermoset systems to provide additional strength, ductility and heat resistance.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • North America	• South America
Features	• Flame Retardant	• Good Chemical Resistance	• High Heat Resistance
Uses	• Blending	• Cast Film	• Coating Applications
RoHS Compliance	• Contact Manufacturer		
Forms	• Powder		
Processing Method	• Coating	• Compression Molding	

Physical

	Typical Value Unit
Intrinsic Viscosity (25°C, 0.5% in NMP)	> 0.500

Injection

	Typical Value Unit
Drying Temperature	177 °C
Drying Time	3.0 hr

Injection Notes

Drying Time/Temp: 4 hrs @ 300°F
Drying Time/Temp: 16 hrs @ 250°F

Notes

Typical properties: these are not to be construed as specifications.

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For assistance with an emergency involving this product, such as spill, leak, fire or explosion, call day or night:

Emergency Health Information

USA +1.800.621.4590
International +1.770.772.8577

Emergency Spill Information

USA +1.800.424.9300
+1.703.527.3887 (CHEMTREC)
Europe +44.208.762.8322 (CARECHEM)
China +86.10.5100.3039
All other Asian countries +65.633.44.177

For additional product information, technical assistance and Material Safety Data Sheets (MSDS), call:

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Material Safety Data Sheets (MSDS) for products of Solvay Specialty Polymers are available upon request from your sales representative or by emailing us at specialtypolymers@solvay.com. Always consult the appropriate MSDS before using any of our products.

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