

Torlon® 4000T

polyamide-imide

Torlon 4000T is a neat resin polyamide-imide (PAI) coarse 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.

A fine-particle powder version, Torlon 4000TF, is also available, which is particularly well suited for compression molded parts. A water soluble analog of Torlon 4000T is available as Torlon AI-50.

Torlon 4000T has been shown to be useful in blends with polyphenylsulfone (PPSU), polyethersulfone (PES), polysulfone (PSU), polyetheretherketone (PEEK), high-temperature sulfone resins, self-reinforced polyphenylene, polybenzimidazole (PBI), polyimide (PI), polyetherimide (PEI), and polyphenylene sulfide (PPS). Besides blending with other polymers to enhance properties, Torlon 4000T powder may be compounded with a wide variety of performance fillers, reinforcements, specialty additives and colorants to meet the desired need. The

resultant compound may then be injection molded or extruded into film, shapes or fiber.

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.

Torlon 4000T powders are available in 3 viscosity grades, which are defined by the inherent viscosity (IV) ranges shown in the accompanying data.

- Low viscosity: 4000T-LV
- Medium viscosity: 4000T-MV
- High viscosity: 4000T-HV

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	• Compounding	

Physical

	Typical Value Unit
Intrinsic Viscosity	
Torlon 4000T-HV: 25°C, 0.5% in NMP	0.700 to 0.900
Torlon 4000T-LV: 25°C, 0.5% in NMP	0.500 to 0.590
Torlon 4000T-MV: 25°C, 0.5% in NMP	0.600 to 0.690

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

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International +1.770.772.8577

Emergency Spill Information

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+1.703.527.3887 (CHEMTREC)
Europe +44.208.762.8322 (CARECHEM)
China +86.10.5100.3039
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For additional product information, technical assistance and Material Safety Data Sheets (MSDS), call:

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