

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	• Latin America • North America
Features	• Chemical Resistant • Flame Retardant	• High Heat Resistance
Uses	• Blending • Cast Film	• Coating Applications
RoHS Compliance	• Contact Manufacturer	
Forms	• Powder	
Processing Method	• Coating	• Compounding

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Physical	Typical Value	Unit
Intrinsic Viscosity ¹		
Torlon 4000T-HV : 25°C	0.70 to 0.90	
Torlon 4000T-LV : 25°C	0.50 to 0.59	
Torlon 4000T-MV : 25°C	0.60 to 0.69	

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.

¹ 0.5% in NMP

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