



**Nylon11 FR** is a polyamide blend specifically engineered for the production of parts exhibiting excellent fire retardancy without compromising mechanical properties.

Parts manufactured using **Nylon11 FR** maintain superior toughness and impact resistance. **Nylon11 FR** parts can be manufactured to very low thickness, as low as 0.030 inches, without compromising fire retardant properties. Even at very low thickness, **Nylon11 FR** has been shown to easily pass 60 second vertical burn testing while also passing smoke and toxicity testing.

Every batch of **Nylon11 FR** material is manufactured under high quality control standards. Detailed quality control test results are provided with each shipment of **Nylon11 FR** material to certify conformance for the more rigorous production specifications typically encountered in rapid manufacturing applications.

**POWDER PROPERTIES**

**TEST**

**FR-106**

Bulk Density	ASTM D1895A	0.55 g/cc
Melt Flow Rate	ASTM D1238	9.6g/10 min
Particle Size Average		
	d50	Laser Diffraction
		95 microns
	d10	Laser Diffraction
		45 microns
	d90	Laser Diffraction
		151 microns
Melt Point	ASTM D3418	186 deg C

**TYPICAL PART PROPERTIES\***

Specific Gravity	ASTM D792		1.07 g/cc
Tensile Strength, Ultimate (XY)			
	XY Orientation	ASTM D638	6700 psi
	Z Orientation	ASTM D638	5600 psi
Tensile Strength, Yield			
	XY Orientation	ASTM D638	3700 psi
	Z Orientation	ASTM D638	3100 psi
Modulus of Elasticity	ASTM D638	195 kpsi	1345 Mpa
Elongation at Break			
	XY Orientation	ASTM D638	38%
	Z Orientation	ASTM D638	21%
Flammability			
	12 Second Burn	FAR 25.853	Pass
	60 Second Burn	FAR 25.853	Pass
Smoke Density	FAR 25.853		Pass

\*Warranty/Disclaimer: Actual part properties may vary significantly from those listed above based on processing parameters, operating conditions, material usage. DirectedMFG makes no warranties of materials for any particular application, nor does it make a warranty of any type, expressed or implied, including, but not limited to, the warranties of merchantability for a particular purpose.