



Material Data Sheet: **NYLON 12 AF**

Description: Applications include parts and tools that require higher CTE.
Also well suited for wind tunnel models and testing.

TECHNICAL DATA

General Properties

MEASUREMENT	METHOD/CONDITION	VALUE:
Appearance	Visual	Light grey metallic
Density (tap)	@ 25°C (77°F)	0.89 g/cm ³
Density (bulk)	@ 25°C (77°F)	0.69 g/cm ³

Mechanical Properties

MEASUREMENT	METHOD/CONDITION	VALUE:
Tensile Strength	ASTM D 638	35 MPa (5060 PSI)
Tensile Modulus	ASTM D 638	3960 MPa (574 KSI)
Elongation at Break (%)	ASTM D 638	1.5%
Flexural Strength	ASTM D 790	44 MPa (6290 PSI)
Flexural Modulus	ASTM D 790	3517 MPa (510 KSI)
Impact Strength (Unnotched Izod)	ASTM D 256	130 J/m
Hardness	Shore D	75

Thermal Properties

MEASUREMENT	METHOD/CONDITION	VALUE:
Heat Deflection Temperature (HDT)	ASTM D 648 @ 0.45 MPa/66 PSI	180°C (356°F)
	@ 1.82 MPa/264 PSI	137°C (279°F)
Co-efficient of Thermal Expansion	ASTM E 831 TMA (35 - 172°C)	109 x 10 ⁻⁶ m/m °C
Glass Transition (Tg)	DSC	40°C (104°F)

Electrical Properties

MEASUREMENT	METHOD/CONDITION	VALUE:
Volume Resistivity	ASTM D257	1.6 x 10 ¹³ ohm-cm
Surface Resistivity	ASTM D257	6.0 x 10 ¹² ohm
Dielectric Constant	ASTM D150	14.5
Dielectric Strength	ASTM D149	1.8 x 10 ² v/mm

Chemical Resistance

Alkalines, hydrocarbons, fuels and solvents.

Detailed test conditions are available upon request. Test samples were produced on a HiQ™ SLS® system, using new material.