

Minlon® EFE6053 BK413

MINERAL REINFORCED NYLON RESIN

DuPont Mobility & Materials

PROSPECTOR®

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Technical Data

Product Description

40% Mineral/Glass Reinforced Polyamide 66

General

Material Status	• Commercial: Active
Search for UL Yellow Card	• DuPont Mobility & Materials • Minlon®
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Filler / Reinforcement	• Glass Fiber\Mineral, 40% Filler by Weight
Additive	• Mold Release
RoHS Compliance	• Contact Manufacturer
Multi-Point Data	• Creep Modulus vs. Time (ISO 11403-1) • Isochronous Stress vs. Strain (ISO 11403-1) • Isothermal Stress vs. Strain (ISO 11403-1) • Secant Modulus vs. Strain (ISO 11403-1) • Shear Stress vs. Shear Rate (ISO 11403-1) • Tensile Modulus vs. Temperature, Dynamic (ISO 11403-1) • Viscosity vs. Shear Rate (ISO 11403-2)
Part Marking Code (ISO 11469)	• >PA66-(GF+MD)40<
Resin ID (ISO 1043)	• PA66-(GF+MD)40
ISO Designation	• ISO 16396-PA66,(MD+GF)40,M1CGHR,S14-100

Physical	Dry	Conditioned	Unit	Test Method
Density	1.47	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	1.1	--	%	
Flow	0.40	--	%	
Water Absorption				ISO 62
Saturation, 23°C, 2.00 mm	5.0	--	%	
Equilibrium, 23°C, 2.00 mm, 50% RH	1.5	--	%	
Viscosity Number (Reduced Viscosity)	143.0	--	ml/g	ISO 1628
Viscosity Number	143	--	cm ³ /g	ISO 307

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	10000	6500	MPa	ISO 527-1
Tensile Stress (Break)	160	97.0	MPa	ISO 527-2
Tensile Strain (Break)	2.2	4.6	%	ISO 527-2
Tensile Creep Modulus				ISO 899-1
1 hr	--	6000	MPa	
1000 hr	--	3700	MPa	
Flexural Modulus	9500	--	MPa	ISO 178
Flexural Stress	210	--	MPa	ISO 178
Poisson's Ratio	0.34	0.35		

Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	4.0	6.0	kJ/m ²	
23°C	4.5	6.5	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	40	40	kJ/m ²	
23°C	45	50	kJ/m ²	
Notched Izod Impact Strength				ISO 180/1A
-30°C	4.0	4.5	kJ/m ²	
23°C	4.0	5.0	kJ/m ²	



Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	256	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	240	--	°C	ISO 75-2/A
Glass Transition Temperature ²	70.0	--	°C	ISO 11357-2
Vicat Softening Temperature	250	--	°C	ISO 306/B50
Melting Temperature ²	262	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow	2.8E-5	--	cm/cm/°C	
Flow : -40 to 23°C	2.2E-5	--	cm/cm/°C	
Flow : 55 to 160°C	3.1E-5	--	cm/cm/°C	
Transverse	8.7E-5	--	cm/cm/°C	
Transverse : -40 to 23°C	4.6E-5	--	cm/cm/°C	
Transverse : 55 to 160°C	1.3E-4	--	cm/cm/°C	
Electrical	Dry	Conditioned	Unit	Test Method
Electric Strength	28	--	kV/mm	IEC 60243-1
Relative Permittivity				IEC 62631-2-1
1 MHz	4.80	5.00		
100 Hz	4.90	13.9		
Dissipation Factor				IEC 62631-2-1
1 MHz	0.013	0.070		
100 Hz	0.014	0.54		
Flammability	Dry	Conditioned	Unit	Test Method
Burning Rate ³ (1.00 mm)	28	--	mm/min	ISO 3795
FMVSS Flammability	B	--		FMVSS 302
Fill Analysis	Dry	Conditioned	Unit	Test Method
Melt Density	1.25	--	g/cm ³	
Ejection Temperature	210	--	°C	
Specific Heat Capacity of Melt	1900	--	J/kg/°C	
Thermal Conductivity of Melt	0.27	--	W/m/K	ISO 22007-2
Injection	Dry Unit			
Drying Temperature	80 °C			
Drying Time - Desiccant Dryer	2.0 to 4.0 hr			
Suggested Max Moisture	< 0.20 %			
Processing (Melt) Temp	285 to 305 °C			
Melt Temperature, Optimum	295 °C			
Mold Temperature	70 to 120 °C			
Mold Temperature, Optimum	100 °C			
Holding Pressure	50.0 to 100 MPa			
Drying Recommended	yes			
Hold Pressure Time	3.00 s/mm			
Maximum Screw Tangential Speed	9 m/min			

Notes

¹ Typical properties: these are not to be construed as specifications.

² 10°C/min

³ FMVSS 302



Where to Buy

Supplier

DuPont Mobility & Materials
Wilmington, Wilmington USA
Telephone: 302-999-4592
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Distributor

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Avient Distribution is a global distribution company. Contact Avient Distribution for availability of individual products by country.
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