

## Product Texts

Common features of Minlon® nylon resin include mechanical and physical properties such as high mechanical strength, excellent balance of stiffness /toughness, good high temperature performance, good chemical resistance, paintability, dimensional stability and low warpage.

Grades with improved electrical and flammability properties are available within the Zytel® nylon resin product line. In addition, Minlon® nylon resin is available in different modified and reinforced grades to create a wide range of products with tailored properties for specific processes and end-uses.

The good melt stability of Minlon® nylon resin normally enables the recycling of properly handled production waste. If recycling is not possible, we recommend, as the preferred option, incineration with energy recovery (-31kJ/g of base polymer) in appropriately equipped installations. For disposal, local regulations have to be observed.

Minlon® nylon resin typically is used in demanding applications in the automotive, electrical, electronic, domestic appliances and construction industries.

**Minlon® EFE6053 BK413 is a 40% mineral/glass reinforced, heat stabilized polyamide 66 resin for injection molding.**

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Molding shrinkage, parallel	0.4 / *	%	ISO 294-4, 2577
<sup>[C]</sup> Molding shrinkage, normal	1.1 / *	%	ISO 294-4, 2577
<sup>[C]</sup> Density of melt	1250	kg/m <sup>3</sup>	-
<sup>[C]</sup> Thermal conductivity of melt	0.27	W/(m K)	-
<sup>[C]</sup> Spec. heat capacity of melt	1900	J/(kg K)	-
<sup>[C]</sup> Ejection temperature	210	°C	-

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Tensile Modulus	10000 / 6500	MPa	ISO 527
<sup>[C]</sup> Stress at break	160 / 97	MPa	ISO 527
<sup>[C]</sup> Strain at break	2.2 / 4.6	%	ISO 527
<sup>[C]</sup> Tensile creep modulus, 1h	* / 6000	MPa	ISO 899-1
<sup>[C]</sup> Tensile creep modulus, 1000h	* / 3700	MPa	ISO 899-1
<sup>[C]</sup> Charpy impact strength, +23°C	45 / 50	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy impact strength, -30°C	40 / 40	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy notched impact strength, +23°C	4.5 / 6.5	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Charpy notched impact strength, -30°C	4 / 6	kJ/m <sup>2</sup>	ISO 179/1eA

[C]: CAMPUS

Thermal properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melting temperature, 10°C/min	262 / *	°C	ISO 11357-1/-3
<sup>[C]</sup> Glass transition temperature, 10°C/min	70 / *	°C	ISO 11357-1/-2
<sup>[C]</sup> Temp. of deflection under load, 1.80 MPa	240 / *	°C	ISO 75-1/-2
<sup>[C]</sup> Temp. of deflection under load, 0.45 MPa	256 / *	°C	ISO 75-1/-2
<sup>[C]</sup> Vicat softening temperature, B	250 / *	°C	ISO 306
<sup>[C]</sup> Coeff. of linear therm. expansion, parallel	28 / *	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Coeff. of linear therm. expansion, normal	87 / *	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Burning rate, FMVSS, Thickness 1 mm	28	mm/min	ISO 3795 (FMVSS 302)

[C]: CAMPUS

Electrical properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Relative permittivity, 100Hz	4.9 / 13.9	-	IEC 62631-2-1
<sup>[C]</sup> Relative permittivity, 1MHz	4.8 / 5	-	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 100Hz	140 / 5400	E-4	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 1MHz	130 / 700	E-4	IEC 62631-2-1
<sup>[C]</sup> Electric strength	28 / -	kV/mm	IEC 60243-1

[C]: CAMPUS

**Minlon® EFE6053 BK413**

PA66-(MD+GF)40

Celanese

<b>Other properties</b>	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
<sup>[C]</sup> Water absorption	<b>5 / *</b>	%	Sim. to ISO 62
<sup>[C]</sup> Humidity absorption	<b>1.5 / *</b>	%	Sim. to ISO 62
<sup>[C]</sup> Density	<b>1470 / -</b>	kg/m <sup>3</sup>	ISO 1183

[C]: CAMPUS

<b>Material specific properties</b>	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
<b>ISO Data</b>			
<sup>[C]</sup> Viscosity number	<b>143 / *</b>	cm <sup>3</sup> /g	ISO 307, 1157, 1628

[C]: CAMPUS

**Characteristics****Processing**

Injection Molding

**Additives**

Release agent

**Delivery form**

Pellets, Black

**Special Characteristics**

Heat stabilized or stable to heat