



TENYMID N2GF13FR

Product Description PA66 with 13%GF reinforced, frame retardant, used for the automotive industry, Electrical and Electronics and consumer applications. **Material Status** Commercial: Active.

Availability Africa & Middle East, Asia Pacific, Europe, Latin America, North America.

Features High rigidity, high mechanical strength, high impact and easy processing with good appearance .

Processing Method Injection Molding

Water absorption, 23°C, 24h 4.5 % ISO 62 Mechanical Nominal Value Unit Test Method Tensile modulus 5700 MPa ISO 527 Tensile strength, break 111 MPa ISO 527 Flexural modulus 6000 MPa ISO 178 Flexural strength 157 MPa ISO 178 Flexural strength, process 3.6 % ISO 527 Charpy impact strength, notched, +23°C 8 KJ/m² ISO 179 Thermal Nominal Value Unit Test Method HDT, 1.8 MPa under load 230 °C ISO 75 HDT, 0.45 MPa under load 245 °C ISO 75 LECT(Transverse/parallel) 2.78.6 10 ⁴/K ISO 11359 Thermal conductivity 0.37 W/(m+k) DIN 52612 Flammability Nominal Value Unit Test Method According UL standard 3.7 IEC 60250 Volume resistivity 10° Ω-m IEC 60250 <td< th=""><th>Physical</th><th>Nominal Value</th><th>Unit</th><th>Test Method</th></td<>	Physical	Nominal Value	Unit	Test Method
Mechanical Nominal Value Unit Test Method Tensile modulus 5700 MPa 1SO 527 Tensile strength, break 1111 MPa 1SO 527 Flexural modulus 6000 MPa 1SO 178 Flexural strength 157 MPa 1SO 178 Flexural strength 3.6 % 1SO 527 Charpy impact strength, notched, +23°C 8 KJ/m² 1SO 179 Thermal Nominal Value Unit Test Method HDT, 1.8 MPa under load 230 °C 1SO 75 HDT, 0.45 MPa under load 245 °C 1SO 75 HDT, 0.45 MPa under load 245 °C 1SO 75 Thermal conductivity 2.778.6 10°4K 1SO 11359 Thermal conductivity 0.37 W(m·k) DIN 52612 Flammability Nominal Value Unit Test Method According UL standard 3.15 mm UL-94 VO Dissipation factor, 100 Hz 0.006 UE 60250 Volume r	Specific gravity	1.41	g/cm³	ISO 1183
Tensile modulus	Water absorption, 23°C, 24h	4.5	%	ISO 62
Tensile strength, break 111 MPa ISO 527 Flexural modulus 6000 MPa ISO 178 Flexural strength 157 MPa ISO 178 Tensile elongation, break 3.6 % ISO 527 Charpy impact strength, notched, +23°C 8 KJ/m² ISO 179 Thermal Nominal Value Unit Test Method HDT, 1.8 MPa under load 230 °C ISO 75 HDT, 0.45 MPa under load 245 °C ISO 75 CLTE(Transverse/parallel) 2.778.6 10⁴/K ISO 11335 Thermal conductivity 0.37 W(m·k) DIN 52612 Flammability Nominal Value Unit Test Method According UL standard 3.15 mm UL-94 VO Electrical Nominal Value Unit Test Method Dissipation factor,100 Hz 3.7 IEC 60250 Volume resistivity 10¹³ Ω·m IEC 60250 Volume resistivity 10¹³ Ω·m IEC 60093	Mechanical	Nominal Value	Unit	Test Method
Flexural modulus 6000 MPa ISO 178 Flexural strength 157 MPa ISO 178 Tensile elongation, break 3.6 % ISO 527 Charpy impact strength, notched, +23°C 8 KJ/m² ISO 179 Thermal Nominal Value Unit Test Method HDT, 1.8 MPa under load 230 °C ISO 75 HDT, 0.45 MPa under load 245 °C ISO 75 CLTE(Transverse/parallel) 2.7/8.6 10°4/K ISO 11359 Thermal conductivity 0.37 W/(m·k) DIN 52612 Flammability Nominal Value Unit Test Method According UL standard 3.15 mm UL-94 VO Electrical Nominal Value Unit Test Method Dissipation factor, 100 Hz 3.7 IEC 60250 Volume resistivity 10°3 Ω·m IEC 60250 Volume resistivity 10°4 Ω IEC 60093 Injection Nominal Value Unit Unit <td< td=""><td>Tensile modulus</td><td>5700</td><td>MPa</td><td>ISO 527</td></td<>	Tensile modulus	5700	MPa	ISO 527
Flexural strength	Tensile strength, break	111	MPa	ISO 527
Tensile elongation, break 3.6	Flexural modulus	6000	MPa	ISO 178
Charpy impact strength, notched, +23°C 8 KJ/m² ISO 179 Thermal Nominal Value Unit Test Method HDT, 1.8 MPa under load 230 °C ISO 75 HDT, 0.45 MPa under load 245 °C ISO 75 CLTE (Transverse/parallel) 2.7/8.6 10-4/K ISO 11359 Thermal conductivity 0.37 W/(m*k) DIN 52612 Flammability Nominal Value Unit Test Method According UL standard 3.15 mm UL-94 VO Electrical Nominal Value Unit Test Method Dissipation factor, 100 Hz 3.7 IEC 60250 Volume resistivity 1013 Ω*m IEC 60250 Volume resistivity 1014 Ω Ω*m IEC 60093 Injection Nominal Value Unit Melting point, DSC 260 °C DIN 53765 MVR, 275/5 19 cm³/10min ISO 1133 Melt temperature range, Injection molding 280-305 °C	Flexural strength	157	MPa	ISO 178
Thermal Nominal Value Unit Test Method HDT, 1.8 MPa under load 230 °C ISO 75 HDT, 0.45 MPa under load 245 °C ISO 75 CLTE(Transverse/parallel) 2.7/8.6 10-4/K ISO 11359 Thermal conductivity 0.37 W/(m-k) DIN 52612 Flammability Nominal Value Unit Test Method According UL standard 3.15 mm UL-94 V0 Electrical Nominal Value Unit Test Method Dissipation factor, 100 Hz 3.7 IEC 60250 Volume resistivity 10-13 Ω*m IEC 60250 Volume resistivity 10-13 Ω*m IEC 60093 Injection Nominal Value Unit Unit Melting point, DSC 260 °C DIN 53765 MVR, 275/5 19 cm³/10min ISO 1133 Melt temperature range, Injection molding 280-305 °C	Tensile elongation, break	3.6	%	ISO 527
HDT, 1.8 MPa under load	Charpy impact strength, notched, +23°C	8	KJ/m²	ISO 179
HDT, 0.45 MPa under load 245 °C ISO 75 CLTE(Transverse/parallel) 2.7/8.6 10°4/K ISO 11359 Thermal conductivity 0.37 W/(m*k) DIN 52612 Flammability Nominal Value Unit Test Method According UL standard 3.15 mm UL-94 VO Electrical Nominal Value Unit Test Method Dielectric constant ,100 Hz 3.7 IEC 60250 Dissipation factor,100 Hz 0.006 IEC 60250 Volume resistivity 10¹³ Ω*m IEC 60093 Surface resistivity 10¹⁴ Ω IEC 60093 Injection Nominal Value Unit Melting point, DSC 260 °C DIN 53765 MVR, 275/5 19 cm³/10min ISO 1133 Melt temperature range, Injection molding 280-305 °C	Thermal	Nominal Value	Unit	Test Method
CLTE(Transverse/parallel) 2.7/8.6 10-4/K ISO 11359 Thermal conductivity 0.37 W/(m*k) DIN 52612 Flammability Nominal Value Unit Test Method According UL standard 3.15 mm UL-94 VO Electrical Nominal Value Unit Test Method Diesipation factor, 100 Hz 3.7 IEC 60250 Volume resistivity 0.006 IEC 60250 Volume resistivity 10 ¹³ Ω*m IEC 60093 Surface resistivity 10 ¹⁴ Ω IEC 60093 Injection Nominal Value Unit Melting point, DSC 260 °C DIN 53765 MVR, 275/5 19 cm³/10min ISO 1133 Melt temperature range, Injection molding 280-305 °C	HDT, 1.8 MPa under load	230	°C	ISO 75
Thermal conductivity 0.37 W/(m*k) DIN 52612	HDT, 0.45 MPa under load	245	°C	ISO 75
Flammability Nominal Value Unit Test Method According UL standard 3.15 mm UL-94 VO Electrical Nominal Value Unit Test Method Dieslectric constant ,100 Hz 3.7 IEC 60250 Dissipation factor,100 Hz 0.006 IEC 60250 Volume resistivity 10 ¹³ Ω*m IEC 60093 Surface resistivity 10 ¹⁴ Ω IEC 60093 Injection Nominal Value Unit Melting point, DSC 260 °C DIN 53765 MVR, 275/5 19 cm³/10min ISO 1133 Melt temperature range, Injection molding 280-305 °C	CLTE(Transverse/parallel)	2.7/8.6	10 ⁻⁴ /K	ISO 11359
According UL standard 3.15 mm UL-94 VO	Thermal conductivity	0.37	W/(m•k)	DIN 52612
Electrical Nominal Value Unit Test Method Dielectric constant ,100 Hz 3.7 IEC 60250 Dissipation factor,100 Hz 0.006 IEC 60250 Volume resistivity 10 ¹³ Ω*m IEC 60093 Surface resistivity 10 ¹⁴ Ω IEC 60093 Injection Nominal Value Unit Melting point, DSC 260 °C DIN 53765 MVR, 275/5 19 cm³/10min ISO 1133 Melt temperature range, Injection molding 280-305 °C	Flammability	Nominal Value	Unit	Test Method
Dielectric constant ,100 Hz 3.7 IEC 60250 Dissipation factor,100 Hz 0.006 IEC 60250 Volume resistivity 1013 Ω*m IEC 60093 Surface resistivity 1014 Ω IEC 60093 Injection Nominal Value Unit Melting point, DSC 260 °C DIN 53765 MVR, 275/5 19 cm³/10min ISO 1133 Melt temperature range, Injection molding 280-305 °C	According UL standard	3.15	mm	UL-94 V0
Dissipation factor,100 Hz 0.006 IEC 60250 Volume resistivity 10 ¹³ Ω*m IEC 60093 Surface resistivity 10 ¹⁴ Ω IEC 60093 Injection Nominal Value Unit Melting point, DSC 260 °C DIN 53765 MVR, 275/5 19 cm³/10min ISO 1133 Melt temperature range, Injection molding 280-305 °C	Electrical	Nominal Value	Unit	Test Method
Volume resistivity 10¹³ Ω•m IEC 60093 Surface resistivity 10¹⁴ Ω IEC 60093 Injection Nominal Value Unit Melting point, DSC 260 °C DIN 53765 MVR, 275/5 19 cm³/10min ISO 1133 Melt temperature range, Injection molding 280-305 °C	Dielectric constant ,100 Hz	3.7		IEC 60250
Surface resistivity 10 ¹⁴ Ω IEC 60093 Injection Nominal Value Unit Melting point, DSC 260 °C DIN 53765 MVR, 275/5 19 cm³/10min ISO 1133 Melt temperature range, Injection molding 280-305 °C	Dissipation factor,100 Hz	0.006		IEC 60250
Injection Nominal Value Unit Melting point, DSC 260 °C DIN 53765 MVR, 275/5 19 cm³/10min ISO 1133 Melt temperature range, Injection molding 280-305 °C	Volume resistivity	10 ¹³	Ω•m	IEC 60093
Melting point, DSC 260 °C DIN 53765 MVR, 275/5 19 cm³/10min ISO 1133 Melt temperature range, Injection molding 280-305 °C	Surface resistivity	10 ¹⁴	Ω	IEC 60093
MVR, 275/5 19 cm³/10min ISO 1133 Melt temperature range, Injection molding 280-305 °C	Injection	Nominal Value	Unit	
Melt temperature range, Injection molding 280-305 °C	Melting point, DSC	260	°C	DIN 53765
	MVR, 275/5	19	cm ³ /10min	ISO 1133
Mold temperature range, Injection 80-90 °C	Melt temperature range, Injection molding	280-305	°C	
	Mold temperature range, Injection	80-90	°C	





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Disclaimer

Sales products:

This information and technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved.

Each user must identify and perform all tests and analyses necessary to assure that its finished parts incorporating TENSURE materials or products will be safe and suitable for use under end-use conditions.

Our products are sold and our advisory service is given in accordance with the current version of our General Conditions of Sale and Delivery.

Test figures:

Above figures were measured under the condition of 23 ℃ and RH 50% base on injection molded specimens .They are typical figures, not specifications. Kindly note that, under certain conditions,

The properties can be affected to a considerable extent by the design of the mould/die, the processing conditions and coloring.

To preclude any risk to the health and well-being of the machine operatives, tolerance limits for the work environment must be ensured by the provision of efficient exhaust ventilation and fresh air at the workplace.

The prescribed processing temperatures should not be substantially exceeded.

Since excessively high temperatures are generally the result of operator error or defects in the heating system, special care and controls are essential in these areas.