VESTAMID® Terra HS1851

PA610-GF20 Evonik Operations GmbH

Product Texts

Medium viscosity, glass fiber–reinforced, easily demoldable, heat-stabilized polyamide 610 compound for efficient injection molding

VESTAMID® ***Terra*** **HS1851** is a glass fiber-reinforced, heat-stabilized, medium-viscosity PA 610 compound for injection molding application. The material contains about 20% glass fibers, an ageing protective agent and processing aid for a fast and even form filling.

The carbonamide groups (-CO-NH-) of the polyamides form hydrogen bridge bonds between the chains of the macromolecules, thereby substantially promoting crystallinity and increasing their strength, melting point, resistance to chemicals and even water absorption. This is characteristic of all semi-crystalline polyamides.

Because of its semi-crystalline morphology VESTAMID® *Terra* HS1851 provides a high impact strength, excellent chemical resistance (e.g. against greases, oils, alkalis and saline solutions), a low coefficient of friction and high abrasion resistance.

VESTAMID® *Terra* HS1851 is supplied as cylindrical granules, ready for processing, in moisture-proof bags.

VESTAMID® Terra is a group of new polyamides, the monomers for which are based entirely or partly on renewable raw materials.

VESTAMID® Terra HS is the polycondensation product of 1,6-hexamethylene diamine (H) and 1,10-decanedioic acid (sebacic acid—S). Because sebacic acid is derived from castor oil, VESTAMID® Terra HS is a material that is partly based on bio-based and renewable resources.

The use of colorants may affect property values.

For information about processing of VESTAMID®, please follow the general commendations about "Processing of VESTAMID® compounds".

The values presented are typical or average values, they do not constitute a specification.

FOR FURTHER INFORMATION PLEASE CONTACT US AT EVONIK-HP@EVONIK.COM OR VISIT OUR PRODUCT AT WWW.VESTAMID.TERRA.COM

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
ISO Data			
[C] Melt volume-flow rate, MVR	**21 / ***	cm³/10min	ISO 1133
Temperature	**250 / ***	°C	-
Load	**5 / ***	kg	-
[C] Molding shrinkage, parallel	**0.4 / ***	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**0.7 / ***	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**6000 / -**	MPa	ISO 527
[C] Stress at break	**131 / -**	MPa	ISO 527
[C] Strain at break	**3.8 / -**	%	ISO 527
[C] Charpy impact strength, +23°C	**86 / -**	kJ/m²	ISO 179/1eU
[C] Type of failure	**C / -**	-	-
[C] Charpy impact strength, -30°C	**78 / -**	kJ/m²	ISO 179/1eU
[C] Type of failure	**C / -**	-	-
[C] Charpy notched impact strength, +23°C	**11 / -**	kJ/m²	ISO 179/1eA
[C] Type of failure	**C / -**	-	-
[C] Charpy notched impact strength, -30°C	**8.9 / -**	kJ/m²	ISO 179/1eA
[C] Type of failure	**C / -**	-	-

[C]: CAMPUS

Thermal properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Melting temperature, 10°C/min	**223 / ***	°C	ISO 11357-1/-3

[C] Glass transition temperature, 10°C/min	**49 / ***	°C	ISO 11357-1/-2
[C] Temp. of deflection under load, 1.80 MPa	**204 / ***	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**222 / ***	°C	ISO 75-1/-2
[C] Vicat softening temperature, B	**219 / ***	°C	ISO 306
[C] Coeff. of linear therm. expansion, parallel	**26 / ***	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**124 / ***	E-6/K	ISO 11359-1/-2

[C]: CAMPUS

Other properties	**dry / cond**	**Unit**	**Test Standard**
[C] Water absorption	**2.6 / ***	%	Sim. to ISO 62
[C] Density	**1220 / -**	kg/m³	ISO 1183

[C]: CAMPUS

Test specimen production	**Value**	**Unit**	**Test Standard**
ISO Data			
[C] Injection Molding, melt temperature	**260**	°C	ISO 294
Injection Molding, mold temperature	**80**	°C	ISO 294
Injection Molding, injection velocity	**200**	mm/s	ISO 294

[C]: CAMPUS

Characteristics

Processing
Injection Molding

Delivery form
Pellets

Special Characteristics
High impact or impact modified, Heat stabilized or stable to heat

Features
Tribologic Grade

Chemical Resistance
Alkali Resistance, General Chemical Resistance, Grease Resistance, Oil Resistance

Certifications
Contains renewable resources

Regional Availability
North America, Europe, Asia Pacific, South and Central America, Near East/Africa