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**Product Data Sheet &
General Processing Conditions**

**VLF 82311 A
Rigid Thermoplastic Polyurethane (RTPU)
Long Glass Fiber**

PROPERTIES & AVERAGE VALUES OF INJECTION MOLDED SPECIMENS

PERMANENCE	English	SI Metric	ASTM TEST
Primary Additive	60 %	60 %	
Specific Gravity	1.71	1.71	D 792
Molding Shrinkage 1/8 in (3.2 mm) section	0.0005 - 0.0020 in/in	0.05 - 0.20 %	D 955

MECHANICAL

Impact Strength, Izod notched 1/8 in (3.2 mm) section	9.0 ft-lbs/in	481 J/m	D 256
unnotched 1/8 in (3.2 mm) section	30.0 ft-lbs/in	1602 J/m	D 4812
Tensile Strength	32000 psi	221 MPa	D 638
Tensile Elongation	2.0 - 3.0 %	2.0 - 3.0 %	D 638
Tensile Modulus	2.50 x 10 ⁶ psi	17238 MPa	D 638
Flexural Strength	48000 psi	331 MPa	D 790
Flexural Modulus	2.50 x 10 ⁶ psi	17238 MPa	D 790

THERMAL

Deflection Temperature @ 264 psi (1820 kPa)	200 °F	93 °C	D 648
Ignition Resistance*			
Flammability**	HB @ 1/16 in	HB @ 1.5 mm	D 635

PROPERTY NOTES

Data herein is typical and not to be construed as specifications.

Unless otherwise specified, all data listed is for natural or black colored materials. Pigments can affect properties.

* This rating is not intended to reflect hazards of this or any other material under actual fire conditions.

** Values per RTP Company testing.

GENERAL PROCESSING FOR INJECTION MOLDING

	English	SI Metric
Injection Pressure	10000 - 15000 psi	69 - 103 MPa
Melt Temperature	430 - 470 °F	221 - 243 °C
Mold Temperature	125 - 200 °F	52 - 93 °C
Drying	6 hrs @ 225 °F	6 hrs @ 107 °C
Moisture Content	0.01 %	0.01 %
Dew Point	-40 °F	-40 °C

PROCESSING NOTES

Use a reverse barrel profile. To maximize fiber length, the following injection barrel, screw, and tip designs should be followed. L/D ratio 16/1 - 22/1, Compression ratio 2:1, Flight depth 0.200 in (5 mm) minimum, in feed section, Screw diameter 0.65 - 0.80 in (16.5 - 20 mm) minimum, Compression section length 12 - 13 diameters, Check ring valve assembly - free flow type no restrictions, Nozzle orifice 0.250 in (6 mm) diameter. Feed throat from hopper to machine must have sufficient opening to prevent bridging of long pellet composition.
Desiccant Type Dryer Required.