

## Technical Data

### Product Description

25% Glass Reinforced, Flame Retardant, Polyamide 66

### General

Material Status	• Commercial: Active
Literature <sup>1</sup>	• <a href="#">Technical Datasheet</a>
UL Yellow Card <sup>2</sup>	• <a href="#">E41938-234494</a>
Search for UL Yellow Card	• <a href="#">Celanese Corporation</a> • <a href="#">Zytel®</a>
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Filler / Reinforcement	• Glass Fiber, 25% Filler by Weight
Additive	• Flame Retardant
Features	• Flame Retardant
RoHS Compliance	• Contact Manufacturer
Multi-Point Data	• Isothermal Stress vs. Strain (ISO 11403) • Secant Modulus vs. Strain (ISO 11403)
Part Marking Code (ISO 11469)	• >PA66-GF25FR(17)<
Resin ID (ISO 1043)	• PA66-GF25FR(17)
ISO Designation	• ISO 16396-PA66,GF25 FR(17),M1CF1GR,S14-110

Physical	Dry	Conditioned	Unit	Test Method
Density	1.60	--	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	0.70	--	%	
Flow	0.30	--	%	
Water Absorption				ISO 62
24 hr, 23°C, 2.00 mm	0.60	--	%	
Saturation, 23°C, 2.00 mm <sup>4</sup>	3.4	--	%	
Equilibrium, 23°C, 2.00 mm, 50% RH	1.3	--	%	
Viscosity Number <sup>4</sup>				ISO 307, 1628
96% H2SO4 (Sulphuric Acid)	150	--	cm <sup>3</sup> /g	
Outdoor Suitability	f1	--		UL 746C

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	11000	8000	MPa	ISO 527-1
Tensile Stress (Break)	160	120	MPa	ISO 527-2/5
Tensile Strain (Break)	2.1	3.0	%	ISO 527-2/5
Flexural Modulus	9500	7500	MPa	ISO 178
Poisson's Ratio	0.34	0.34		



Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-40°C	9.0	10	kJ/m <sup>2</sup>	
-30°C	9.0	11	kJ/m <sup>2</sup>	
23°C	10	12	kJ/m <sup>2</sup>	
Charpy Unnotched Impact Strength				ISO 179/1eU
-40°C <sup>4</sup>	50	--	kJ/m <sup>2</sup>	
-30°C	60	--	kJ/m <sup>2</sup>	
23°C	65	--	kJ/m <sup>2</sup>	
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				ISO 75-2/A
1.8 MPa, Unannealed	240	--	°C	
Glass Transition Temperature <sup>5</sup>	80.0	20.0	°C	ISO 11357-3
Melting Temperature <sup>6</sup>	260	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow	2.1E-5	--	cm/cm/°C	
Flow : -40 to 23°C	2.5E-5	--	cm/cm/°C	
Flow : 55 to 160°C	1.2E-5	--	cm/cm/°C	
Transverse	7.9E-5	--	cm/cm/°C	
Transverse : -40 to 23°C	6.9E-5	--	cm/cm/°C	
Transverse : 55 to 160°C	1.1E-4	--	cm/cm/°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity <sup>4</sup>	> 1.0E+13	2.7E+10	ohms·m	IEC 62631-3-1
Electric Strength <sup>4</sup>	24	22	kV/mm	IEC 60243-1
Comparative Tracking Index (CTI) <sup>7</sup>	PLC 2	--		UL 746A
Comparative Tracking Index <sup>4</sup>	275	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				
1.5 mm	• V-0 • 5VA	--		UL 94 IEC 60695-11-10, -20
0.35 mm	V-0	--		IEC 60695-11-10, -20
Glow Wire Ignition Temperature				IEC 60695-2-13
0.75 mm	900	--	°C	
1.5 mm	900	--	°C	
3.0 mm	930	--	°C	
Oxygen Index	35	--	%	ISO 4589-2
FMVSS Flammability	SE/B	--		FMVSS 302
Fill Analysis	Dry	Conditioned	Unit	Test Method
Ejection Temperature	210	--	°C	
Specific Heat Capacity of Melt	2000	--	J/kg/°C	ISO 22007-4
Thermal Conductivity of Melt	0.25	--	W/m/K	ISO 22007-2
Additional Information	Dry	Conditioned	Unit	Test Method
Emission of Organic Compounds	4.70	--	µgC/g	VDA 277
Odor	4.50	--		VDA 270



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	280 to 300 °C
Melt Temperature, Optimum	290 °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
Screw Tangential Speed	< 12 m/min

**Notes**

<sup>1</sup> These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

<sup>2</sup> A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

<sup>3</sup> Typical properties: these are not to be construed as specifications.

<sup>4</sup> Derived from Similar Grade

<sup>5</sup> 10°C/min

<sup>6</sup> 10°C/min, First Heat

<sup>7</sup> 23°C

