



# Zytel® 74G33W BK196

DuPont Performance Polymers - NYLON RESIN

Friday, April 21, 2017

## General Information

### Product Description

33% Glass Reinforced, UV Stabilized, Polyamide 66 + Polyamide 6

### General

Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 33% Filler by Weight		
Additive	• UV Stabilizer		
Features	• UV Stabilized		
RoHS Compliance	• Contact Manufacturer		
Automotive Specifications	• ASTM D4066 PA000 G33 A23460 FJ100 Z01 Z02 Z03	• GM GMP.PA66/6.004	
Forms	• Pellets		
Processing Method	• Injection Molding		
Part Marking Code (ISO 11469)	• >PA66+PA6-GF33<		
Resin ID (ISO 1043)	• PA66+PA6-GF33		

## ASTM & ISO Properties <sup>1</sup>

Physical	Dry	Conditioned	Unit	Test Method
Density	1.39	--	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	0.70	--	%	
Flow	0.10	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	1.45E+6 (10000)	1.03E+6 (7080)	psi (MPa)	ISO 527-2
Tensile Stress (Break)	26800 (185)	18100 (125)	psi (MPa)	ISO 527-2
Tensile Strain (Break)	3.0	6.0	%	ISO 527-2
Flexural Modulus	1.29E+6 (8900)	--	psi (MPa)	ISO 178

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Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-40°F (-40°C)	4.8 (10)	--	ft·lb/in <sup>2</sup> (kJ/m <sup>2</sup> )	
-22°F (-30°C)	4.8 (10)	4.8 (10)	ft·lb/in <sup>2</sup> (kJ/m <sup>2</sup> )	
73°F (23°C)	5.7 (12)	8.6 (18)	ft·lb/in <sup>2</sup> (kJ/m <sup>2</sup> )	
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F (-30°C)	33 (70)	31 (65)	ft·lb/in <sup>2</sup> (kJ/m <sup>2</sup> )	
73°F (23°C)	38 (80)	48 (100)	ft·lb/in <sup>2</sup> (kJ/m <sup>2</sup> )	
Notched Izod Impact Strength				ISO 180/1A
-40°F (-40°C)	5.2 (11)	--	ft·lb/in <sup>2</sup> (kJ/m <sup>2</sup> )	
73°F (23°C)	5.7 (12)	--	ft·lb/in <sup>2</sup> (kJ/m <sup>2</sup> )	
Unnotched Izod Impact Strength				ISO 180/1U
73°F (23°C)	38 (80)	--	ft·lb/in <sup>2</sup> (kJ/m <sup>2</sup> )	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
66 psi (0.45 MPa), Unannealed	482 (250)	--	°F (°C)	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	437 (225)	--	°F (°C)	ISO 75-2/A
Melting Temperature <sup>2</sup>	491 (255)	--	°F (°C)	ISO 11357-3
CLTE				ISO 11359-2
Flow	7.8E-6 (1.4E-5)	--	in/in/°F (cm/cm/°C)	
Transverse	6.0E-5 (1.1E-4)	--	in/in/°F (cm/cm/°C)	
Flammability	Dry	Conditioned	Unit	Test Method
Burning Rate <sup>3</sup>				ISO 3795
0.0394 in (1.00 mm)	< 3.9 (< 100)	--	in/min (mm/min)	
Flame Rating				UL 94 IEC 60695-11-10, -20
0.030 in (0.75 mm)	HB	--		
FMVSS Flammability	B	--		FMVSS 302
Fill Analysis	Dry	Conditioned	Unit	
Ejection Temperature	410 (210)	--	°F (°C)	

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Additional Information	Dry	Conditioned	Unit	Test Method
Weather Stability <sup>4</sup>				DIN 53236
delta a	-0.150	--		
delta b	-0.800	--		
delta E	4.70	--		
delta I	-4.70	--		

Processing Information		
Injection	Dry (English)	Dry (SI)
Drying Temperature	176 °F	80 °C
Drying Time - Desiccant Dryer	2.0 to 4.0 hr	2.0 to 4.0 hr
Suggested Max Moisture	0.20 %	0.20 %
Processing (Melt) Temp	536 to 572 °F	280 to 300 °C
Melt Temperature, Optimum	554 °F	290 °C
Mold Temperature	158 to 248 °F	70 to 120 °C
Mold Temperature, Optimum	212 °F	100 °C
Holding Pressure	7250 to 14500 psi	50.0 to 100 MPa
Drying Recommended	yes	yes
Hold Pressure Time	3.00 s/mm	3.00 s/mm
Maximum Screw Tangential Speed	472 in/min	12 m/min

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 10°C/min

<sup>3</sup> FMVSS 302

<sup>4</sup> Without washing