



Zytel® FE290025 BK553 (PRELIMINARY)

NYLON RESIN

Zytel® FE290025 BK553 is a glass reinforced Polyamide 66 and Polyamide 6 comelt resin developed for blow molding

Product information

Resin Identification	PA66+PA6-IGF18	ISO 1043
Part Marking Code	>PA66+PA6-IGF18<	ISO 11469
ISO designation	ISO 16396-(PA66+PA6)-I,GF17,BCGH,S14-050	

Rheological properties

	dry/cond.		
Moulding shrinkage, parallel	0.8/-	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.6/-	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile Modulus	5400/2600	MPa	ISO 527-1/-2
Yield stress	100/50	MPa	ISO 527-1/-2
Yield strain	3/10	%	ISO 527-1/-2
Strain at break	4/28	%	ISO 527-1/-2
Flexural Modulus	4900/2300	MPa	ISO 178
Flexural Strength	145/55	MPa	ISO 178
Charpy impact strength, 23°C	65/100	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	65/90	kJ/m ²	ISO 179/1eU
Charpy impact strength, -40°C	65/45	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	13/22	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	6/5	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -40°C	5/3.5	kJ/m ²	ISO 179/1eA
Poisson's ratio	0.35/0.38	-	

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	245/*	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	195/*	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	235/*	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel, -40-23°C	24/*	E-6/K	ISO 11359-1/-2
CLTE, Parallel, 23-55°C(73-130°F)	34/-	E-6/K	ASTM E 831
Coeff. of linear therm. expansion, parallel, 55-160°C	25/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	60/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, Normal,23-55°C (73-130°F)	95/-	E-6/K	ASTM E 831
Coeff. of linear therm. expansion, normal, 55-160°C	121/*	E-6/K	ISO 11359-1/-2



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Flammability

FMVSS Class	DNI ^[1]	ISO 3795 (FMVSS 302)
[1]: wall thickness 3mm		

Other properties

	dry/cond.		
Humidity absorption, 2mm	2.2/*	%	Sim. to ISO 62
Water absorption	3.2/* ^[2]	%	Sim. to ISO 62
Density	1220/-	kg/m ³	ISO 1183
[2]: wall thickness 1mm			

Injection

Drying Recommended	yes
Drying Temperature	80 °C
Drying Time, Dehumidified Dryer	2 - 4 h
Processing Moisture Content	≤0.2 %
Melt Temperature Optimum	290 °C
Min. melt temperature	280 °C
Max. melt temperature	300 °C
Max. screw tangential speed	0.2 m/s
Mold Temperature Optimum	90 °C
Min. mould temperature	50 °C
Max. mould temperature	100 °C
Hold pressure range	50 - 100 MPa
Hold pressure time	3 s/mm

Extrusion

Drying Temperature	≤80 °C
Drying Time, Dehumidified Dryer	4 - 6 h
Melt Temperature Optimum	285 °C
Melt Temperature Range	275 - 290 °C

Blow Molding

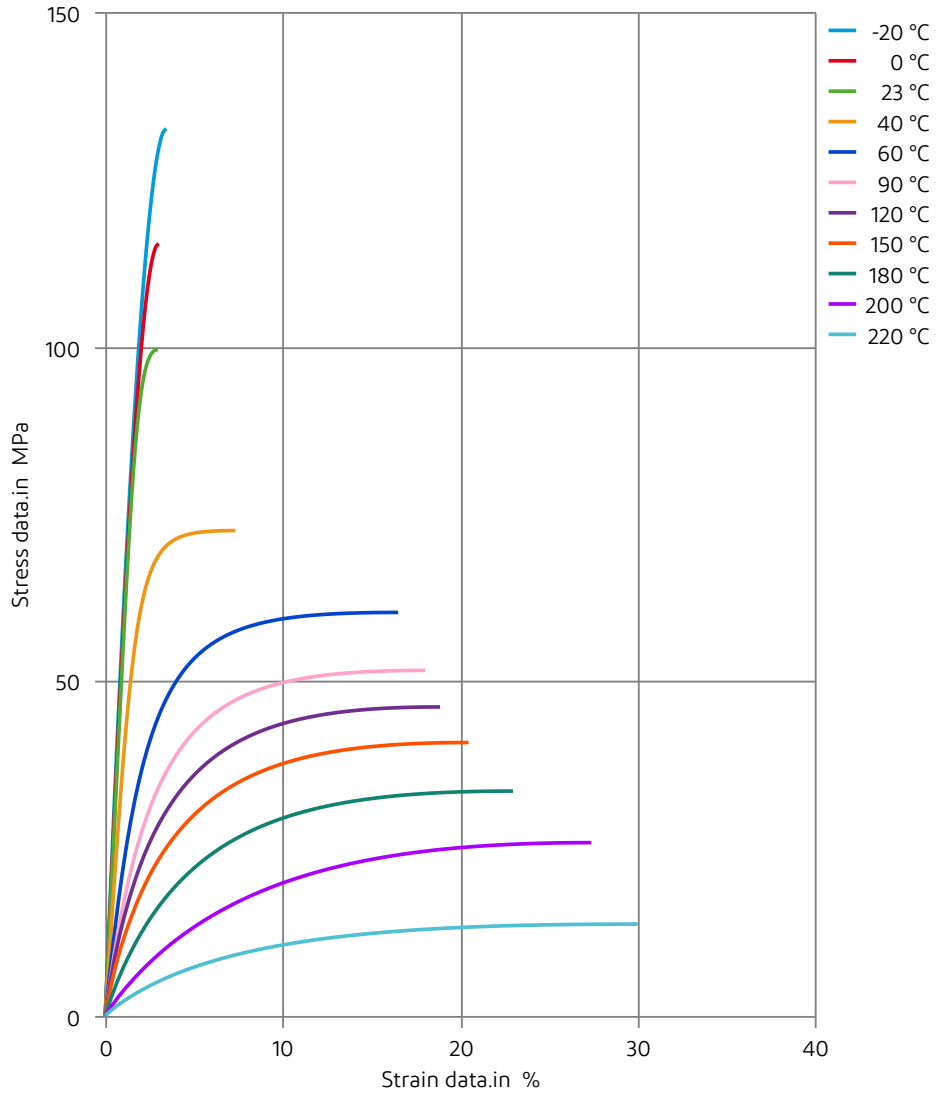
Drying Recommended	yes -
Drying Temperature	100 - 110 °C
Drying Time, Dehumidified Dryer	4 - 5 h
Processing Moisture Content	≤0.05 %
Melt Temperature Optimum	285 °C
Melt Temperature Range	275 - 295 °C
Swell ratio	1.3 -



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Stress-strain (dry)

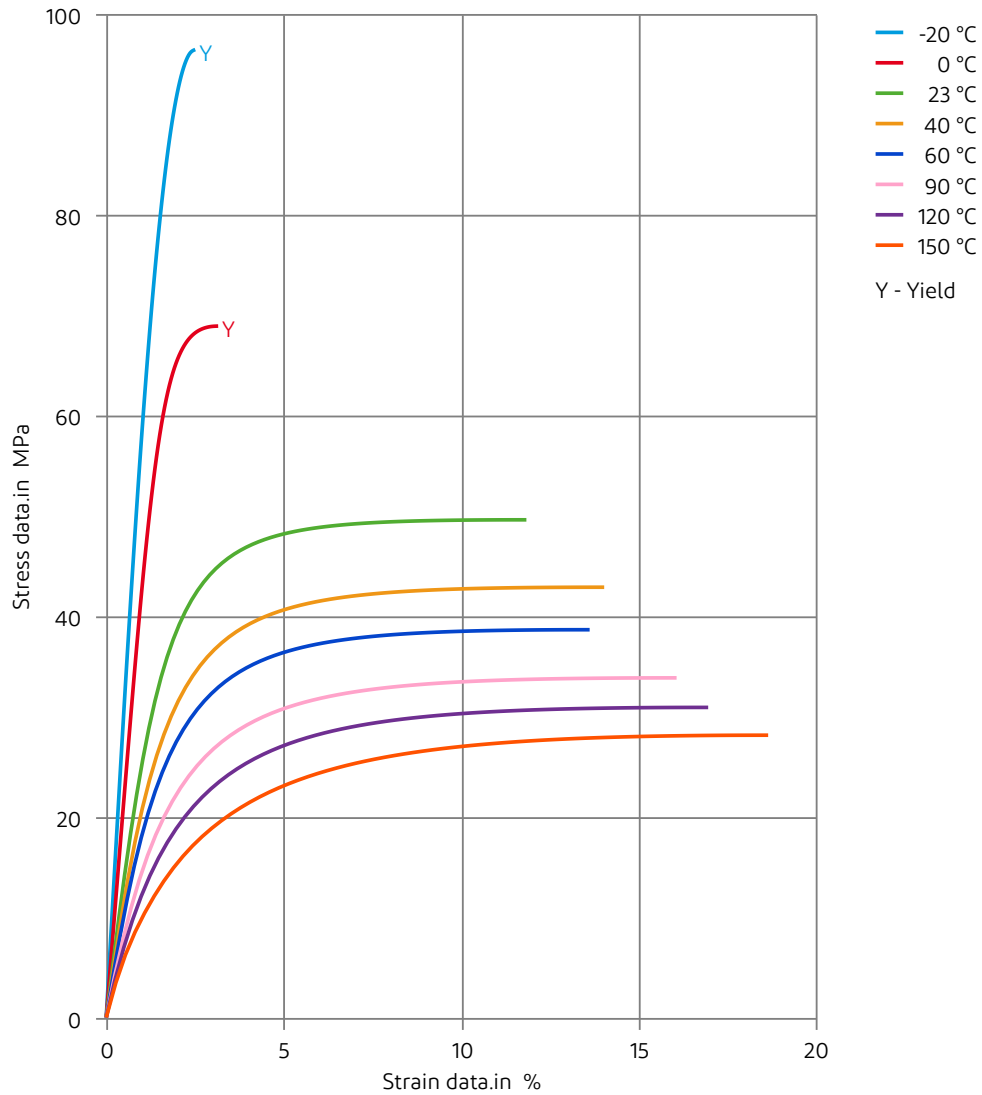




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Stress-strain (cond.)

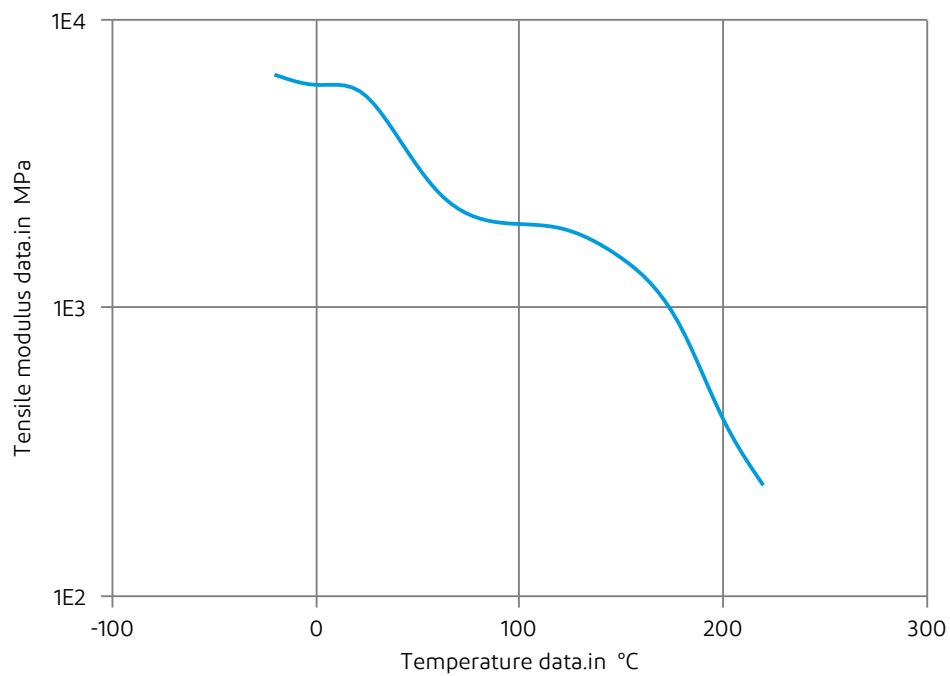




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Tensile modulus-temperature (dry)

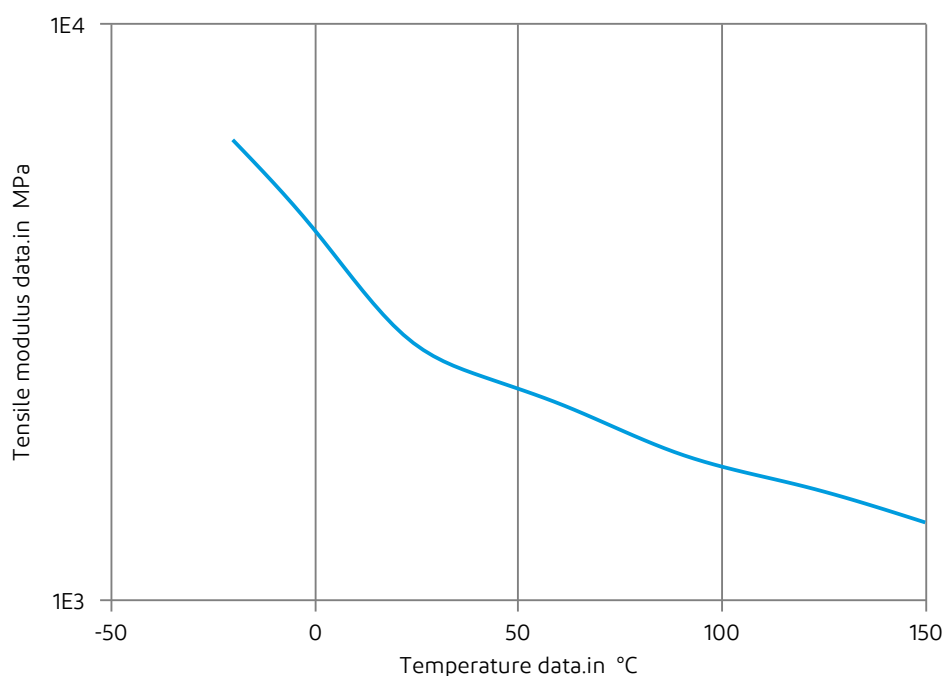




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Tensile modulus-temperature (cond.)



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The above data are preliminary and are subject to change as additional data are developed on subsequent lots.

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