Ultramid® B3ZG7 OSI BK23273

PA6-GF35 BASF

Ultramid® B3ZG7 OSI BK2373 is a 35% glass reinforced, pigmented black, heat stabilized, impact modified Polyamide 6 injection molding grade. It was developed to meet demanding mechanical and chemical requirements for the automotive oil pan application.

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Molding shrinkage, parallel	0.2 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.6 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	10000 / 6170	MPa	ISO 527
Stress at Break	170 / 112	MPa	ISO 527
Strain at Break	3.5 / 11	%	ISO 527
Impact Strength (Charpy), +23°C	102 / 106	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	113 / -	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	26 / 34	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	18 / -	kJ/m²	ISO 179/1eA
Flexural Modulus (23°C)	8920 / 5650	MPa	ISO 178
Notched Impact Strength (Izod), 23°C	24 / 34	kJ/m²	ISO 180/1A
Notched Impact Strength (Izod)	17 / -	kJ/m²	ISO 180/1A
Temperature	-40	°C	-

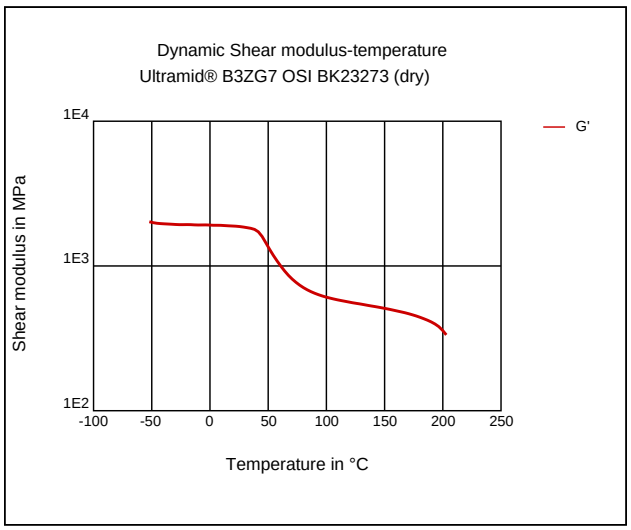
Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	220 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	206 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	220 / *	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	13.1 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	110 / *	E-6/K	ISO 11359-1/-2

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Humidity absorption	1.7 / *	%	Sim. to ISO 62
Density	1380 / -	kg/m³	ISO 1183

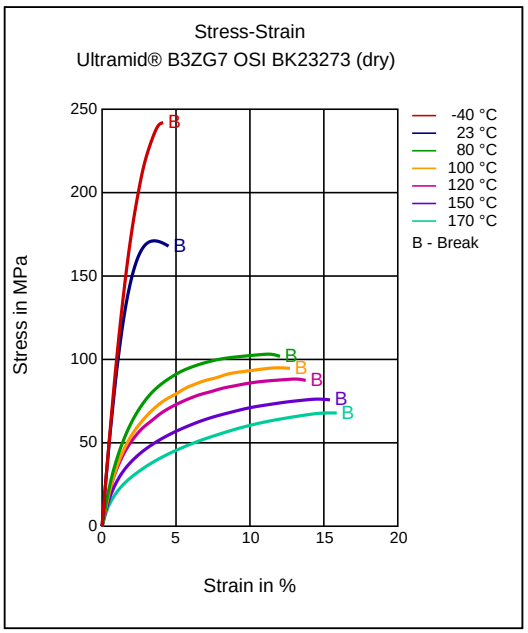
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	2 - 4	h	-
Processing humidity	≤0.08	%	-
Melt temperature	270 - 295	°C	-
Mold temperature	80 - 95	°C	-
Zone 1	245 - 275	°C	-
Zone 2	260 - 285	°C	-
Zone 3	270 - 295	°C	-
Nozzle temperature	270 - 295	°C	-
Injection pressure	3.5 - 12.5	MPa	-

Diagrams

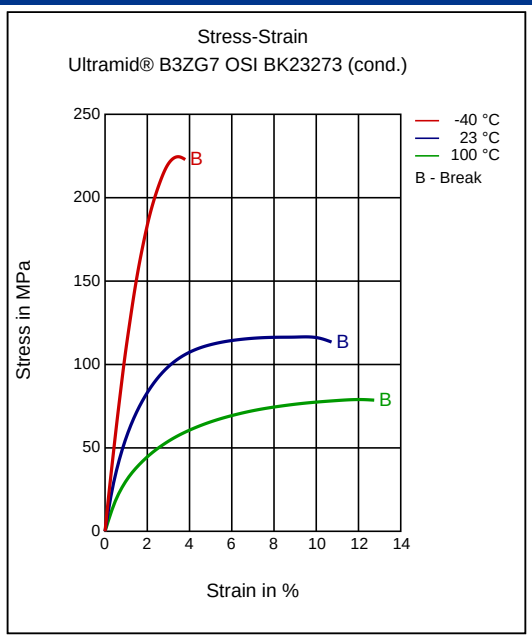
Dynamic Shear modulus-temperature



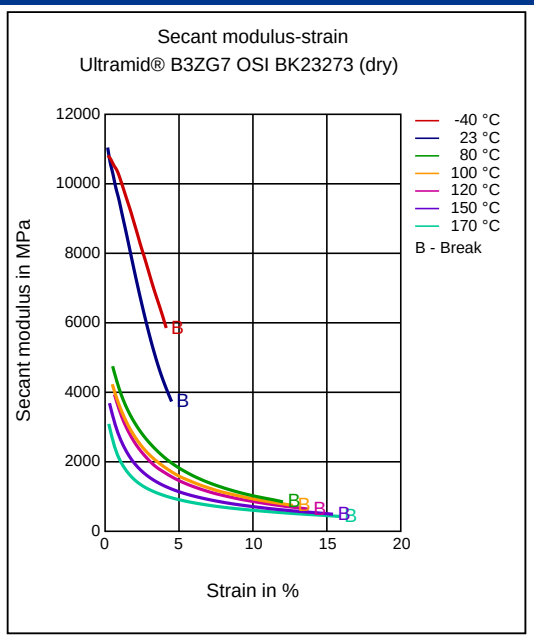
Stress-strain



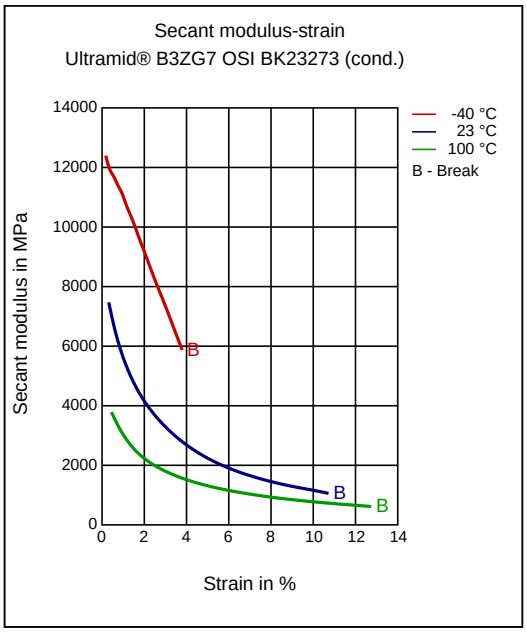
Stress-strain



Secant modulus-strain



Secant modulus-strain



Characteristics

Processing
Injection Molding

Chemical Resistance
Oil Resistance

Delivery form
Pellets, Black

Applications
Automotive

Special Characteristics
Impact modified, Heat aging stabilized

Injection Molding

PREPROCESSING
Pre/Post-processing, max. allowed water content: .08 %
Pre/Post-processing, Pre-drying, Temperature: 80 °C
Pre/Post-processing, Pre-drying, Time: 2 - 4 h

PROCESSING
injection molding, Melt temperature, range: 270 - 295 °C
injection molding, Mold temperature, range: 80 - 95 °C

Material Handling
Max. Water content: 0.08%
Product is supplied in sealed containers and drying prior to molding is not required. If drying becomes necessary, a dehumidifying or desiccant dryer operating at 80 °C (176 °F) is recommended. Drying time is dependent on moisture level but 2-4 hours is generally sufficient.
Further information concerning safe handling procedures can be obtained from the Material Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile
Melt Temperature 270-295 °C (518-563 °F)
Mold Temperature 80-95 °C (176-203 °F)
Injection and Packing Pressure 35-125 bar (500-1800psi)
Rear Zone 245-275 °C (473-527 °F)
Center Zone 260-285 °C (500-545 °C)
Front Zone 270-295 °C (518-563 °F)
Nozzle 270-295 °C (518-563 °F)

Mold Temperatures
This product can be processed over a wide range of mold temperatures; however, for applications where aesthetics are critical, a mold surface temperature of 80-95 °C (176-203 °F) is required.

Pressures
Injection pressure controls the filling of the part and should be applied for 90% of ram travel. Packing pressure affects the final part and can be used effectively in controlling sink marks and shrinkage. It should be applied and maintained until the gate area is completely frozen off.

Back pressure can be utilized to provide uniform melt consistency and reduce trapped air and gas. Minimal back pressure should be utilized to prevent glass breakage. recommended to minimize glass fiber breakage.

Fill Rate
Fast fill rates are recommended to insure uniform melt delivery to the cavity and prevent premature freezing. Surface appearance is directly affected by injection rate.

Disclaimer