

ASTAGLAS™ DR101

Polymethyl Methacrylate Acrylic

Marplex Australia Pty. Ltd.

Product Description

ASTAGLAS™ DR101 is a transparent high impact and heat resistance Poly(Methyl Methacrylate) Acrylic for injection moulding and extrusion processes. Typical applications require an optimum balance of toughness and heat resistance products for automotive, lighting, appliance and houseware applications.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• North America	• South America
Features	• Good Toughness	• High Heat Resistance	• High Impact Resistance
Uses	• Appliances • Automotive Applications	• Household Goods • Labels	
Appearance	• Clear/Transparent		
Processing Method	• Extrusion	• Injection Molding	

Physical	Nominal Value Unit	Test Method
Specific Gravity	1.16 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	1.3 g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.30 to 0.80 %	ASTM D955
Water Absorption (24 hr)	0.40 %	ASTM D570

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus ² (3.20 mm)	2000 MPa	ASTM D638
Tensile Strength ² (3.20 mm)	42.0 MPa	ASTM D638
Tensile Elongation ² (Break, 3.20 mm)	35 %	ASTM D638
Flexural Modulus ³ (3.20 mm)	1820 MPa	ASTM D790
Flexural Strength ³ (3.20 mm)	65.0 MPa	ASTM D790

Impact	Nominal Value Unit	Test Method
Notched Izod Impact (3.20 mm)	46 J/m	ASTM D256

Hardness	Nominal Value Unit	Test Method
Rockwell Hardness		ASTM D785
M-Scale	45	
R-Scale	110	

Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load ⁴		ASTM D648
1.8 MPa, Annealed, 3.20 mm	87.0 °C	
Vicat Softening Temperature	105 °C	ASTM D1525 ⁵
CLTE - Flow	0.00010 cm/cm/°C	ASTM D696

Flammability	Nominal Value Unit	Test Method
Flame Rating - UL (1.60 mm)	HB	UL 94

Optical	Nominal Value Unit	Test Method
Refractive Index	1.490	ASTM D542
Transmittance (Total, 3200 µm)	90.0 %	ASTM D1003
Haze (3200 µm)	< 2.0 %	ASTM D1003

Injection	Nominal Value Unit
Drying Temperature	80.0 to 85.0 °C
Drying Time	3.0 to 5.0 hr
Rear Temperature	200 to 230 °C
Middle Temperature	210 to 240 °C
Front Temperature	220 to 250 °C
Processing (Melt) Temp	220 to 250 °C
Mold Temperature	50.0 to 85.0 °C
Injection Pressure	60.0 to 130 MPa
Injection Rate	Slow-Moderate
Back Pressure	0.100 to 1.00 MPa