

ASTAGLAS™ DR101

Polymethyl Methacrylate Acrylic
Marplex Australia Pty. Ltd.



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Technical Data

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
Literature ¹	• Technical Datasheet (English)
Search for UL Yellow Card	• Marplex Australia Pty. Ltd.
Availability	• Asia Pacific • Latin America • North America
Features	• Good Toughness • High Heat Resistance • High Impact Resistance
Uses	• Appliances • Household Goods • Automotive Applications • Labels
Appearance	• Clear/Transparent
Processing Method	• Extrusion • Injection Molding

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Specific Gravity	1.16	1.16 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	1.3 g/10 min	1.3 g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.0055 in/in	0.55 %	ASTM D955
Water Absorption (24 hr)	0.40 %	0.40 %	ASTM D570

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus ³ (0.126 in (3.20 mm))	290000 psi	2000 MPa	ASTM D638
Tensile Strength ³ (0.126 in (3.20 mm))	6090 psi	42.0 MPa	ASTM D638
Tensile Elongation ³ Break, 0.126 in (3.20 mm)	35 %	35 %	ASTM D638
Flexural Modulus ⁴ (0.126 in (3.20 mm))	264000 psi	1820 MPa	ASTM D790
Flexural Strength ⁴ (0.126 in (3.20 mm))	9430 psi	65.0 MPa	ASTM D790

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (0.126 in (3.20 mm))	0.86 ft·lb/in	46 J/m	ASTM D256

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
M-Scale	45	45	
R-Scale	110	110	

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load ⁵ 264 psi (1.8 MPa), Annealed, 0.126 in (3.20 mm)	189 °F	87.0 °C	ASTM D648
Vicat Softening Temperature	221 °F	105 °C	ASTM D1525 ⁶
CLTE - Flow	0.000056 in/in/°F	0.00010 cm/cm/°C	ASTM D696

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating (0.0630 in (1.60 mm))	HB	HB	UL 94

Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Refractive Index	1.490	1.490	ASTM D542
Transmittance (Total, 126 mil (3200 µm))	90.0 %	90.0 %	ASTM D1003
Haze (126 mil (3200 µm))	< 2.0 %	< 2.0 %	ASTM D1003

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	176 to 185 °F	80.0 to 85.0 °C
Drying Time	3.0 to 5.0 hr	3.0 to 5.0 hr
Rear Temperature	392 to 446 °F	200 to 230 °C

Injection	Nominal Value (English)	Nominal Value (SI)
Middle Temperature	410 to 464 °F	210 to 240 °C
Front Temperature	428 to 482 °F	220 to 250 °C
Processing (Melt) Temp	428 to 482 °F	220 to 250 °C
Mold Temperature	122 to 185 °F	50.0 to 85.0 °C
Injection Pressure	8700 to 18900 psi	60.0 to 130 MPa
Injection Rate	Slow-Moderate	Slow-Moderate
Back Pressure	14.5 to 145 psi	0.100 to 1.00 MPa
Screw Speed	40 to 80 rpm	40 to 80 rpm
Clamp Tonnage	3.6 to 6.5 tons/in ²	5.0 to 9.0 kN/cm ²

Notes

¹ 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.

² Typical properties: these are not to be construed as specifications.

³ 0.20 in/min (5.0 mm/min)

⁴ 0.051 in/min (1.3 mm/min)

⁵ Annealed 4 hr at 80°C

⁶ Loading 1 (10 N)

Where to Buy

Supplier

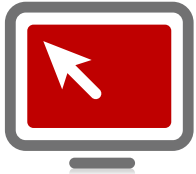
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Distributor

Please contact the supplier to find a distributor for ASTAGLAS™ DR101



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