

ASTALAC™ ABS M121

Acrylonitrile Butadiene Styrene

Marplex Australia Pty. Ltd.

Message:

ASTALAC™ ABS M121 is an ultra high impact strength grade of ABS and is designed for injection moulded pipe fitting applications requiring the highest toughness and abuse resistance whilst maintaining a balance of product rigidity, creep resistance and processability. Typical fluid transfer applications are in the mining, irrigation, drainage and water supply piping fields.

Note: The letters "UV" or "W" indicate UV stabilisation has been added [ie: ASTALAC™ ABS M121UV].

General Information			
Features	Good Creep Resistance		
	Good Processability		
	Medium Rigidity		
	Ultra High Impact Resistance		
	Ultra High Toughness		
Uses	Mining Applications		
	Piping		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.04	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	7.0	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.00 mm)	0.60	%	ASTM D955
Water Absorption (24 hr)	0.25	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	95		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ¹ (3.20 mm)	38.0	MPa	ASTM D638
Tensile Elongation ² (Break, 3.20 mm)	60	%	ASTM D638
Flexural Modulus ³ (3.20 mm)	2000	MPa	ASTM D790
Flexural Strength ⁴ (3.20 mm)	62.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (3.20 mm)	380	J/m	ASTM D256
Gardner Impact (3.20 mm)	35.0	J	ASTM D3029
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed, 3.20 mm	74.0	°C	
1.8 MPa, Unannealed, 12.7 mm	86.0	°C	
Vicat Softening Temperature	101	°C	ASTM D1525 ⁵

CLTE - Flow	9.5E-5	cm/cm/°C	ASTM D696
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.60 mm)	HB		UL 94
Glow Wire Ignition Temperature (1.60 mm)	550	°C	AS/NZS 60695.2.12
Injection	Nominal Value	Unit	
Drying Temperature	85.0 to 90.0	°C	
Drying Time	3.0 to 6.0	hr	
Rear Temperature	205 to 225	°C	
Middle Temperature	215 to 235	°C	
Front Temperature	225 to 245	°C	
Processing (Melt) Temp	220 to 250	°C	
Mold Temperature	30.0 to 70.0	°C	
Injection Pressure	60.0 to 140	MPa	
Injection Rate	Moderate		
Back Pressure	0.100 to 0.500	MPa	
Screw Speed	40 to 60	rpm	
Clamp Tonnage	3.0 to 6.0	kN/cm ²	
NOTE			
1.	5.0 mm/min		
2.	5.0 mm/min		
3.	1.3 mm/min		
4.	1.3 mm/min		
5.	Loading 1 (10 N)		

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