

# ASTALAC™ ASA 309 (Automotive)

Acrylonitrile Styrene Acrylate

Marplex Australia Pty. Ltd.

Message:

ASTALAC™ ASA 309 (Automotive) is a high heat grade of ASA which is designed for applications requiring a combination of resistance to heat, abuse resistance, product rigidity, and mouldability. As ASA grades show superior colour and property retention compared to ABS, typical applications include automotive exterior components such as front grilles and rear applique assemblies.

Note: The letters "UV" or "W" indicate additional UV stabilisation [ ie: ASTALAC™ ASA 309UV ].

General Information			
Features	Good Color Stability		
	Good Moldability		
	Good Stiffness		
	High Heat Resistance		
Uses	Automotive Applications		
	Automotive Exterior Parts		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.06	g/cm <sup>3</sup>	ASTM D792
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	12	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.00 mm)	0.60	%	ASTM D955
Water Absorption (24 hr)	0.12	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	100		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength <sup>1</sup> (3.20 mm)	46.0	MPa	ASTM D638
Tensile Elongation <sup>2</sup> (Break, 3.20 mm)	45	%	ASTM D638
Flexural Modulus <sup>3</sup> (3.20 mm)	2200	MPa	ASTM D790
Flexural Strength <sup>4</sup> (3.20 mm)	69.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (3.20 mm)	280	J/m	ASTM D256
Gardner Impact (3.20 mm)	25.0	J	ASTM D3029
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed, 3.20 mm	78.0	°C	
1.8 MPa, Unannealed, 6.40 mm	84.0	°C	
1.8 MPa, Unannealed, 12.7 mm	92.0	°C	
Vicat Softening Temperature	109	°C	ASTM D1525 <sup>5</sup>
CLTE - Flow	8.5E-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	90.0 to 95.0	°C	
Drying Time	3.0 to 5.0	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	40.0 to 80.0	°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 <sup>2</sup>	
NOTE			
1.	50 mm/min		
2.	50 mm/min		
3.	1.3 mm/min		
4.	1.3 mm/min		
5.	Loading 1 (10 N)		

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