

LG ABS AP163

Acrylonitrile Butadiene Styrene

LG Chem Ltd.

Message:

LG ABS AP163 is an Acrylonitrile Butadiene Styrene (ABS) material. It is available in Asia Pacific, Europe, Latin America, or North America for injection molding.

Important attributes of LG ABS AP163 are:

Flame Rated

Antistatic

Typical application of LG ABS AP163: Electrical/Electronic Applications

General Information			
UL YellowCard	E67171-248356		
Additive	Antistatic		
Features	Antistatic		
Uses	Electrical/Electronic Applications		
Forms	Pellets		
Processing Method	Injection Molding		
Multi-Point Data	Specific Heat vs. Temperature (ISO 11403-2)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.07	g/cm ³	ASTM D792
--	1070	kg/m ³	ISO 1183 ¹
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	30	g/10 min	ASTM D1238
Melt volume-flow rate (220°C/10.0 kg)	30.8	cm ³ /10min	ISO 1133 ²
Molding Shrinkage - Flow	0.40 to 0.70	%	ASTM D955
Water Absorption (Saturation)	0.68	%	ISO 62 ³
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	98		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
3.20 mm ⁴	1660	MPa	ASTM D638
--	1800	MPa	ISO 527-2 ⁵
Tensile Strength			
Yield	43.1	MPa	ASTM D638
Yield	39.0	MPa	ISO 527-2 ⁶
Tensile Elongation			
Yield, 3.20 mm ⁷	> 5.0	%	ASTM D638
Yield	5.0	%	ISO 527-2 ⁸
Break, 3.20 mm ⁹	> 10	%	ASTM D638
Nominal strain at break	24	%	ISO 527-2 ¹⁰

Flexural Modulus ¹¹ (3.20 mm)	2160	MPa	ASTM D790
Flexural Strength ¹² (3.20 mm)	69.6	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy notched impact strength			ISO 179/1eA ¹³
-30°C	24.2	kJ/m ²	
23°C	44.2	kJ/m ²	
Charpy impact strength			ISO 179/1eU ¹⁴
-30°C	No Break		
23°C	No Break		
Notched Izod Impact (23°C, 3.20 mm)	490	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	90.0	°C	
1.8 MPa, Unannealed	87.0	°C	
Glass Transition Temperature ¹⁵	110	°C	ISO 11357-2 ¹⁶
Vicat Softening Temperature			
--	94.0	°C	ASTM D1525 ¹⁷
50°C/h, B (50N)	97.2	°C	ISO 306 ¹⁸
CLTE			ISO 11359-2 ¹⁹
Flow	8.4E-5	cm/cm/°C	
Transverse	8.5E-5	cm/cm/°C	
RTI Elec			UL 746
1.50 mm	60.0	°C	
3.00 mm	60.0	°C	
RTI Imp			UL 746
1.50 mm	60.0	°C	
3.00 mm	60.0	°C	
RTI Str			UL 746
1.50 mm	60.0	°C	
3.00 mm	60.0	°C	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	1.0E+12	ohms	ASTM D257
--	2.5E+11	ohms	IEC 60093 ²⁰
Volume resistivity	2.9E+11	ohms·m	IEC 60093 ²¹
Electric strength	48	kV/mm	IEC 60243-1 ²²
Relative Permittivity (1 MHz)	3.30		IEC 60250 ²³
Dissipation Factor (1 MHz)	0.029		IEC 60250 ²⁴
Arc Resistance	PLC 5		ASTM D495
Comparative Tracking Index (CTI)	PLC 0		UL 746
High Amp Arc Ignition (HAI)			UL 746
1.50 mm	PLC 0		

3.00 mm	PLC 0		
Hot-wire Ignition (HWI)			UL 746
1.50 mm	PLC 4		
3.00 mm	PLC 4		
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
--	HB		
1.50 mm, ALL	HB		
3.00 mm, ALL	HB		
Burning Behav. at thickness h (3.20 mm, UL)	HB		ISO 1210 ²⁵
Injection	Nominal Value	Unit	
Drying Temperature	80.0	°C	
Drying Time	2.0 to 4.0	hr	
Suggested Max Moisture	0.010	%	
Rear Temperature	180 to 200	°C	
Middle Temperature	190 to 210	°C	
Front Temperature	200 to 220	°C	
Nozzle Temperature	200 to 230	°C	
Processing (Melt) Temp	210 to 240	°C	
Mold Temperature	40.0 to 70.0	°C	
Back Pressure	29.4 to 58.8	MPa	
Screw Speed	30 to 60	rpm	
NOTE			
1.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
2.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
3.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
4.	1.0 mm/min		
5.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
6.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
7.	50 mm/min		
8.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
9.	50 mm/min		

10.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
11.	15 mm/min
12.	15 mm/min
13.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
14.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
15.	10 °C/min
16.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
17.	Rate A (50°C/h), Loading 2 (50 N)
18.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
19.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
20.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
21.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
22.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
23.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
24.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
25.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

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