

# Hybrid® S459

## Acrylonitrile Butadiene Styrene + PC

### Ravago Manufacturing Americas

General	
Material Status	• Commercial: Active
Availability	• North America
Features	• General Purpose
Uses	• General Purpose
RoHS Compliance	• RoHS Compliant
Forms	• Pellets
Processing Method	• Injection Molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.11	g/cm <sup>3</sup>	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR)			ASTM D1238
230°C/3.8 kg	2.7	g/10 min	
260°C/2.16 kg	5.7	g/10 min	
260°C/5.0 kg	20	g/10 min	
Melt Volume-Flow Rate (MVR)			ISO 1133
230°C/3.8 kg	2.40	cm <sup>3</sup> /10min	
260°C/2.16 kg	5.10	cm <sup>3</sup> /10min	
260°C/5.0 kg	18.0	cm <sup>3</sup> /10min	
Molding Shrinkage - Flow	0.50 to 0.70	%	ASTM D955 ISO 294-4
Water Absorption (24 hr)	0.090	%	ASTM D570

Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
Yield, 23°C	52.4	MPa	ASTM D638
Yield, 23°C	52.0	MPa	ISO 527-2
Tensile Elongation (Break, 23°C)	50	%	ASTM D638 ISO 527-2
Flexural Modulus			
23°C	2340	MPa	ASTM D790
23°C	2250	MPa	ISO 178
Flexural Strength (Yield, 23°C)	72.4	MPa	ASTM D790

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
23°C	560	J/m	ASTM D256
23°C	39.0	kJ/m <sup>2</sup>	ISO 180

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	120	°C	ASTM D648
0.45 MPa, Unannealed	122	°C	ISO 75-2/B
1.8 MPa, Unannealed	100	°C	ASTM D648
1.8 MPa, Unannealed	103	°C	ISO 75-2/A

Flammability	Nominal Value	Unit	Test Method
Flame Rating - UL (1.50 mm)	HB		UL 94
UL File Number	E157012		

Injection	Nominal Value	Unit
Drying Temperature	104 to 110	°C
Drying Time	2.0 to 4.0	hr
Drying Time, Maximum	10	hr
Suggested Max Moisture	0.040	%
Suggested Shot Size	40 to 80	%
Rear Temperature	232 to 243	°C
Middle Temperature	238 to 260	°C
Front Temperature	243 to 271	°C

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Injection	Nominal Value	Unit
Nozzle Temperature	243 to 271	°C
Mold Temperature	65.6 to 82.2	°C
Injection Pressure	5.52 to 12.4	MPa
Injection Rate	Moderate	
Back Pressure	0.345 to 1.03	MPa
Screw Speed	40 to 60	rpm

**Notes**

<sup>1</sup> Typical properties: these are not to be construed as specifications.