

# Hybrid S493

Polycarbonate Alloy

Ravago Manufacturing Americas, LLC

## Technical Data

### Product Description

Hybrid S493 is a Polycarbonate Alloy (PC Alloy) product. It can be processed by injection molding and is available in North America. Typical application: Automotive.

Characteristics include:

- Flame Rated
- RoHS Compliant
- Heat Resistant
- Impact Resistant

### General

Material Status	• Commercial: Active
Literature <sup>1</sup>	• <a href="#">Technical Datasheet</a>
Search for UL Yellow Card	• <a href="#">Ravago Manufacturing Americas, LLC</a> • <a href="#">Hybrid</a>
Availability	• North America
Features	• High Heat Resistance • Medium Impact Resistance
RoHS Compliance	• RoHS Compliant
Automotive Specifications	• MERCEDES BENZ US DBL 5404.21 Color: All Color Matches
Forms	• Pellets
Processing Method	• Injection Molding

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Specific Gravity			
--	1.06	1.06 g/cm <sup>3</sup>	ASTM D792
--	1.06 g/cm <sup>3</sup>	1.06 g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	13 g/10 min	13 g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (220°C/10.0 kg)	0.842 in <sup>3</sup> /10min	13.8 cm <sup>3</sup> /10min	ISO 1133
Molding Shrinkage			
Flow	4.0E-3 to 7.0E-3 in/in	0.40 to 0.70 %	ASTM D955
--	0.40 to 0.70 %	0.40 to 0.70 %	ISO 294-4

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength			
Yield, 73°F (23°C), Injection Molded	6200 psi	42.7 MPa	ASTM D638
Yield, Injection Molded	6670 psi	46.0 MPa	ISO 527-2
Flexural Modulus			
73°F (23°C), Injection Molded	365000 psi	2520 MPa	ASTM D790
73°F (23°C), Injection Molded	363000 psi	2500 MPa	ISO 178
Flexural Strength			
73°F (23°C), Injection Molded	11200 psi	77.2 MPa	ASTM D790
73°F (23°C), Injection Molded	11300 psi	78.0 MPa	ISO 178

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			
73°F (23°C)	4.7 ft·lb/in	250 J/m	ASTM D256
73°F (23°C)	8.6 ft·lb/in <sup>2</sup>	18 kJ/m <sup>2</sup>	ISO 180

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
264 psi (1.8 MPa), Unannealed, Injection Molded	198 °F	92.0 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	196 °F	91.0 °C	ISO 75-2/A
Vicat Softening Temperature	220 °F	104 °C	ASTM D1525 <sup>3</sup>

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating	HB	HB	UL 94