

# Shinko-Lac® ABS VP-1

Acrylonitrile Butadiene Styrene

Mitsubishi Rayon America Inc.

## Message:

Shinko-Lac ABS VP-1 is a flame retardant grade that offers excellent flame retardant characteristics to products along with good thermal stability. Good flow offers easy processing especially for large and thin products. VP-1 also exhibits excellent plating characteristics. Typical applications of VP-1 include dials, computer, TV and cash register housings.

General Information	
Additive	Flame retardancy
Features	Good dimensional stability
	Rigidity, high
	Highlight
	High strength
	Impact resistance, good
	Electroplateable
	Weldable
	Workability, good
	Sprayable
	Machinable
	Good chemical resistance
	Thermal stability, good
	Good toughness
	Good appearance
	Non-toxic
Uses	Electrical/Electronic Applications
	Electrical housing
	Business equipment
	Knob
UL File Number	E54695
Appearance	Available colors
	Natural color
Forms	Particle
Processing Method	Extrusion
	Calendering
	Vacuum forming

## Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.23	g/cm <sup>3</sup>	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	12	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.50	%	ASTM D955
Water Absorption (24 hr)	0.21	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	102		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	2260	MPa	ASTM D638
Tensile Strength (Yield, 23°C)	37.3	MPa	ASTM D638
Flexural Modulus (23°C, 6.35 mm)	2350	MPa	ASTM D790
Flexural Strength (Yield, 23°C, 6.35 mm)	58.8	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C, 6.35 mm)	130	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed, 12.7 mm)	81.0	°C	ASTM D648
Flammability	Nominal Value		Test Method
Flame Rating			UL 94
1.59 mm, NC	V-0		UL 94
3.18 mm, NC	V-0		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	80.0 - 90.0	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.10	%	
Rear Temperature	200 - 250	°C	
Middle Temperature	200 - 250	°C	
Front Temperature	200 - 250	°C	
Mold Temperature	40.0 - 80.0	°C	
Injection Pressure	68.6 - 108	MPa	
Injection instructions			

Higher mold temperature provides a product with excellent surface finish and less residual stress.

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