



SDPPL Logo

SDPPL - SD Polymer Pvt Ltd

TECHNICAL DATA SHEET

ABS (Acrylonitrile Butadiene Styrene) Compounds

Empowering Plastics Through Technology

45+ Years of Excellence in Polymer Compounding

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(Acrylonitrile Butadiene Styrene) Compounds</p>  
<p style="font-size: 16px; color: white; margin: 10px 0; text-shadow: 1px 1px 2px rgba(0,0,0,0.3); text-align: center;">Empowering Plastics Through  
Technology</p>  
<p style="font-size: 15px; color: white; margin: 5px 0; text-shadow: 1px 1px 2px rgba(0,0,0,0.3); text-align: center;">45+ Years of Excellence in Polymer  
Compounding</p>  
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1px 2px rgba(0,0,0,0.3);">📍 Faridabad, India | 📞 +91-9911143733 | ✉  
technical@sdpolymer.in</p>  
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Product Overview

SD Polymer's ABS (Acrylonitrile Butadiene Styrene) compounds offer outstanding toughness, excellent surface appearance, and easy processability for automotive, appliances, electronics, and consumer goods applications. Our ABS portfolio includes high impact grades, flame retardant formulations, plating grades, and heat-resistant variants.

Product Grades

1. High Impact ABS (HI)

Description: Enhanced impact-resistant ABS grades with superior toughness for applications requiring excellent impact performance.

Key Properties:

- Izod impact strength: 25-35 kJ/m² (notched)
- Excellent low-temperature toughness (-40°C)

- Good surface finish and gloss
- Easy processing and molding
- HDT: 90-95°C (1.8 MPa)
- Tensile strength: 40-45 MPa

Typical Applications:

- Automotive interior trim and panels
- Appliance housings (refrigerators, washing machines)
- Luggage and travel cases
- Protective equipment and safety gear
- Toys and sporting goods

Processing Recommendations:

- Drying: 80°C for 2-3 hours
 - Melt temperature: 210-250°C
 - Mold temperature: 50-80°C
 - Injection speed: Medium to high
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2. Flame Retardant ABS (FR)

Description: UL94 V-0 rated ABS compounds with excellent flame resistance for electrical and electronic applications.

Key Properties:

- UL94 V-0 rating at 1.5mm and 3.0mm
- Halogen-free options available
- Good electrical insulation properties
- Maintains good impact strength: 18-25 kJ/m²
- HDT: 85-92°C (1.8 MPa)
- Glow wire test: 650°C (GWIT)

Typical Applications:

- TV housings and monitor bezels
- Computer and laptop housings
- Electrical enclosures
- Appliance components
- Power adapters and chargers

Processing Recommendations:

- Drying: 80°C for 2-3 hours (critical for FR grades)
 - Melt temperature: 200-240°C
 - Mold temperature: 50-70°C
 - Avoid overheating to prevent degradation
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3. Plating Grade ABS

Description: Specially formulated ABS for electroplating applications with excellent adhesion and uniform plating.

Key Properties:

- Excellent plating adhesion and uniformity
- High gloss and mirror-like chrome finish
- Good dimensional stability
- Resistant to plating chemicals (acids, alkalis)
- Impact strength: 20-28 kJ/m²
- Low stress and warpage

Typical Applications:

- Automotive grilles and emblems
- Door handles and trim
- Bathroom fittings and faucets
- Decorative trim and badges
- Cosmetic packaging

Processing Recommendations:

- Drying: 80°C for 2-3 hours
 - Melt temperature: 220-250°C
 - Mold temperature: 60-80°C
 - Minimize stress marks for better plating
-

4. Heat Resistant ABS (HR)

Description: Enhanced heat-resistant ABS grades with improved thermal stability for elevated temperature applications.

Key Properties:

- HDT: 100-105°C (1.8 MPa)
- Improved long-term thermal aging resistance
- Maintains mechanical properties at elevated temperatures
- Good impact strength retention: 22-30 kJ/m²
- Tensile strength: 42-48 MPa

Typical Applications:

- Automotive interior parts (dashboards, consoles)
- Appliance housings (ovens, microwaves)
- Power tool components
- Industrial equipment housings
- Outdoor applications

Processing Recommendations:

- Drying: 80°C for 2-3 hours
 - Melt temperature: 220-260°C
 - Mold temperature: 60-80°C
 - Ensure adequate cooling time
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General Properties Table

Property	Test Method	HI ABS	FR ABS	Plating ABS	HR ABS	Unit
Density	ISO 1183	1.04	1.08	1.05	1.05	g/cm ³
Tensile Strength	ISO 527	40-45	38-42	42-46	42-48	MPa
Tensile Modulus	ISO 527	2000-2200	2100-2300	2200-2400	2200-2400	MPa
Elongation at Break	ISO 527	15-25	12-20	15-22	15-25	%
Flexural Strength	ISO 178	65-72	62-68	68-75	68-75	MPa
Flexural Modulus	ISO 178	2100-2300	2200-2400	2300-2500	2300-2500	MPa
Izod Impact (notched)	ISO 180	25-35	18-25	20-28	22-30	kJ/m ²
HDT (1.8 MPa)	ISO 75	90-95	85-92	92-98	100-105	°C
Vicat Softening Temp	ISO 306	100-105	95-100	105-110	110-115	°C
Flame Rating	UL94	HB	V-0	HB	HB	-
Surface Gloss (60°)	ASTM D523	85-95	75-85	90-98	85-95	%

Processing Guidelines

Drying

- **Important:** ABS should be dried before processing to prevent surface defects
- Temperature: 80°C
- Time: 2-3 hours
- Moisture content: < 0.05%

- Use hot air dryer or dehumidifying dryer

Injection Molding Parameters

Parameter	Range
Barrel Temperature (Rear)	180-200°C
Barrel Temperature (Middle)	200-230°C
Barrel Temperature (Front)	220-250°C
Nozzle Temperature	220-250°C
Mold Temperature	50-80°C
Injection Pressure	60-100 MPa
Back Pressure	3-10 MPa
Screw Speed	50-100 rpm

Design Recommendations

- Wall thickness: 1.5-3.5 mm (optimal 2.0-2.5 mm)
- Draft angle: 0.5-2.0° per side
- Corner radius: minimum 0.5 mm
- Gate size: 50-70% of wall thickness

Quality Certifications

- ISO 9001:2015 Quality Management System
- ISO 14001:2015 Environmental Management
- REACH Compliance
- RoHS Compliant (for applicable grades)
- UL Recognition (for FR grades)
- FDA Compliance (for food contact grades)

Storage & Handling

- Store in original sealed packaging
 - Storage temperature: 15-30°C
 - Relative humidity: < 70%
 - Protect from direct sunlight and moisture
 - Shelf life: 12 months from manufacturing date
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Safety Information

- Refer to Safety Data Sheet (SDS) for detailed safety information
 - Use appropriate personal protective equipment (PPE)
 - Ensure adequate ventilation during processing
 - Processing temperature should not exceed 270°C
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Contact Information

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