



# SDPPL - SD Polymer Pvt Ltd

## TECHNICAL DATA SHEET

### Engineering Plastics Compounds

*Empowering Plastics Through Technology*

45+ Years of Excellence

## Product Overview

SDPPL's engineering plastics portfolio includes high-performance compounds based on Polycarbonate (PC), Acrylonitrile Butadiene Styrene (ABS), Polyamide 66 (PA66), Polyamide 6 (PA6), Polybutylene Terephthalate (PBT), PC-ABS Alloys, Carbon Fiber Composites, and ASA-SAN Copolymers. These materials are engineered for applications requiring superior mechanical properties, thermal stability, dimensional accuracy, and specialized performance characteristics.

## Product Portfolio

### 1. Polycarbonate (PC) Compounds

**Grade Series:** SDPC Series

### Unfilled PC Grades

Property	Test Method	Unit	General Purpose	High Flow	Flame Retardant
Tensile Strength	ISO 527	MPa	60-65	58-62	55-60
Flexural Modulus	ISO 178	MPa	2200-2400	2100-2300	2000-2200
Impact Strength (Notched Izod, 23°C)	ISO 180	kJ/m <sup>2</sup>	65-75	60-70	12-18
Heat Deflection Temperature (1.8 MPa)	ISO 75	°C	128-132	125-130	120-125
Melt Flow Index (300°C, 1.2 kg)	ISO 1133	g/10 min	8-12	18-25	10-15
Vicat Softening Temperature	ISO 306	°C	145-150	142-148	140-145
Flame Rating	UL 94	-	HB	HB	V-0 (1.5mm)

### Glass Fiber Reinforced PC

Property	Test Method	Unit	10% GF	20% GF	30% GF
Tensile Strength	ISO 527	MPa	80-85	100-110	120-130
Flexural Modulus	ISO 178	MPa	3500-3800	5000-5500	6500-7000
Impact Strength (Notched Izod, 23°C)	ISO 180	kJ/m <sup>2</sup>	12-16	14-18	15-20
Heat Deflection Temperature (1.8 MPa)	ISO 75	°C	138-142	143-148	148-153
Melt Flow Index (300°C, 1.2 kg)	ISO 1133	g/10 min	6-10	5-8	4-7

**Applications:** Electrical/electronic housings, automotive lighting, safety equipment, medical devices

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## 2. ABS Compounds

### Grade Series: SDABS Series

#### Standard ABS Grades

Property	Test Method	Unit	General Purpose	High Impact	Heat Resistant
Tensile Strength	ISO 527	MPa	40-45	35-40	42-47
Flexural Modulus	ISO 178	MPa	2000-2200	1800-2000	2100-2300
Impact Strength (Notched Izod, 23°C)	ISO 180	kJ/m <sup>2</sup>	18-22	28-35	15-20
Heat Deflection Temperature (1.8 MPa)	ISO 75	°C	92-98	88-94	102-108
Melt Flow Index (220°C, 10 kg)	ISO 1133	g/10 min	15-25	12-20	10-18
Vicat Softening Temperature	ISO 306	°C	100-105	95-100	108-113

#### Glass Fiber Reinforced ABS

Property	Test Method	Unit	10% GF	20% GF	30% GF
Tensile Strength	ISO 527	MPa	55-60	70-75	85-90
Flexural Modulus	ISO 178	MPa	3000-3300	4500-5000	6000-6500
Impact Strength (Notched Izod, 23°C)	ISO 180	kJ/m <sup>2</sup>	10-14	12-16	13-17
Heat Deflection Temperature (1.8 MPa)	ISO 75	°C	100-105	105-110	110-115

**Applications:** Automotive interior trim, appliance housings, consumer electronics, power tools

### 3. Polyamide 66 (PA66) Compounds

#### Grade Series: SDPA66 Series

##### Unfilled PA66 Grades

Property	Test Method	Unit	Standard	Toughened	Heat Stabilized
Tensile Strength (dry)	ISO 527	MPa	75-80	65-70	78-83
Flexural Modulus (dry)	ISO 178	MPa	2800-3000	2400-2600	2900-3100
Impact Strength (Notched Izod, 23°C, dry)	ISO 180	kJ/m <sup>2</sup>	6-8	12-16	5-7
Heat Deflection Temperature (1.8 MPa, dry)	ISO 75	°C	220-230	210-220	230-240
Melt Flow Index (275°C, 5 kg)	ISO 1133	g/10 min	25-35	20-30	22-32
Water Absorption (23°C, saturation)	ISO 62	%	8.0-9.0	8.5-9.5	7.5-8.5

##### Glass Fiber Reinforced PA66

Property	Test Method	Unit	15% GF	30% GF	50% GF
Tensile Strength (dry)	ISO 527	MPa	120-130	160-170	200-220
Flexural Modulus (dry)	ISO 178	MPa	5000-5500	8000-9000	12000-13000
Impact Strength (Notched Izod, 23°C, dry)	ISO 180	kJ/m <sup>2</sup>	8-11	10-13	12-15
Heat Deflection Temperature (1.8 MPa, dry)	ISO 75	°C	240-250	250-260	255-265
Melt Flow Index (275°C, 5 kg)	ISO 1133	g/10 min	15-25	10-18	6-12

**Applications:** Automotive under-the-hood, electrical connectors, industrial gears, bearings

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#### 4. Polyamide 6 (PA6) Compounds

**Grade Series:** SDPA6 Series

##### Unfilled PA6 Grades

Property	Test Method	Unit	Standard	Toughened	Low Warpage
Tensile Strength (dry)	ISO 527	MPa	70-75	60-65	72-77
Flexural Modulus (dry)	ISO 178	MPa	2600-2800	2200-2400	2700-2900
Impact Strength (Notched Izod, 23°C, dry)	ISO 180	kJ/m <sup>2</sup>	5-7	10-14	5-6
Heat Deflection Temperature (1.8 MPa, dry)	ISO 75	°C	180-190	170-180	185-195
Melt Flow Index (235°C, 2.16 kg)	ISO 1133	g/10 min	20-30	18-28	15-25
Water Absorption (23°C, saturation)	ISO 62	%	9.0-10.0	9.5-10.5	8.5-9.5

## Glass Fiber Reinforced PA6

Property	Test Method	Unit	15% GF	30% GF	50% GF
Tensile Strength (dry)	ISO 527	MPa	110-120	150-160	190-210
Flexural Modulus (dry)	ISO 178	MPa	4500-5000	7500-8500	11000-12000
Impact Strength (Notched Izod, 23°C, dry)	ISO 180	kJ/m <sup>2</sup>	7-10	9-12	11-14
Heat Deflection Temperature (1.8 MPa, dry)	ISO 75	°C	210-220	220-230	225-235
Melt Flow Index (235°C, 2.16 kg)	ISO 1133	g/10 min	12-20	8-15	5-10

**Applications:** Automotive structural parts, electrical components, sports equipment, industrial applications

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## 5. PBT (Polybutylene Terephthalate) Compounds

**Grade Series:** SDPBT Series

Property	Test Method	Unit	E-PBT-1000	E-PBT-FR30	E-PBT-GF30	E-PBT-IM
Tensile Strength	ISO 527	MPa	50-55	48-52	110-120	45-50
Flexural Modulus	ISO 178	MPa	2300-2500	2200-2400	8000-9000	2000-2200
Impact Strength (Notched Izod, 23°C)	ISO 180	kJ/m <sup>2</sup>	5-7	4-6	7-10	15-20
Heat Deflection Temperature (1.8 MPa)	ISO 75	°C	55-60	52-58	210-220	50-55
Melt Flow Index (250°C, 2.16 kg)	ISO 1133	g/10 min	10-15	12-18	8-12	15-20
Flame Rating	UL 94	-	HB	V-0 (0.8mm)	HB	HB

**Applications:** Electrical connectors, automotive sensors, switches, relay housings, pump components

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## 6. PBT Glass Filled Compounds

**Grade Series:** SDPBT-GF Series

Property	Test Method	Unit	E-PBT-GF15	E-PBT-GF30	E-PBT-GF50	E-PBT-GF30-FR
Tensile Strength	ISO 527	MPa	85-95	110-120	140-155	105-115
Flexural Modulus	ISO 178	MPa	5500-6500	8000-9000	12000-14000	7500-8500
Impact Strength (Notched Izod, 23°C)	ISO 180	kJ/m <sup>2</sup>	6-8	7-10	9-12	6-9
Heat Deflection Temperature (1.8 MPa)	ISO 75	°C	200-210	210-220	220-230	205-215
Melt Flow Index (250°C, 2.16 kg)	ISO 1133	g/10 min	12-18	8-12	5-8	10-15
Flame Rating	UL 94	-	HB	HB	HB	V-0 (1.5mm)

**Applications:** Under-hood automotive parts, high-current connectors, motor housings, structural components

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## 7. PC-ABS Alloy Compounds

**Grade Series:** SDPCABS Series

Property	Test Method	Unit	E-PCABS-1000	E-PCABS-FR	E-PCABS-HI	E-PCABS-UV
Tensile Strength	ISO 527	MPa	50-55	48-52	45-50	48-53
Flexural Modulus	ISO 178	MPa	2200-2400	2100-2300	2000-2200	2150-2350
Impact Strength (Notched Izod, 23°C)	ISO 180	kJ/m <sup>2</sup>	35-45	30-40	50-65	38-48
Heat Deflection Temperature (1.8 MPa)	ISO 75	°C	105-110	100-105	100-108	103-108
Melt Flow Index (220°C, 10 kg)	ISO 1133	g/10 min	12-18	10-15	8-12	11-16
Flame Rating	UL 94	-	HB	V-0 (1.5mm)	HB	HB

**Applications:** Automotive interior trim, laptop housings, mobile devices, power tool housings, appliances

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## 8. Carbon Fiber Reinforced Composites

**Grade Series:** SDCF Series

Property	Test Method	Unit	E-CF-PA66	E-CF-PC	E-CF-ABS	E-CF-PP
Tensile Strength	ISO 527	MPa	180-200	140-160	90-110	80-95
Flexural Modulus	ISO 178	MPa	18000-22000	14000-16000	10000-12000	8000-10000
Impact Strength (Notched Izod, 23°C)	ISO 180	kJ/m <sup>2</sup>	10-14	12-16	8-12	6-9
Heat Deflection Temperature (1.8 MPa)	ISO 75	°C	240-250	135-145	95-105	140-150
Density	ISO 1183	g/cm <sup>3</sup>	1.25-1.30	1.20-1.25	1.10-1.15	1.00-1.05
Carbon Fiber Content	-	%	20-30	20-30	20-30	20-30

**Applications:** Automotive structural parts, drone components, sports equipment, premium consumer electronics

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## 9. ASA-SAN Copolymers

**Grade Series:** SDASA/SDSAN Series

Property	Test Method	Unit	E-ASA-1000	E-ASA-UV	E-SAN-100	E-ASA-GF20
Tensile Strength	ISO 527	MPa	45-50	43-48	70-80	85-95
Flexural Modulus	ISO 178	MPa	2100-2300	2000-2200	3500-3800	5500-6500
Impact Strength (Notched Izod, 23°C)	ISO 180	kJ/m <sup>2</sup>	20-25	18-23	3-5	8-12
Heat Deflection Temperature (1.8 MPa)	ISO 75	°C	95-100	93-98	105-110	105-112
Melt Flow Index (220°C, 10 kg)	ISO 1133	g/10 min	15-22	12-18	8-12	10-15
Gloss (60°)	ASTM D523	%	85-95	85-95	90-98	70-80

**Applications:** Outdoor furniture, automotive exterior trim, building profiles, garden equipment, transparent housings

## Processing Guidelines

### Polycarbonate (PC) Processing

Parameter	Injection Molding	Extrusion
Drying Temperature	120°C	120°C
Drying Time	3-4 hours	3-4 hours
Barrel Temperature	270-300°C	260-290°C
Mold/Die Temperature	80-100°C	90-110°C
Injection Pressure	80-140 MPa	-

## ABS Processing

Parameter	Injection Molding	Extrusion
Drying Temperature	80°C	80°C
Drying Time	2-3 hours	2-3 hours
Barrel Temperature	200-240°C	190-230°C
Mold/Die Temperature	50-80°C	60-80°C
Injection Pressure	60-120 MPa	-

## PA66/PA6 Processing

Parameter	Injection Molding	Extrusion
Drying Temperature	80-100°C	80-100°C
Drying Time	4-6 hours	4-6 hours
Barrel Temperature (PA66)	270-290°C	260-280°C
Barrel Temperature (PA6)	230-260°C	220-250°C
Mold/Die Temperature	60-90°C	70-90°C
Injection Pressure	80-150 MPa	-

## Quality Certifications

- **ISO 9001:2015** - Quality Management System
  - **IATF 16949:2016** - Automotive Quality Management
  - **ISO 14001:2015** - Environmental Management
  - **UL Recognition** - Selected grades
  - **RoHS Compliant** - Restriction of Hazardous Substances
  - **REACH Compliant** - European Chemical Regulation
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## Packaging & Storage

**Standard Packaging:** 25 kg bags with moisture barrier

### Storage Conditions:

- Store in original sealed packaging
- Temperature: 5-35°C
- Relative Humidity: < 60%
- Protect from moisture and direct sunlight
- Shelf Life: 12 months from manufacturing date

**Note:** PA66 and PA6 are hygroscopic materials. Keep sealed until use and dry before processing.

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## Safety Information

**Handling:** Use standard industrial hygiene practices. Ensure adequate ventilation during processing.

**Personal Protection:** Safety glasses, heat-resistant gloves for hot materials, dust mask if handling powder.

**Processing Hazards:** High processing temperatures may generate fumes. Use adequate ventilation.

**Fire Hazard:** Combustible material. Use water spray, foam, or CO<sub>2</sub> extinguisher.

**Disposal:** Dispose according to local environmental regulations. Material is recyclable.

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## Technical Support

For grade selection assistance, processing optimization, or custom compound development:

### SDPPL Technical Support

Email: [epr@sdpolymer.in](mailto:epr@sdpolymer.in), [sustainability@sdpolymer.in](mailto:sustainability@sdpolymer.in)

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## **Disclaimer**

The information provided in this technical data sheet is based on our current knowledge and experience. It is intended as a guide only and does not constitute a specification or warranty. Properties may vary depending on processing conditions, moisture content, and application requirements. Users should conduct their own tests to determine suitability for specific applications. Note that polyamide properties are significantly affected by moisture content.

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**SDPPL - SD Polymer Pvt Ltd**

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