



ABS

Description

ABS resin (Acrylonitrile-Butadiene-Styrene) is a thermoplastic polymer produced by the copolymerization of three monomers: acrylonitrile, butadiene, and styrene.

Features

1. Mechanical Properties

ABS plastic has excellent mechanical properties, with good impact strength allowing it to be used at extremely low temperatures. It also offers outstanding wear resistance, good dimensional stability, and oil resistance, making it suitable for bearings under moderate loads and low rotational speeds. The creep resistance of ABS is higher than that of PSF and PC but lower than that of PA and POM.

2. Thermal Properties

The heat deflection temperature of ABS plastic ranges from 93~118°C, and it can be increased by approximately 10°C after annealing. ABS still exhibits a certain degree of toughness at -40°C, and can be used within a temperature range of -40~100°C.

3. Electrical Properties

ABS plastic has good electrical insulation properties and is almost unaffected by temperature, humidity, and frequency, making it suitable for use in most environments.





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4. Environmental Properties

ABS plastic is resistant to water, inorganic salts, alkalis, and various acids, but it is soluble in ketones, aldehydes, and chlorinated hydrocarbons. It may experience stress cracking when exposed to glacial acetic acid, vegetable oils, and other such substances. ABS has poor weather resistance and is prone to degradation under ultraviolet light. After six months of outdoor exposure, its impact strength can decrease by half.

Parameters

Other Technical Requirements for Injection Molding Grade ABS Resin

Items		Unit	ABS, MN, 095- 15- 25-15	ABS, MN, 095- 15- 16-15	ABS, MN, 095- 30- 16-20	ABS, MN, 095- 30- 16-15
Pellet appearance	Colored pellets	Particles/g	Data provided by the supplier			
	Oversized and undersized pellets	g/kg	Data provided by the supplier			
Melt mass flow rate (MFR)		g/10 min	17±4	19±4	21±4	23±4
Tensile yield stress (σ_y)		MPa	≥39.0	≥37.0	≥48.0	≥37.0
Flexural modulus (E_f)		MPa	≥2100	≥2100	≥2400	≥2200
Flexural strength (σ_{Rm})		MPa	≥62.0	≥62.0	≥75.0	≥62.0
Charpy notched impact strength (α_{cA})		kJ/m ²	≥20.0	≥18.0	≥14.5	≥15.0
Vicat softening temperature ($T_{v50/50}$)		°C	≥94.0	≥92.0	≥94.0	≥92.0
Rockwell hardness (R scale)			≥103	≥103	≥107	≥103

