



# PROFESSIONAL PLASTICS, INC.

Leading Global Supplier of Engineered Plastic Shapes

USA Phone (888) 995-7767 – Asia Phone +65-6266-6193

E-Mail: [sales@proplas.com](mailto:sales@proplas.com) Website: [www.professionalplastics.com](http://www.professionalplastics.com)

## ABS Black - 4 Izod

ABS is a thermoplastic resin commonly used for injection molding applications. ABS (Acrylonitrile Butadiene Styrene) General Purpose with an izod impact rating of 4, available in black. ABS Plastic is a copolymer of Acrylonitrile, Butadiene, and Styrene, and generally possess medium strength and performance at medium cost. The advantage of ABS is that this material combines the strength and rigidity of the acrylonitrile and styrene polymers with the toughness of the polybutadiene rubber. The most amazing mechanical properties of ABS are resistance and toughness. A variety of modifications can be made to improve impact resistance, toughness, and heat resistance. The impact resistance can be amplified by increasing the proportions of polybutadiene in relation to styrene and acrylonitrile although this causes changes in other properties. Impact resistance does not fall off rapidly at lower temperatures. Stability under load is excellent with limited loads. Even though ABS plastics are used largely for mechanical purposes, they also have good electrical properties that are fairly constant over a wide range of frequencies. These properties are little affected by temperature and atmospheric humidity in the acceptable operating range of temperatures. The final properties will be influenced to some extent by the conditions under which the material is processed to the final product; for example, molding at a high temperature improves the gloss and heat resistance of the product whereas the highest impact resistance and strength are obtained by molding at low temperature.

### Typical Molding Conditions

Material: PPR-ABS01

#### Processing temperatures:

	Parameters			
	min.	max.	min.	max.
Stock*, F (C)	440	500	227	260
Rear, F (C)	440	490	227	254
Middle, F (C)	450	500	232	260
Front, F (C)	450	500	232	260
Nozzle, F (C)	470	490	243	254
Mold, F (C)	120	170	49	77

#### Processing pressures:

Injection, psi (MPa)	700	8,000	5	55
Hold, psi (MPa)	500	6,500	3	45
Back (plasticizing), psi (MPa)	0	150	0	1

#### Other parameters:

Injection rate	moderate-fast			
Screw speed	moderate-fast			
Cushion, in (mm)	0.25	0.50	6.35	12.7
Decompression, in (mm)	0.15	0.30	3.81	7.6
Regrind, %				

#### Drying parameters:

Temperature, F (C)	170	180	77	82
Time, hrs	2	4		
Maximum moisture content, %	0.2			

\*measure with a pyrometer in an air shot