



ABS (Acrylonitrile Butadiene Styrene)

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ABS is a durable, opaque polymer valued for its impact resistance, versatility, and ease of processing. Available in natural or colorable compounds, it balances performance and aesthetics, making it a go-to material for countless extrusion projects.

What is ABS?

ABS is a terpolymer formed by combining acrylonitrile, butadiene, and styrene, with each component contributing to its unique performance. Acrylonitrile improves chemical resistance and surface hardness, while butadiene enhances toughness and impact strength, even in cold environments. Styrene adds rigidity and a glossy finish. Together, these properties create a lightweight yet resilient material with excellent dimensional stability.

Common Applications

ABS is used across industries where strength, appearance, and cost efficiency matter. Typical applications include:

- Appliance housings and components
- Construction and plumbing parts
- Marine and hydroponic systems
- Furniture and consumer products
- Automotive interior trim

Benefits

1. Performs across a wide operating temperature range
2. Strong impact resistance at both high and low temps
3. Higher heat deflection temperature (HDT) than PVC
4. Lightweight and favorable strength-to-weight ratio
5. Cost competitive among engineering thermoplastics

Limitations

1. Poor UV resistance without protective additives or capping layers
2. Higher coefficient of thermal expansion (CTE) compared to some alternatives
3. Not inherently flame retardant
4. Pricing can fluctuate with feedstock costs