Acrylonitrile Butadiene Styrene - ABS Structural Foam

Polymer Type

Thermoplastic

Advantages

Foamed ABS gives increased rigidity compared to a part made from the same weight of solid material. Injection speeds ar increased and locking pressures are lower, hence relatively inexpensive moulds can be used. Tend to have a reduced tendenc to sinking.

Disadvantages

Ram injection not recommended. Cooling time is longer than for other ABS varieties. Air locks can cause cell collapse therefore adequate venting must be provided. Have lower modulus, notched izod impact and tensile strengths than other classes of ABS.

Typical Properties

Property	Value
Density (g/cm^3)	0.85
Surface Hardness	RR60
Tensile Strength (MPa)	25
Flexural Modulus (GPa)	1.5
Notched Izod (kJ/m)	0.07
Linear Expansion (/°C x 10^{-5})	10
Elongation at Break (%)	4
Strain at Yield (%)	1.2
Max. Operating Temp. (°C)	70
Water Absorption (%)	0.6
Oxygen Index (%)	19
Flammability UL94	HB
Volume Resistivity (log ohm.cm)	16
Dielectric Strength (MV/m)	10
Dissipation Factor 1kHz	0.008
Dielectric Constant 1kHz	2.6
HDT @ 0.45 MPa (°C)	84
HDT @ 1.80 MPa (°C)	82
Material. Drying hrs @ (°C)	2 @ 80
Melting Temp. Range (°C)	230 - 270
Mould Shrinkage (%)	0.8
Mould Temp. Range (°C)	40 - 60

Applications

Furniture, Loudspeaker Boxes, Picture Frames and Knobs. Telephone junction boxes, sprinkler housings, television surrounds, electric fan components, business machine housings, computer readout terminals, copying machine housings and automotive bucket seats.