

Datasheet

Acrylic Tube

RS Stock number [282-2278](#)



Description:

Extruded thermoplastic acrylic tubes with excellent optical properties.
Good resistance to most inorganic chemicals, oils, dilute acids/alkalis and weathering.

Mechanical Properties:

Density:	1.18 g/cm ³
Impact Strength (standard small test specimen):	12 kJ/m ²
Notched Impact Strength (standard small test specimen):	2 kJ/m ²
Tensile Strength (1/1 test specimen 3; V = 5 mm/min):	72 N/mm ²
Elongation at break (1/1 test specimen 3; V = 5 mm/min):	4.5 %
Flexure Strength (test specimen 80 x 10 x 4 mm):	105 N/mm ²
Compressive Yield Stress:	103 N/mm ²
Modulus of elasticity:	3300 N/mm ²
Dynamic shear modulus at c. 10 Hz:	1700 N/mm ²
Indentation hardness brinell H _{961/30} :	190 N/mm ²

**Optical Properties:**

Transmittance of 3 mm thick material in visible range:	~ 92
Refractive Index n_D^{20} :	1491

Thermal Properties:

Coefficient of linear thermal expansion (0...50 °C):	$70 - 10^{-6} 1/^\circ\text{C}$
Thermal Conductivity:	0.19 W/m ⁰ C
U-value (Thickness 3 mm):	5.6 W/m ⁰ C
U-value (Thickness 5 mm):	5.3 W/m ⁰ C
U-value (Thickness 10 mm):	4.4 W/m ⁰ C
Forming Temperature (oven temperature):	~ 150 °C
Demoulding Temperature:	> 80 °C
Maximum continuous service temperature:	70 °C
Vicat softening temperature Model B:	102 °C
Heat distortion temperature ISO 75, deflection 1.80 N/mm ² :	90 °C
Dimensional stability under heat acc. To Martens method:	85 °C
Flammability rating:	HB

Electrical Properties:

Volume resistivity:	> 10 ¹⁵ Ωcm
Surface resistance:	5 – 10 ¹³ Ω
Dielectric Strength (test specimen thick 1 mm):	~ 30 kV/mm
Dielectric constant (at 50 Hz):	3.6
Dielectric constant (at 0.1 MHz):	2.7
Dissipation factor (at 50 Hz):	0.06
Dissipation factor (at 0.1 MHz):	0.02
Tracking resistance:	KC > 600

Behaviour towards water:

Water absorption in weight gain after 24 hrs immersion:	0.3 %
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Physical Properties:

Hardness:	M90 Rockwell
Inner Diameter:	4 mm
Length:	1000 mm
Outer Diameter:	6 mm
Material:	Acrylic