



Product Name:
 IC3D ASA

Supplier Details:

IC3D, Inc
 1697 Westbelt Drive
 Columbus, Ohio 43228
 614-344-0414

Description:

IC3D ASA is suitable for extrusion applications. It provides the highest impact toughness within the product line.

Features:

- Highest impact strength
- Suitable for extrusion
- Withstands higher temperatures

Applications:

- Automotive
- Outdoor equipment (UV-resistant)

Property, Test Condition	Standard	Unit	Values
Rheological Properties			
Melt Volume Rate 220°C/10 kg	ISO 1133	cm ³ /10min	5.5
Melt Volume Rate 200°C/21,6 kg MVR	ISO 1133	cm ³ /10min	11
Mechanical Properties			
Izod Notched Impact Strength, 4mm bar, 0.25mm Notch Radius, 23°	ISO 180/A	kJ/m ²	30
Izod Notched Impact Strength, 4mm bar, 0.25mm Notch Radius, -30	ISO 180/A	kJ/m ²	10
Charpy Notched Impact Strength, 23°C	ISO 179	kJ/m ²	40
Tensile stress at yield, 23°C	ISO 527	MPa	42
Tensile strain at yield, 23°C	ISO 527	%	3.5
Tensile Modulus	ISO 527	MPa	2000
Tensile Creep Modulus (1000h)	ISO 899	MPa	1100
Elongation at Break (MD)		%	11
Flexural Strength	ISO 178	MPa	60
Ball Indentation Hardness	ISO 2039-1	MPa	65
Thermal Properties			
Vicat Softening Temperature VST/B/50 (50°C/h, 50N)	ISO 306	°C	90
Vicat Softening Temperature VST/A/50 (50°C/h, 10N)	ISO 306	°C	104
Heat Deflection Temperature; (annealed) method Af, 1.8 MPa	ISO 75	°C	95
Heat Deflection Temperature; (annealed) method Bf, 0.45 MPa	ISO 75	°C	100
Coefficient of Linear Thermal Expansion	ISO 11359	10 - 6/°C	80-110
Thermal Conductivity	DIN 52612-1	W/(mK)	0.17
Other Properties			
Density	ISO 1183	kg/m ³	1070
Bulk Density, with external lubricant		kg/m ³	590
Water absorption saturated at 23°C	ISO 62	%	1.65



Electrical Properties			
Dielectric Constant (100 Hz)	IEC 60250	-	3.8
Dissipation Factor (100 Hz)	IEC 60250	-	90
Dissipation Factor (1 MHz)	IEC 60250	-	260
Volume Resistivity	IEC 60093	Ohm*m	1.00E+12
Surface Resistivity	IEC 60093	Ohm	1.00E+13
Processing			
Mold Temperature	ISO 294	°C	60
Injection Velocity	ISO 294	mm/s	200
Drying Temperature		°C	80
Drying Time		hr	2 - 4

*Typical values for uncolored products

Supply Form

IC3D ASA is delivered in filament form. IC3D filament should be stored in a temperature-controlled environment within a sealed container along with desiccant to best preserve material properties.

Product Safety

No adverse effects on the health of processing personnel have been observed where the products are correctly processed, and the production areas are suitably ventilated. For styrene, alpha-methylstyrene, acrylonitrile, and butyl acrylate the maximum allowable workplace concentrations must be observed according to the pertaining national regulations. In Germany, the following limit values are valid TRGS 900 (Aug. 2004): styrene, MAK-value: 20 ml/m³; alpha-methylstyrene, MAK-value: 100 ml/m³; acrylonitrile, TRK-value: 3 ml/m³, and butyl acrylate, MAK-value: 2 ml/m³ (1.7.2004). According to EU directive 67/548/EEC, Annex I (2001), acrylonitrile is classified as carcinogenic, category 2 ("substances which should be regarded as if they are carcinogenic to man"). Experience has shown that when IC3D ASA is processed correctly with appropriate ventilation, the levels are far below the limits mentioned above. Inhalation of the vapors of degradation products which can arise on severe overheating of the materials or during purging out should be avoided. Further information can be found in the IC3D safety data sheets.

Disclaimer: The technical data contained on this data sheet is furnished without charge or obligation and accepted at the recipient's sole risk. This data should not be used to establish specifications limits or used alone as the basis of design. The data provided is not intended to substitute any testing that may be required to determine fitness for any specific use.