Technical Data Sheet

Acrylonitrile Butadiene Styrene (ABS) **February 2014**

- High impact strength

Property, Test Condition			
- Rheological Properties			
- Melt Volume Rate 220° C/10kg	ISO1133	cm³/10min	5.5
- Mechanical Properties			
- Izod Notched Impact Strength, 4mm bar, 0.25mm Notch Radius, 23° C	ISO180/A	kJ/m²	36
- Izod Notched Impact Strength, 4 mm bar, 0.25mm Notch Radius, -30° C	ISO180/A	kJ/m²	14
- Charpy Notched Impact Strength, 23° C	ISO179	kJ/m²	35
- Charpy Notched Impact Strength, -30° C	ISO179	kJ/m²	13
- Charpy Unnotched, 23° C	ISO179	kJ/m²	no break
- Charpy Unnotched, -30° C	ISO179	kJ/m²	140
- Tensile stress at yield, 23° C	ISO527	MPa	37
- Tensile strain at yield, 23° C	ISO527	%	3
- Tensile Modulus	ISO527	MPa	1700
- Elongation at Break (MD)		%	9
- Flexural Strength	ISO178	MPa	56
- Ball Indentation Hardness	ISO2039-1	MPa	74
Thermal Properties			
- Vicat Softening Temperature VST/B/50 (50°C/h, 50N)	ISO306	°C	90
- Vicat Softening Temperature, VST/A/50 (50°C/h, 10N)	ISO306	°C	103
- Vicat Softening Temperature, B/2 (120°C/h, 50N)	ISO306	°C	-
- Heat Deflection Temperature, (annealed) method Af, 1.8 MPa	ISO75	°C	76
- Heat Deflection Temperature, (annealed) method Bf, 0.45 MPa	ISO75	°C	89
- Coefficient of Linear Thermal Expansion	ISO11359	10^{-6}/°C	80-110
- Thermal conductivity	DIN52612-1	W/(m K)	0.17
Electrical Properties			
- Dissipation Factor (100Hz)	IEC60250	-	54
- Dissipation Factor (1MHz)	IEC60250	-	82
- Dielectric Strength, Short Time, 1.5mm	IEC60243-1	kV/mm	40
- Relative permittivity (100Hz)	IEC60250	-	2.9
- Relative permittivity (1MHz9	IEC60250	-	2.8
- Volume Resistivity	IEC60093	Ohm*m	>1E13
Other Properties			
- Density	ISO1183	kg/m³	1030
- Water absorption saturated at 23°C	ISO62	%	1.03
- Moisture, 50% RH	ISO62	%	0.21

- Yellowness Index	DIN6167		15
- Processing (Melt) Temperature	ISO294	°C	200-240
- Drying Temperature		°C	80
- Drying Time		hr	2 – 4

Food Product safety

No adverse effects on the health of processing personnel have been observed if the products are correctly processed and the production areas are suitably ventilated. For styrene, acrylonitrile and 1,3-butadiene the maximum allowable workplace concentrations must be observed according to the pertaining national regulations. In Germany, the following limit values are valid (Oct.2002): styrene, MAK-value.20ml/m³=86mg/m³, acrylonitrile, TRK-value: 30ml/m³= 7mg/m³ and 1,3-butadiene, TRK-value: 5ml/m³= 11mg/m³. According to EU directive 67/548/EWG, Annex I and TRGS 905 (Oct.2002), acrylonitrile and 1,3-butadiene are classified as carcinogenic, category 2 (`substances which should be regarded as if they are carcinogenic to man´) and 1 (substances known to be carcinogenic to man), respectively. Experience has shown that during appropriate processing of Terluran with suitable ventilation the values obtained are well below the limits mentioned above. TRGS 402 (Germany) can be used for determining and assessing the concentrations of hazardous substances in the air within working areas. Inhalation of gaseous degradation products, such as those which may arise on severe overheating of the material or during pumped evacuation, must be avoided. Further information can be found in our Terluran safety data sheets.

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