

# Ultrason® S 6010

## PSU (Polysulfone)

### Product Description

Ultrason S 6010 is a high molecular weight injection molding and extrusion grade with excellent chemical resistance (stress crack resistance) and good solubility in typical solvents (N-methylpyrrolidone, dimethylacetamide, dichloromethane) used in the production of membranes or coatings.

### Applications

Typical applications include sanitary and heating systems/parts and membranes.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm <sup>3</sup>	1183	1.23
Mold Shrinkage, parallel, %	294-4	0.72
Mold Shrinkage, normal, %	294-4	0.77
Moisture, %	62	
(50% RH)		0.3
(Saturation)		0.8
RHEOLOGICAL	ISO Test Method	Property Value
Melt Volume Rate (360 C/10 Kg), cc/10min.	1133	30
MECHANICAL	ISO Test Method	Property Value
Tensile Modulus, MPa	527	
23C		2,550
Tensile stress at yield, MPa	527	
23C		75
Tensile strain at yield, %	527	
23C		5.7
Ball Indentation, MPa	2039-1	135
IMPACT	ISO Test Method	Property Value
Izod Notched Impact, kJ/m <sup>2</sup>	180	
-30C		6.5
23C		6
Charpy Notched, kJ/m <sup>2</sup>	179	
-30C		6.5
23C		6
Charpy Unnotched, kJ/m <sup>2</sup>	179	
-30C		N
23C		N
THERMAL	ISO Test Method	Property Value
HDT A, C	75	177
Coef. of Linear Thermal Expansion, Parallel, mm/mm C		0.53 X10 <sup>-4</sup>
ELECTRICAL	ISO Test Method	Property Value
Comparative Tracking Index	IEC 60112	125
Volume Resistivity (Ohm-m)	IEC 60093	>1E13

Surface Resistivity (Ohm)	IEC 60093	>1E15
Dielectric Constant (100 Hz)	IEC 60250	3.5
Dielectric Constant (1 MHz)	IEC 60250	3.4
Dissipation Factor (100 Hz), E-4	IEC 60250	11
Dissipation Factor (1 MHz), E-4	IEC 60250	71
Dielectric Strength, KV/mm	IEC 60243-1	37

## Processing Guidelines

### Material Handling

Max. Water content: 0.02%

Ultrason pellets can absorb moisture very rapidly and must be dried before processing. A vacuum or dry air oven operating at 130-150C (266-302F) is recommended. Circulating air ovens are unsuitable. Drying time is dependent on moisture level, however the materials must be dried at least 4 hours. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet. Alternatively, please contact your BASF representative.

### Typical Profile

Melt Temperature 340-390C (644-734F)

Mold Temperature 140-180C (284-356F)

Injection and Packing Pressure 35-125 bar (500-1500 psi)

### Mold Temperatures

Injection pressure controls the filling of the part and should be applied for 90% of ram travel.

Packing pressure affects the final part and can be used effectively in controlling sink marks and shrinkage. It should be applied and maintained until the gate area is completely frozen off.

Back pressure can be utilized to provide uniform melt consistency and reduce trapped air and gas.

### Pressures

Fast fill rates are recommended to ensure uniform melt delivery to the cavity and prevent premature freezing. Surface appearance is directly affected by injection rate.

## Note

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