

## Solvay Specialty Polymers Udel® P-1720 Polysulfone (PSU) (discontinued \*\*)

Category : Polymer , Thermoplastic , Polysulfone (PSU)

### Material Notes:

Udel P-1720 is a flame-retardant grade of polysulfone (PSU) that has a UL94 rating of V-0 at a thickness of 1 mm (0.039"). In general, polysulfone is a tough, rigid, high-strength thermoplastic that is suitable for continuous use up to 149°C (300°F). The resin is resistant to oxidation and hydrolysis and can withstand prolonged exposure to high temperatures and repeated sterilization. Udel polysulfone is highly resistant to mineral acids, alkali and salt solutions. Its resistance to detergents and hydrocarbon oils is good, but it will be attacked by polar solvents such as ketones, chlorinated hydrocarbons and aromatic hydrocarbons. - Black: P-1720 BK 935 - Natural: P-1720 NT

13Information provided by Solvay Specialty Polymers.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Solvay-Specialty-Polymers-Udel-P-1720-Polysulfone-PSU-nbspdiscontinued-.php](http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Udel-P-1720-Polysulfone-PSU-nbspdiscontinued-.php)

| Physical Properties         | Metric   | English  | Comments   |
|-----------------------------|--|--|------------|
| Specific Gravity            | 1.24 g/cc  | 1.24 g/cc  | ASTM D792  |
| Water Absorption            | 0.30 %<br>@Time 86400 sec                            | 0.30 %<br>@Time 24.0 hour                            | ASTM D570  |
| Linear Mold Shrinkage, Flow | 0.0070 cm/cm   | 0.0070 in/in   | ASTM D955  |
| Melt Flow                   | 7.0 g/10 min<br>@Load 2.16 kg,<br>Temperature 343 °C | 7.0 g/10 min<br>@Load 4.76 lb,<br>Temperature 649 °F | ASTM D1238 |

| Mechanical Properties   | Metric     | English       | Comments   |
|-------------------------|------------|---------------|------------|
| Tensile Strength        | 70.3 MPa   | 10200 psi     | ASTM D638  |
| Elongation at Break     | 50 - 100 % | 50 - 100 %    | ASTM D638  |
| Tensile Modulus         | 2.48 GPa   | 360 ksi       | ASTM D638  |
| Flexural Strength       | 106 MPa    | 15400 psi     | ASTM D790  |
| Flexural Modulus        | 2.69 GPa   | 390 ksi       | ASTM D790  |
| Izod Impact, Notched    | 0.690 J/cm | 1.29 ft-lb/in | ASTM D256  |
| Tensile Impact Strength | 420 kJ/m²  | 200 ft-lb/in² | ASTM D1822 |

| Thermal Properties                          | Metric       | English        | Comments              |
|---|--------------|----------------|-----------------------|
| CTE, linear, Parallel to Flow               | 56.0 µm/m-°C | 31.1 µin/in-°F | ASTM D696             |
| Deflection Temperature at 1.8 MPa (264 psi) | 174 °C       | 345 °F         | Unannealed; ASTM D648 |

| Thermal Properties | <div>V-G</div> Metric | <div>V-G</div> English | Comments |
|--------------------|-----------------------|------------------------|----------|
|                    | @Thickness 0.991 mm   | @Thickness 0.0390 in   |          |

| Processing Properties | Metric       | English      | Comments |
|-----------------------|--------------|--------------|----------|
| Melt Temperature      | 329 - 385 °C | 624 - 725 °F |          |
| Mold Temperature      | 121 - 163 °C | 250 - 325 °F |          |
| Drying Temperature    | 135 - 163 °C | 275 - 325 °F |          |
| Dry Time              | 3.50 hour    | 3.50 hour    |          |
| Shot Size             | 50 - 75 %    | 50 - 75 %    |          |

| Descriptive Properties | Value                      | Comments |
|------------------------|----------------------------|----------|
| Appearance             | Black                      |          |
|                        | Natural Color              |          |
| Availability           | Asia Pacific               |          |
|                        | Europe                     |          |
|                        | North America              |          |
|                        | South America              |          |
| Features               | Acid Resistant             |          |
|                        | Alcohol Resistant          |          |
|                        | Alkali Resistant           |          |
|                        | Flame Retardant            |          |
|                        | Good Chemical Resistance   |          |
|                        | Good Dimensional Stability |          |
|                        | Good Toughness             |          |
|                        | High Heat Resistance       |          |
|                        | Hydrocarbon Resistant      |          |
|                        | Hydrolytically Stable      |          |
| Forms                  | Pellets                    |          |
| Generic                | PSU                        |          |
|                        |                            |          |

| Processing Method<br>Descriptive Properties | Extrusion<br>Value                 | Comments |
|---|------------------------------------|----------|
|   | Injection Molding                  |          |
| RoHS Compliance                             | RoHS Compliant                     |          |
| Uses  | Appliance Components               |          |
|   | Appliances                         |          |
|   | Automotive Electronics             |          |
|   | Batteries                          |          |
|   | Business Equipment                 |          |
|   | Electrical Parts                   |          |
|   | Electrical/Electronic Applications |          |
|   | Food Service Applications          |          |
|   | Industrial Parts                   |          |
|   | Medical/Healthcare Applications    |          |
|   | Microwave Cookware                 |          |
|   | Piping                             |          |
|   | Plumbing Parts                     |          |
|   | Valves/Valve Parts                 |          |

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