

Udel® P-1700

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Solvay Specialty Polymers

Technical Data

Product Description

Udel® P-1700 polysulfone (PSU) is a tough, rigid, high-strength thermoplastics suitable for continuous use up to 300°F (149°C). It is resistant to oxidation and hydrolysis and withstand prolonged exposure to high temperatures and repeated sterilization. Udel® P-1700 polysulfone is highly resistant to mineral acids, alkali and salt solutions. Resistance to detergents and hydrocarbon oils is good, but the resin may be attacked by polar solvents such as ketones, chlorinated hydrocarbons and aromatic hydrocarbons.

These resins are also highly resistant to degradation by gamma or electron beam radiation. Electrical properties of Udel® P-1700 polysulfones are stable over a wide temperature range and after immersion in water or exposure to high humidity.

The resins comply with FDA 21 CFR 177.1655 and may be used in articles intended for repeated use in contact with foods. Additionally, they are approved by the NSF, by the Department of Agriculture for contact with meat and poultry and by the 3-A Sanitary Standards of the Dairy Association.

- Transparent: Udel® P-1700 CL 2611 CMP
- Transparent: Udel® P-1700 NT 06
- Transparent: Udel® P-1700 NT 11
- Opaque Black : Udel® P-1700 BK 937
- Opaque White: Udel® P-1700 WH 6417
- Opaque White: Udel® P-1700 WH 7407
- Opaque Gray: Udel® P-1700 GY 8057

General

Features	<ul style="list-style-type: none">• 尺寸稳定性良好• 电子束消毒• 放射性可透的• 辐射消毒• 高压锅消毒• 好的消毒性• 环氧乙烷消毒• 抗伽马辐射	<ul style="list-style-type: none">• 耐化学品性能，良好• 耐碱• 耐酒精• 耐热性，高• 耐酸• 耐碳水化合物• 耐洗涤剂• 耐蒸汽	<ul style="list-style-type: none">• 热消毒• 韧性良好• 生物兼容性• 食品接触的合规性• 水解稳定• 用蒸汽消毒• 优良外观
Uses	<ul style="list-style-type: none">• 电气/电子应用领域• 电气元件• 电器用具• 阀门/阀门部件• 工业部件• 管道部件	<ul style="list-style-type: none">• 管道系统• 家电部件• 汽车电子• 食品服务领域• 外科器械• 微波炉炊具	<ul style="list-style-type: none">• 牙齿应用领域• 医疗/护理用品• 医疗器材• 医疗器械
Agency Ratings	<ul style="list-style-type: none">• FDA 21 CFR 177.1655• ISO 10993	<ul style="list-style-type: none">• NSF 51³• NSF 61⁴	
RoHS Compliance	<ul style="list-style-type: none">• RoHS 合规		
Automotive Specifications	<ul style="list-style-type: none">• ASTM D6394 SP0112	<ul style="list-style-type: none">• BMW GS 93016	
Appearance	<ul style="list-style-type: none">• 可用颜色	<ul style="list-style-type: none">• 透明-微黄	
Forms	<ul style="list-style-type: none">• 粒子		
Processing Method	<ul style="list-style-type: none">• 薄膜挤出• 管路挤出成型• 机器加工• 挤出	<ul style="list-style-type: none">• 挤出吹塑成型• 片材挤出成型• 热成型• 型材挤出成型	<ul style="list-style-type: none">• 注吹成型• 注射成型

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Physical	额定值 单位制	测试方法
Density / Specific Gravity	1.24 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (343°C/2.16 kg)	6.5 g/10 min	ASTM D1238
Molding Shrinkage - 流动	0.70 %	ASTM D955
Water Absorption (24 hr)	0.30 %	ASTM D570
Mechanical	额定值 单位制	测试方法
Tensile Modulus	2480 MPa	ASTM D638
Tensile Strength	70.3 MPa	ASTM D638
Tensile Elongation (断裂)	50 到 100 %	ASTM D638
Flexural Modulus	2690 MPa	ASTM D790
Flexural Strength	106 MPa	ASTM D790
Impact	额定值 单位制	测试方法
Notched Izod Impact	69 J/m	ASTM D256
Tensile Impact Strength	420 kJ/m ²	ASTM D1822
Thermal	额定值 单位制	测试方法
Deflection Temperature Under Load 1.8 MPa, 未退火	174 °C	ASTM D648
CLTE - 流动	5.6E-5 cm/cm/°C	ASTM D696
Electrical	额定值 单位制	测试方法
Volume Resistivity	3.0E+16 ohms·cm	ASTM D257
Dielectric Strength	17 kV/mm	ASTM D149
Dielectric Constant		ASTM D150
60 Hz	3.03	
1 kHz	3.04	
1 MHz	3.02	
Dissipation Factor		ASTM D150
60 Hz	7.0E-4	
1 kHz	1.0E-3	
1 MHz	6.0E-3	
Flammability	额定值 单位制	测试方法
Flame Rating		UL 94
1.5 mm, 所有色	HB	
4.5 mm, 本色	V-0	
Glow Wire Flammability Index		IEC 60695-2-12
0.8 mm	850 °C	
1.6 到 6.0 mm	960 °C	
Glow Wire Ignition Temperature		IEC 60695-2-13
0.8 mm	875 °C	
1.6 到 6.0 mm	850 °C	
Injection	额定值 单位制	
Drying Temperature	135 到 163 °C	
Drying Time	3.5 hr	
Suggested Shot Size	50 到 75 %	
Processing (Melt) Temp	329 到 385 °C	
Mold Temperature	121 到 163 °C	