

POM-H – Polyoxymethylene Homo (Acetal)

Facts:

POM-H, Acetals are tough, resilient materials and exhibit good creep resistance, dimensional stability, surface hardness, lubricity and impact resistance even at low temperatures.

Homo-polymers have better tensile strength, fatigue resistance and hardness but are difficult to process. Copolymers have better thermal stability, chemical resistance and are easier to process. Both homo-polymers and copolymers are crystalline and have low moisture absorption.

Applications:

Bearings, gears, conveyor chains and housings. Acetals are widely used in plumbing and irrigation because they resist scale build up, and have excellent thread strength. Automotive applications include, door handles, ventilation and cooling system parts, fuel system components.

Limitations:

- Low resistance to acids
- Subject to UV degradation
- Flammable
- Difficult to bond
- High specific gravity

DuPont™ Delrin®

acetal resin

Delrin® 500P BK602

Delrin® 500P BK602 is a general purpose medium viscosity black acetal homopolymer resin for injection molding. Delrin® 500P has improved processing thermal stability compared to Delrin® 500.

Property	Test Method	Units	Value
Identification			
Resin Identification	ISO 1043		POM
Part Marking Code	ISO 11469		>POM<
Mechanical			
Yield Stress	ISO 527	MPa (kpsi)	71 (10.3)
Yield Strain	ISO 527	%	14
Strain at Break	ISO 527	%	35
Nominal Strain at Break	ISO 527	%	25
Tensile Modulus	ISO 527	MPa (kpsi)	3100 (450)
Flexural Modulus	ISO 178	MPa (kpsi)	3000 (435)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²	-30°C (-22°F)
			23°C (73°F)
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m ²	180

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
 ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.
 Test temperatures are 23°C unless otherwise stated.

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Delrin® 500P BK602

Property	Test Method	Units	Value
Thermal			
Deflection Temperature 0.45MPa	ISO 75-1/-2	°C (°F)	162 (324)
1.80MPa			96 (205)
Melting Temperature 10°C/min	ISO 11357-1/-3	°C (°F)	178 (352)
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.94 (0.52)
23 - 55°C (73 - 130°F)			1.1 (0.61)
55 - 100°C (130 - 212°F)			1.47 (0.82)
CLTE, Normal	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.98 (0.54)
23 - 55°C (73 - 130°F)			1.15 (0.64)
55 - 100°C (130 - 212°F)			1.67 (0.93)
Rheological			
Melt Mass-Flow Rate 190°C, 2.16kg	ISO 1133	g/10 min	15
Electrical			
CTI	IEC 60112	V	600
Flammability			
Flammability Classification 0.75mm	IEC 60695-11-10		HB
Flammability Classification 0.75mm	UL94		HB
High Amperage Arc Ignition Resistance 0.75mm	UL 746A	arcs	200
Hot Wire Ignition 0.75mm	UL 746A	s	8
1.5mm			11
3.0mm			15

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Property	Test Method	Units	Value
Temperature Index			
RTI, Electrical	UL 746B	°C	50
0.75mm			
1.5mm			
3.0mm	UL 746B	°C	110
RTI, Impact			
0.75mm			
1.5mm	UL 746B	°C	85
3.0mm			
RTI, Strength			
0.75mm	UL 746B	°C	90
1.5mm			
3.0mm			
Other			
Density	ISO 1183	kg/m ³ (g/cm ³)	1420 (1.42)
Processing			
Melt Temperature Range		°C (°F)	210-220 (410-430)
Melt Temperature Optimum		°C (°F)	215 (420)
Mold Temperature Range		°C (°F)	80-100 (175-210)
Mold Temperature Optimum		°C (°F)	90 (195)
Drying Time, Dehumidified Dryer		h	2-4
Drying Temperature		°C (°F)	80 (175)
Processing Moisture Content		%	<0.2
Hold Pressure Range		MPa (kpsi)	80-100 (12-15)

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