Product Information

Common features of Delrin® acetal resins include mechanical and physical properties such as high mechanical strength and rigidity, excellent fatigue and impact resistance, as well as resistance to moisture, gasoline, lubricants, solvents, and many other neutral chemicals. Delrin® acetal resins also have excellent dimensional stability and good electrical insulating characteristics. They are naturally resilient, self-lubricating, and available in a variety of colors and speciality grades.

Delrin® acetal resin typically is used in demanding applications in the automotive, domestic appliances, sports, industrial engineering, electronics, and consumer goods industries.

Delrin® 127UV is a UV-stabilized high viscosity acetal homopolymer developed for applications in automotive interiors. It represents a dramatic improvement over Delrin® 107 in mechanical performance after prolonged UV exposure and thermal stability.

Product information	Value	Unit	Test Standard
Resin Identification	POM		ISO 1043
Part Marking Code	POM	-	ISO 11469
Rheological properties	Value	Unit	Test Standard
Melt mass-flow rate	2.5	g/10min	ISO 1133
Melt mass-flow rate, Temperature	190	°C	ISO 1133
Melt mass-flow rate, Load	2.16	kg	ISO 1133
Mechanical properties	Value	Unit	Test Standard
Tensile Modulus	3000	MPa	ISO 527-1/-2
Yield stress	71.5	MPa	ISO 527-1/-2
Yield strain	22	%	ISO 527-1/-2
Nominal strain at break	37	%	ISO 527-1/-2
Flexural Modulus	2800	MPa	ISO 178
Charpy notched impact strength			ISO 179/1eA
23°C	13	kJ/m²	
-30°C	10	kJ/m²	
Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	178	°C	ISO 11357-1/-3
Temp. of deflection under load			ISO 75-1/-2
1.8 MPa	92	°C	
0.45 MPa	162	°C	
Coeff. of linear therm. expansion, parallel	110	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	110	E-6/K	ISO 11359-1/-2
RTI, electrical, 0.75mm	50	°C	UL 746B
RTI, impact, 0.75mm	50	°C	UL 746B
RTI, strength, 0.75mm	50	°C	UL 746B
Flammability	Value	Unit	Test Standard
Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	0.8	mm	IEC 60695-11-10
UL recognition	yes	-	UL 94
FMVSS Class	В	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm		mm/min	ISO 3795 (FMVSS 302)
Other properties	Value		Test Standard
Density	1420	kg/m³	ISO 1183
VDA Properties	Value	Unit	Test Standard
Weather stability delta E	0.4	-	DIN 53236
Weather stability grey scale	4-5	-	ISO 105-A02
Emissions	<8	mg/kg	VDA 275
Injection	Value	Unit	Test Standard
Drying Recommended	yes		-
		°C	-
Drying Temperature	≥80		
Drying Temperature Drying Time, Dehumidified Dryer	2 - 4	h	-
Drying Temperature Drying Time, Dehumidified Dryer Processing Moisture Content	2 - 4 ≤0.2	h %	-
Drying Temperature Drying Time, Dehumidified Dryer	2 - 4	h	· · · · · · · · · · · · · · · · · · ·

Revised: 2019-06-17 Page: 1 of 4

To find out more, visit DuPont Performance Polymers or contact nearest DuPont location.

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Max. melt temperature	220	°C	-	
Mold Temperature Optimum	90	°C	-	
Min. mould temperature	80	°C	-	
Max. mould temperature	100	°C	-	
Hold pressure range	90 - 110	MPa	-	
Hold pressure time	8	s/mm	-	
Annealing time, optional	30	min/mm	-	
Annealing temperature	160	°C	_	
Anneading temperature	100	C		
Extrusion	Value		Test Standard	
		Unit	Test Standard	
Extrusion	Value	Unit °C	Test Standard - -	
Extrusion Drying Temperature	Value 75 - 85	Unit °C h	Test Standard - - -	
Extrusion Drying Temperature Drying Time, Dehumidified Dryer	Value 75 - 85 2 - 4	Unit °C h %	Test Standard	
Extrusion Drying Temperature Drying Time, Dehumidified Dryer Processing Moisture Content	Value 75 - 85 2 - 4 ≤0.2	Unit °C h % °C	Test Standard	

Characteristics					
Processing	 Injection Moulding 	Sheet Extrusion			
Processing	 Profile Extrusion 	Other Extrusion			
Delivery form	 Pellets 				
Additives	 Lubricants 	Release agent			
Special characteristics	 Light stabilised or stable 	 U.V. stabilised or stable to 			
to light		weather			
Regional Availability	 North America 	 Asia Pacific 	 Near East/Africa 		
Regional Availability	• Europe	 South and Central America 	• Global		

Processing Texts

Injection molding

Drying is recommended, but not necessary for newly opened packaging stored in a dry location.

Follow the drying guidelines above in the following cases:

- · If moisture is above the Processing Moisture Content recommendation,
- · When a resin container is damaged,
- · When the material is not properly stored in a dry place at room temperature, or
- \cdot When packaging stays open for a significant time.

Revised: 2019-06-17 Page: 2 of 4

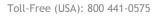
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Chemical Media Resistance

Acids

Acetic Acid (5% by mass) (23°C)

Citric Acid solution (10% by mass) (23°C)

Lactic Acid (10% by mass) (23°C)

Hydrochloric Acid (36% by mass) (23°C)

Trydrochloric Acid (30% by mass) (23 C

Nitric Acid (40% by mass) (23°C)

Sulfuric Acid (38% by mass) (23°C) Sulfuric Acid (5% by mass) (23°C)

Chromic Acid solution (40% by mass) (23°C)

Bases

Sodium Hydroxide solution (35% by mass) (23°C)

Sodium Hydroxide solution (1% by mass) (23°C)

Ammonium Hydroxide solution (10% by mass) (23°C)

Alcohols

✓ Isopropyl alcohol (23°C)

✓ Methanol (23°C)

✓ Ethanol (23°C)

Hydrocarbons

√ n-Hexane (23°C)

√ Toluene (23°C)

√ iso-Octane (23°C)

Ketones

Acetone (23°C)

Ethers

✓ Diethyl ether (23°C)

Mineral oils

SAE 10W40 multigrade motor oil (23°C)

SAE 10W40 multigrade motor oil (130°C)

SAE 80/90 hypoid-gear oil (130°C)

Insulating Oil (23°C)

Standard Fuels

√ ISO 1817 Liquid 1 - E5 (60°C)

ISO 1817 Liquid 2 - M15E4 (60°C)

ISO 1817 Liquid 3 - M3E7 (60°C)

/ ISO 1817 Liquid 4 - M15 (60°C)

Standard fuel without alcohol (pref. ISO 1817 Liquid C) (23°C)

✓ Standard fuel with alcohol (pref. ISO 1817 Liquid 4) (23°C)

Revised: 2019-06-17 Page: 3 of 4

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Diesel fuel (pref. ISO 1817 Liquid F) (23°C)



Diesel fuel (pref. ISO 1817 Liquid F) (90°C)

Diesel fuel (pref. ISO 1817 Liquid F) (>90°C)

Salt solutions

Sodium Chloride solution (10% by mass) (23°C)

Sodium Hypochlorite solution (10% by mass) (23°C) Sodium Carbonate solution (20% by mass) (23°C)



Sodium Carbonate solution (2% by mass) (23°C)



Zinc Chloride solution (50% by mass) (23°C)

Ethyl Acetate (23°C)



Hydrogen peroxide (23°C)



DOT No. 4 Brake fluid (130°C)



Ethylene Glycol (50% by mass) in water (108°C)



1% nonylphenoxy-polyethyleneoxy ethanol in water (23°C)



50% Oleic acid + 50% Olive Oil (23°C)



Water (23°C)

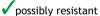


Water (90°C)



Phenol solution (5% by mass) (23°C)

Symbols used:



Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).



not recommended - see explanation

Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 4mm (Hytrel® measured at 2 mm), IEC Electrical properties measured at 2mm, all ASTM properties measured at 3.2mm, and test temperatures are 23°C unless otherwise stated.

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Page: 4 of 4