



# THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

## Delrin® Series

### Acetal Homopolymer Semi-Crystalline Plastic

Delrin® is a high-performance acetal homopolymer that bridges the gap between plastics and metals. Delrin® combines low friction and high-wear resistance with high strength and stiffness at a wide operating temperature. Because of its extreme low water absorption and chemical resistance to hydrocarbons, solvents and natural chemicals, Delrin® is ideal for industrial applications. Delrin® is used for high-load mechanical applications such as gears, safety restraints, door systems, conveyor belts, and healthcare delivery devices.

#### 511

- Good electrical insulation properties and machinability
- Very good wear abrasion resistance
- High stiffness, fatigue strength, and creep resistance

#### APPLICATIONS

- Automotive, construction, mechanical engineering, conveyor technology, electronics, and gear manufacturing

#### 150

- Good machinability and wear properties
- High stiffness, fatigue strength, and creep resistance
- Very good wear abrasion resistance

#### APPLICATIONS

- Automotive, construction, food processing, conveyor technology, electronics, and gear manufacturing

#### 500

- Excellent Wear Properties
- Good machinability
- Low static friction
- High mechanical load capacity

#### APPLICATIONS

- Business industries, heavy duty industry, printing machines, packaging and paper machinery

#### 527

- Improved surface hardness
- Good machinability
- Very good UV and weather resistance
- Very good mechanical strength

#### APPLICATIONS

- Automotive, construction, agricultural machinery, and solar systems

#### 570

- Very good UV and weather resistance
- Excellent strength and stiffness
- Good machinability
- Very high creep resistant

#### APPLICATIONS

- Automotive, construction, fixture construction, and gear manufacturing

PROPERTIES	ISO/IEC							ASTM							
	Test Method	Units	511	150 (Black)	500 AF (Brown)	527 AF (Black)	570	Test Method	Units	511	150 (Black)	500 AF (Brown)	527 AF (Black)	570	
<b>PHYSICAL</b>	Density	g/cm <sup>3</sup>	1.42	1.41	1.50	1.41	1.56		lb/in <sup>3</sup>	0.05130	0.05093	0.05419	0.05093	0.05636	
	Moisture Absorption: 24 hrs. at 73°F	%	-	-	-	-	-	ASTM D570	%	0.2	0.25	0.18	0.14	0.15	
	Moisture Absorption Saturation at 73°F	%	-	-	-	-	-	ASTM D955	%	0.90	0.90	-	-	-	
				-	-	-	-			-	-	-	-	-	
<b>THERMAL</b>	Melting Temperature	DIN EN ISO 11357	°C	178	-	175	178	175	ASTM D2133	°F	-	347	347	352	347
	Heat Deflection Temperature at 66 PSI	ISO-R 75 Method B	°C	163	-	-	-	-	ASTM D648	°F	-	336	-	325	329
	Heat Deflection Temperature at 264 PSI	ISO-R 75 Method A	°C	107	-	-	-	-	ASTM D648	°F	-	257	-	198	311
	Intermittent Service Temperature		°C	149	149	149	-	-		°F	300	300	300	-	300
	Long Term Service Temperature		°C	85	85	85	85	-		°F	185	185	185	185	185
	Coefficient of Linear Thermal Expansion		µm/m·°C	-	-	-	-	-	ASTM D 696	µin/in·°F	68.00	68.00	-	61.00	47.20
	Specific Heat			-	-	-	-	-		BTU/lb·°F	0.35	0.35	-	-	-
Flammability	UL 94		-	HB	-	HB	HB	UL 94		-	HB	-	HB	HB	
<b>MECHANICAL</b>	Tensile Modulus		GPa	-	-	-	-	-	ASTM D638	KSI	450	350	475	420	350
	Tensile Yield Strength		MPa	-	-	-	-	-	ASTM D638	PSI	10,000	11,000	7,200	10,300	7,700
	Elongation at Yield at 73°F		%	-	-	-	-	-	ASTM D638	%	18	-	4	-	-
	Elongation at Break at 73°F		%	-	-	-	-	-	ASTM D638	%	25	25	-	15	10
	Flexural Strength at 73°F		MPa	-	-	-	-	-	ASTM D790	PSI	16,000	14,000	13,000	13,500	14,500
	Flexural Modulus at 73°F		GPa	-	-	-	-	-	ASTM D790	KSI	520	470	495	490	650
	Compression Strength at 73°F: 1% strain		MPa	-	-	-	-	-	ASTM D695	PSI	2,100	3,600	1,500	-	1,500
	Compression Strength at 73°F: 10% strain		MPa	-	-	-	-	-	ASTM D695	PSI	16,500	15,500	14,000	-	14,500
	Compression Modulus			-	-	-	-	-	ASTM D695	KSI	-	325	200	-	-
	IZOD Impact Strength at 73°F		kJ/m <sup>2</sup>	-	-	-	-	-	ASTM D256	ft-lb/in	1.25	1.50	0.80	1.25	0.90
	Rockwell Hardness: M Scale			-	-	-	-	-	ASTM D785		95	94	87	89	87
	Rockwell Hardness: R Scale			-	-	-	-	-	ASTM D785		-	120	-	120	-
	Shore Hardness: D Scale			-	-	-	-	-	ASTM D2240		-	84	-	-	-
	Coefficient of Friction: Static, 40 PSI			-	-	-	-	-	ASTM D3702	%	0.2	-	-	-	-
Coefficient of Friction: Dynamic, 40 PSI, 50 FPM			-	-	-	-	-	ASTM D3702		0.35	0.20	-	-	-	
Wear (K) Factor: 50 FPM			-	-	-	-	-	ASTM D 3702	in <sup>3</sup> -min/ft-lbs-hr	55·10 <sup>-10</sup>	55·10 <sup>-10</sup>	-	-	-	
<b>ELECTRICAL</b>	Volume Resistivity			-	-	-	-	-	ASTM D257	Ohm-cm	>1·10 <sup>15</sup>	>1·10 <sup>15</sup>	-	-	-
	Surface Resistivity			-	-	-	-	-	ASTM D257	Ohms	-	-	-	-	200·10 <sup>15</sup>
	Dielectric Strength at 73°F			-	-	-	-	-	ASTM D149	V/mil	-	500	-	-	452
	Dissipation Factor at 60 Hz, 73°F			-	-	-	-	-	ASTM D150		-	0.005	-	-	-
	Dielectric Constant at 60 Hz, 73°F, 50% RH			-	-	-	-	-	ASTM D150		-	3.7000	-	-	-
Dielectric Constant at 100 MHz, 73°F			-	-	-	-	-	ASTM D150		-	-	-	-	3.8	

The Gund Company custom fabricates insulation materials to the exact specifications and drawings specified by our customers. We offer our customers the proper product for their specific application. A variety of dimensions and diameter sizes are available. Product colors vary according to material type.

The data supplied are typical values. They are not to be considered specification values. All of the information, suggestions, and recommendations about these properties and uses of the products herein are based on tests and data believed to be accurate; however, the final determination regarding the suitability of any material described herein for the contemplated application, the manner of such use, and whether the use infringes any patents is the sole responsibility of the user. There is no warranty - expressed or implied - including, without limitation, warranties of merchantability or fitness for a particular purpose. Under no circumstances shall we be liable for incidental or consequential loss or damage.