

**Product Texts**

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® 525GR is a 25% glass-reinforced acetal homopolymer for injection molding. It has very high strength, stiffness, and high deflection temperature, excellent creep resistance, and good notched impact properties.**

| Processing/Physical Characteristics        | Value  | Unit    | Test Standard   |
|--|--------|---------|-----------------|
| <b>ISO Data</b>                            |        |         |                 |
| <sup>[C]</sup> Molding shrinkage, parallel | 0.4    | %       | ISO 294-4, 2577 |
| <sup>[C]</sup> Molding shrinkage, normal   | 1.2    | %       | ISO 294-4, 2577 |
| <b>ASTM Data</b>                           |        |         |                 |
| Melt Flow Index, MFI                       | 5      | g/10min | ASTM D 1238     |
| Temperature                                | 190    | °C      | -               |
| Load                                       | 1.05   | kg      | -               |
| Mold Shrinkage, MD                         | 0.0045 | mm/mm   | ASTM D 955      |
| Mold Shrinkage, TD                         | 0.0115 | mm/mm   | ASTM D 955      |

[C]: CAMPUS

| Mechanical properties                                | Value | Unit              | Test Standard |
|--|-------|-------------------|---------------|
| <b>ISO Data</b>                                      |       |                   |               |
| <sup>[C]</sup> Tensile Modulus                       | 9500  | MPa               | ISO 527       |
| <sup>[C]</sup> Stress at break                       | 160   | MPa               | ISO 527       |
| <sup>[C]</sup> Strain at break                       | 3     | %                 | ISO 527       |
| <sup>[C]</sup> Tensile creep modulus, 1h             | 8500  | MPa               | ISO 899-1     |
| <sup>[C]</sup> Tensile creep modulus, 1000h          | 6000  | MPa               | ISO 899-1     |
| <sup>[C]</sup> Charpy impact strength, +23°C         | 60    | kJ/m <sup>2</sup> | ISO 179/1eU   |
| <sup>[C]</sup> Charpy impact strength, -30°C         | 50    | kJ/m <sup>2</sup> | ISO 179/1eU   |
| <sup>[C]</sup> Charpy notched impact strength, +23°C | 10    | kJ/m <sup>2</sup> | ISO 179/1eA   |
| <sup>[C]</sup> Charpy notched impact strength, -30°C | 10    | kJ/m <sup>2</sup> | ISO 179/1eA   |

|                             |       |     |            |
|-----------------------------|-------|-----|------------|
| <b>ASTM Data</b>            |       |     |            |
| Tensile Modulus             | 9000  | MPa | ASTM D 638 |
| Tensile Strength            | 151   | MPa | ASTM D 638 |
| Elongation at Break         | 3.2   | %   | ASTM D 638 |
| Flexural Modulus            | 8000  | MPa | ASTM D 790 |
| Rockwell Hardness           | R 119 | -   | ASTM D 785 |
| Izod Impact notched, 1/8 in | 96    | J/m | ASTM D 256 |

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| Thermal properties   | Value | Unit  | Test Standard   |
|--|-------|-------|-----------------|
| <b>ISO Data</b>  |       |       |                 |
| <sup>[C]</sup> Melting temperature, 10°C/min               | 178   | °C    | ISO 11357-1/-3  |
| <sup>[C]</sup> Temp. of deflection under load, 1.80 MPa    | 172   | °C    | ISO 75-1/-2     |
| <sup>[C]</sup> Temp. of deflection under load, 0.45 MPa    | 176   | °C    | ISO 75-1/-2     |
| <sup>[C]</sup> Coeff. of linear therm. expansion, parallel | 35    | E-6/K | ISO 11359-1/-2  |
| <sup>[C]</sup> Coeff. of linear therm. expansion, normal   | 100   | E-6/K | ISO 11359-1/-2  |
| <sup>[C]</sup> Burning Behav. at 1.5 mm nom. thickn.       | HB    | class | IEC 60695-11-10 |
| Thickness tested   | 1.5   | mm    | -               |
| Yellow Card available                                      | yes   | -     | -               |
| <sup>[C]</sup> Burning Behav. at thickness h               | HB    | class | IEC 60695-11-10 |
| Thickness tested   | 0.8   | mm    | -               |
| Yellow Card available                                      | yes   | -     | -               |
| <b>ASTM Data</b>   |       |       |                 |
| UL 94 Flame rating   | HB    | -     | UL 94           |
| Thickness tested   | 1.5   | mm    | -               |
| Coefficient of Thermal Expansion, MD                       | 40    | E-6/K | ASTM D 696      |
| Coefficient of Thermal Expansion, TD                       | 100   | E-6/K | ASTM D 696      |
| DTUL @ 66 psi  | 177   | °C    | ASTM D 648      |

**Delrin® 525GR NC000**

POM-GF25

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|                     |            |    |             |
|---------------------|------------|----|-------------|
| DTUL @ 264 psi      | <b>173</b> | °C | ASTM D 648  |
| Melting Temperature | <b>178</b> | °C | ASTM D 3418 |

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| Electrical properties                       | Value           | Unit   | Test Standard |
|---|-----------------|--------|---------------|
| <b>ISO Data</b>                             |                 |        |               |
| <sup>[C]</sup> Relative permittivity, 100Hz | <b>3.7</b>      | -      | IEC 62631-2-1 |
| <sup>[C]</sup> Relative permittivity, 1MHz  | <b>3.8</b>      | -      | IEC 62631-2-1 |
| <sup>[C]</sup> Volume resistivity           | <b>1E12</b>     | Ohm*m  | IEC 62631-3-1 |
| <sup>[C]</sup> Comparative tracking index   | <b>600</b>      | -      | IEC 60112     |
| <b>ASTM Data</b>                            |                 |        |               |
| Dielectric Strength, Short Time             | <b>17.3</b>     | kV/mm  | ASTM D 149    |
| Dissipation Factor, 1 MHz                   | <b>0.0076</b>   | -      | ASTM D 150    |
| Dielectric Constant, 1 MHz                  | <b>3.8</b>      | -      | ASTM D 150    |
| Surface Resistivity                         | <b>&gt;1E15</b> | Ohm    | ASTM D 257    |
| Volume Resistivity                          | <b>4E13</b>     | Ohm*cm | ASTM D 257    |

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| Other properties                   | Value       | Unit              | Test Standard  |
|------------------------------------|-------------|-------------------|----------------|
| <sup>[C]</sup> Water absorption    | <b>1.26</b> | %                 | Sim. to ISO 62 |
| <sup>[C]</sup> Humidity absorption | <b>0.17</b> | %                 | Sim. to ISO 62 |
| <sup>[C]</sup> Density             | <b>1590</b> | kg/m <sup>3</sup> | ISO 1183       |
| Water Absorption, 24hr             | <b>0.45</b> | %                 | ASTM D 570     |
| Density                            | <b>1600</b> | kg/m <sup>3</sup> | ASTM D 792     |

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**Characteristics****Processing**

Injection Molding

**Delivery form**

Pellets, Natural Color

**Additives**

Lubricants, Release agent

**Features**

Creep Resistance, Weldable, Homopolymer

**Applications**

Automotive

**Regional Availability**

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

**Other text information****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
- When packaging stays open for a significant time.