



# Delrin®

acetal resin

## PRELIMINARY DATA

### Delrin® 311DP NC010

#### Medium-high Viscosity Acetal, Enhanced Dimensional Stability and Productivity

Delrin® 311DP is a new, medium-high viscosity, acetal resin with enhanced crystallization and an outstanding balance of part performance and ease of processing. It has improved thermal stability, dimensional stability, low warpage, fewer voids and excellent fatigue resistance.

| Property                | Test Method  | Units             | Value      |
|-------------------------|--------------|-------------------|------------|
| <b>Mechanical</b>       |              |                   |            |
| Yield Stress            | ISO 527-1/-2 | MPa (kpsi)        | 74 (10.7)  |
| Yield Strain            | ISO 527-1/-2 | %                 | 15         |
| Nominal Strain at Break | ISO 527-1/-2 | %                 | 35         |
| Tensile Modulus         | ISO 527-1/-2 | MPa (kpsi)        | 3300 (480) |
| Flexural Modulus        | ISO 178      | MPa (kpsi)        |            |
| 23°C (73°F)             |              |                   | 3200 (460) |
| 100°C (212°F)           |              |                   | 1100 (160) |
| Notched Izod Impact     | ISO 180/1A   | kJ/m <sup>2</sup> |            |
| -40°C (-40°F)           |              |                   | 9          |
| 23°C (73°F)             |              |                   | 10         |
| Notched Charpy Impact   | ISO 179/1eA  | kJ/m <sup>2</sup> |            |
| -40°C (-40°F)           |              |                   | 7          |
| -30°C (-22°F)           |              |                   | 9          |
| 23°C (73°F)             |              |                   | 10         |
| Unnotched Charpy Impact | ISO 179/1eU  | kJ/m <sup>2</sup> | 320        |

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.

**The above data are preliminary and are subject to change as additional data are developed on subsequent lots.**

Delrin® is a DuPont registered trademark.

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# Product Information

## Delrin® 311DP NC010

| Property                                 | Test Method | Units                                  | Value             |
|--|-------------|--|-------------------|
| <b>Thermal</b>                           |             |  |                   |
| Deflection Temperature<br>0.45MPa        | ISO 75-1/-2 | °C (°F)                                | 165 (330)         |
| 1.80MPa                                  |             |  | 103 (217)         |
| Melting Temperature                      | ISO 3146C   | °C (°F)                                | 178 (352)         |
| CLTE, Parallel<br>23 - 55°C (73 - 130°F) | ISO 11359-2 | E-4/C (E-4/F)                          | 1.06 (0.59)       |
| CLTE, Normal<br>23 - 55°C (73 - 130°F)   | ISO 11359-2 | E-4/C (E-4/F)                          | 1.06 (0.59)       |
| <b>Rheological</b>                       |             |  |                   |
| Melt Flow Rate<br>190°C, 2.16kg          | ISO 1133    | g/10 min                               | 7                 |
| <b>Other</b>                             |             |  |                   |
| Density                                  | ISO 1183    | kg/m <sup>3</sup> (g/cm <sup>3</sup> ) | 1420 (1.42)       |
| Molding Shrinkage<br>Normal              | ISO 294-4   | %                                      | 1.8               |
| Parallel                                 |             |  | 1.9               |
| <b>Processing</b>                        |             |  |                   |
| Melt Temperature Range                   |             | °C (°F)                                | 210-220 (410-430) |
| Mold Temperature Range                   |             | °C (°F)                                | 80-100 (175-210)  |
| Processing Moisture Content              |             | %                                      | <0.2              |
| Hold Pressure Range                      |             | MPa (kpsi)                             | 80-100 (12-15)    |

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