



## PA612 Series: Valladyn® HG31SI

Valladyn™ HG31SI is a high viscosity PA612 material. This resin is specifically suited for applications requiring low moisture regain and greater dimensional stability. Valladyn™ HG31SI is also used in applications requiring good electrical insulation properties and can be processed using conventional techniques.

### Applications:

- ▶ Injection Molding
- ▶ Profile Extrusion
- ▶ Tubing/Cable Jacketing
- ▶ Electrical Connectors
- ▶ Films/Filament

### Typical Properties

| Physical Properties                           | Typical Values | Unit                    | Test Standard |
|---|----------------|-------------------------|---------------|
| <b>Density</b>                                | 1.04           | <i>g/cm<sup>3</sup></i> | ASTM D792     |
| <b>Water Absorption</b> (24hr Immersion)      | 0.36           | %                       | ASTM D570     |
| <b>Relative Viscosity</b> (96% Sulfuric Acid) | ~ 1.9          | --                      | ISO 307       |

| Thermal Properties                           | Typical Values | Unit | Test Standard |
|--|----------------|------|---------------|
| <b>Mold Shrinkage</b> (Flow Direction)       | 1.7            | %    | ASTM D955     |
| <b>Melting Temperature</b>                   | 217            | °C   | DSC           |
| <b>Heat Deflection Temperature</b> (0.46MPa) | 149            | °C   | ASTM D648     |

| Mechanical Properties          | Dry / Cond  | Unit       | Test Standard |
|--------------------------------|-------------|------------|---------------|
| <b>Tensile Modulus</b>         | 1686 / 1626 | <i>MPa</i> | ASTM D638     |
| <b>Tensile Stress at Yield</b> | 65 / 58     | <i>MPa</i> | ASTM D638     |
| <b>Tensile Strain at Yield</b> | 6.0 / 13.4  | %          | ASTM D638     |
| <b>Tensile Stress at Break</b> | 47 / 46     | <i>MPa</i> | ASTM D638     |
| <b>Tensile Strain at Break</b> | 253 / 322   | %          | ASTM D638     |
| <b>Flexural Modulus</b>        | 1995 / 1675 | <i>MPa</i> | ASTM D790     |
| <b>Flexural Stress</b>         | 75 / 65     | <i>MPa</i> | ASTM D790     |