

## GUR® 4122 - PE-UHMW

### Description

UHMW-PE powder grade  
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| Physical properties           | Value | Unit   | Test Standard       |
|-------------------------------|-------|--------|---------------------|
| Elongational Stress F, 150/10 | 39.2  | psi    | ISO 21304-2         |
| Average molecular weight      | 5E6   | g/mol  | Margolies' Equation |
| Density                       | 58.1  | lb/ft³ | ISO 1183            |
| MFR temperature               | 374   | °F     | ISO 1133            |
| MFR load                      | 47.6  | lb     | ISO 1133            |
| Intrinsic viscosity           | 58100 | in³/lb | ISO 1628-3          |
| Viscosity number (PE and PP)  | 66400 | in³/lb | ISO 1628-3          |
| Average particle size, d50    | 160   | µm     | Laser scattering    |

| Mechanical properties                             | Value  | Unit      | Test Standard |
|---------------------------------------------------|--------|-----------|---------------|
| Charpy double 14° v-notch strength, 23°C          | 76.1   | ft-lb/in² | ISO 21304-2   |
| Wear by sandslurry method (based on GUR 4120=100) | 100    | -         | Internal      |
| Tensile modulus                                   | 116000 | psi       | ISO 527-2/1B  |
| Tensile stress at yield                           | 3050   | psi       | ISO 527-2/1B  |
| Tensile strain at yield                           | 13     | %         | ISO 527-2/1B  |
| Tensile stress at 50% strain                      | 3050   | psi       | ISO 527-2/1B  |
| Tensile stress at break                           | 6380   | psi       | ISO 527-2/1B  |
| Tensile nominal strain at break                   | 410    | %         | ISO 527-2/1B  |
| Shore D hardness-TPE, 15s                         | 60     | -         | ISO 868       |

| Thermal properties                      | Value | Unit | Test Standard |
|-----------------------------------------|-------|------|---------------|
| DTUL at 1.8 MPa                         | 106   | °F   | ISO 75-1, -2  |
| Vicat softening temperature, 50°C/h 50N | 176   | °F   | ISO 306       |

| Electrical properties     | Value | Unit  | Test Standard |
|---------------------------|-------|-------|---------------|
| Volume resistivity, 23°C  | >1E12 | Ohm*m | IEC 62631-3-1 |
| Surface resistivity, 23°C | >1E12 | Ohm   | IEC 62631-3-2 |

### Characteristics

|                                |                                                    |
|--------------------------------|----------------------------------------------------|
| <b>Special Characteristics</b> | Heat resistant, Hydrolysis resistant, UV resistant |
| <b>Product Categories</b>      | Low emission, Unfilled                             |
| <b>Processing</b>              | Injection molding                                  |
| <b>Delivery Form</b>           | Powder                                             |

