

## Technical Data Sheet

### *DuraGrip* DGR-6080BKBLK



Thermoplastic Elastomer

#### Product Description

*DuraGrip* DGR 6080BK is designed to be a general-purpose Thermoplastic Elastomer (TPE) that is easy to use in an injection molding process. DGR 6080NC has an excellent soft touch feel, will bond to olefinics, and is easy to color. *DuraGrip* is not hygroscopic and under normal conditions does not require drying.

|                          |                   |
|--------------------------|-------------------|
| <b>Processing Method</b> | Injection Molding |
| <b>Forms</b>             | Pellets           |
| <b>Appearance</b>        | Black             |
| <b>Application</b>       | General Purpose   |

| Typical Properties                               | Nominal Value | Units             | Test Method |
|--------------------------------------------------|---------------|-------------------|-------------|
| <b>Physical</b>                                  |               |                   |             |
| Density                                          | 0.988         | g/cm <sup>3</sup> | ISO 1183    |
| Density - Specific Gravity                       | 0.99          | g/cm <sup>3</sup> | ASTM D792   |
| Change in Volume                                 |               |                   |             |
| (in ASTM #1 Oil, 100 °C, 168 hr)                 | 6.0           | %                 | ISO 1817    |
| (in ASTM #1 Oil, 100 °C, 168 hr)                 | 6.0           | %                 | ASTM D471   |
| (in IRM 903 Oil, 100 °C, 168 hr)                 | 82            | %                 | ASTM D471   |
| (in IRM 903 Oil, 100 °C, 168 hr)                 | 82            | %                 | ISO 1817    |
| (in Water, 100 °C, 168 hr)                       | 1.0           | %                 | ASTM D471   |
| (in Water, 100 °C, 168 hr)                       | 1.0           | %                 | ISO 1817    |
| (in Reference Fuel B, 24 °C, 168 hr)             | 54            | %                 | ISO 1817    |
| (in Reference Fuel B, 24 °C, 168 hr)             | 54            | %                 | ASTM D471   |
| Melt Viscosity, (190 °C, 300 sec <sup>-1</sup> ) | 219           | Pa·s              | ASTM D3835  |
| <b>Mechanical</b>                                |               |                   |             |
| Tensile Stress at 100%                           |               |                   |             |
| (23 °C)                                          | 2.54          | MPa               | ASTM D412   |
| (23 °C)                                          | 2.54          | MPa               | ISO 37      |
| Tensile Set, (100%)                              | 16            | %                 | ASTM D412   |
| Tensile Strength at Yield, (23 °C)               | 8.30          | MPa               | ASTM D412   |
| Tensile Stress at Yield, (23 °C)                 | 8.30          | MPa               | ISO 37      |
| Tensile Strain at Break, (23 °C)                 | 310           | %                 | ISO 37      |
| Tensile Elongation at Break                      | 310           | %                 | ASTM D412   |
| Tear Strength, (24 °C, Die C)                    | 33.4          | kN/m              | ASTM D624   |
| <b>Impact</b>                                    |               |                   |             |
| Ductile/Brittle Transition Temperature           | -61.1         | °C                | ISO 812     |
| <b>Hardness</b>                                  |               |                   |             |

|                                                               |           |            |
|---------------------------------------------------------------|-----------|------------|
| Durometer Hardness, (Shore A, 5 sec)                          | 81        | ASTM D2240 |
| <b>Additional Information</b>                                 |           |            |
| Compression Set                                               |           |            |
| (24 °C, 22 hr, Method B)                                      | 26 %      | ASTM D395  |
| (100 °C, 22 hr, Method B)                                     | 63 %      | ASTM D395  |
| (24 °C, 22 hr)                                                | 26 %      | ISO 815    |
| (100 °C, 22 hr)                                               | 63 %      | ISO 815    |
| (70 °C, 22 hr, Method B)                                      | 48 %      | ASTM D395  |
| (70 °C, 22 hr)                                                | 48 %      | ISO 815    |
| (24 °C, 22.0 hr, Method B)                                    | 26 %      | ASTM D395  |
| (70 °C, 22.0 hr, Method B)                                    | 48 %      | ASTM D395  |
| (100 °C, 22.0 hr, Method B)                                   | 63 %      | ASTM D395  |
| Taber Abrasion Resistance, (CS-17 Wheel, 1000 g, 1000 Cycles) | 0.0125 mg | ASTM D3389 |

| Injection Parameters   | Nominal Value | Units |
|------------------------|---------------|-------|
| Drying Time            | 3             | hr    |
| Drying Temperature     | 66            | °C    |
| Nozzle Temperature     | 204 to 221    | °C    |
| Screw Speed            | 25 to 100     | rpm   |
| Processing (Melt) Temp | 199 to 221    | °C    |
| Front Temperature      | 216 to 227    | °C    |
| Middle Temperature     | 199 to 210    | °C    |
| Rear Temperature       | 188 to 199    | °C    |
| Mold Temperature       | 43 to 54      | °C    |
| Injection Pressure     | 1.03 to 4.14  | MPa   |