

## Technical Data Sheet

### *DuraGrip* DGR-6050NCNAT



Thermoplastic Elastomer

#### Product Description

*DuraGrip* DGR 6050NC is designed to be a general-purpose Thermoplastic Elastomer (TPE) that is easy to use in an injection molding process. DGR 6050NC 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.

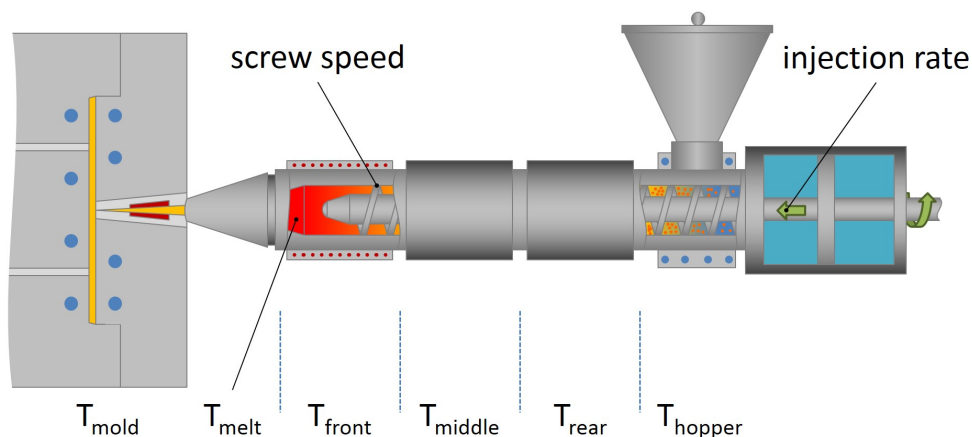
#### Regulatory Status

For regulatory compliance information, see DGR-6050NCNAT [Product Stewardship Bulletin \(PSB\) and Safety Data Sheet \(SDS\)](#).

|                   |                                     |
|-------------------|-------------------------------------|
| Status            | Commercial: Active                  |
| Availability      | Asia-Pacific; Europe; North America |
| Processing Method | Injection Molding                   |
| Attribute         | Good Colorability                   |
| Forms             | Pellets                             |
| Application       | 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                       | 0.988         | g/cm <sup>3</sup> | ASTM D792   |
| Change in Volume                                 |               |                   |             |
| (in ASTM #1 Oil, 100 °C, 168 hr)                 | 3.0           | %                 | ISO 1817    |
| (in ASTM #1 Oil, 100 °C, 168 hr)                 | 3.0           | %                 | ASTM D471   |
| (in IRM 903 Oil, 100 °C, 168 hr)                 | 45            | %                 | ISO 1817    |
| (in IRM 903 Oil, 100 °C, 168 hr)                 | 45            | %                 | ASTM D471   |
| (in Water, 100 °C, 168 hr)                       | -12           | %                 | ASTM D471   |
| (in Water, 100 °C, 168 hr)                       | -12           | %                 | ISO 1817    |
| (in Reference Fuel B, 24 °C, 168 hr)             | 22            | %                 | ASTM D471   |
| (in Reference Fuel B, 24 °C, 168 hr)             | 22            | %                 | ISO 1817    |
| Melt Viscosity, (190 °C, 300 sec <sup>-1</sup> ) | 109           | Pa·s              | ASTM D3835  |
| <b>Mechanical</b>                                |               |                   |             |
| Change in Ultimate Elongation in Air             |               |                   |             |
| (70 °C, 168 hr)                                  | 4.0           | %                 | ASTM D573   |
| (100 °C, 168 hr)                                 | 5.0           | %                 | ASTM D573   |
| Tensile Stress at 100%                           | 2.05          | MPa               | ASTM D412   |
| (23 °C)                                          | 2.05          | MPa               | ISO 37      |

|                                                                 |           |            |
|-----------------------------------------------------------------|-----------|------------|
| Change in Tensile Strength in Air                               |           |            |
| (70 °C, 168 hr)                                                 | -7.0 %    | ASTM D573  |
| (70 °C, 168 hr)                                                 | -7.0 %    | ISO 188    |
| (70 °C, 168 hr, 100%)                                           | -3.0 %    | ASTM D573  |
| (70 °C, 168 hr, 100%)                                           | -3.0 %    | ISO 188    |
| (100 °C, 168 hr)                                                | -2.0 %    | ISO 188    |
| (100 °C, 168 hr)                                                | -2.0 %    | ASTM D573  |
| (100 °C, 168 hr, 100%)                                          | 4.0 %     | ASTM D573  |
| (100 °C, 168 hr, 100%)                                          | 4.0 %     | ISO 188    |
| Tensile Set, (100%)                                             | 9 %       | ASTM D412  |
| Tensile Strength at Yield, (23 °C)                              | 5.92 MPa  | ASTM D412  |
| Tensile Stress at Yield, (23 °C)                                | 5.92 MPa  | ISO 37     |
| Change in Tensile Strain at Break                               |           |            |
| (168 hr, 70 °C)                                                 | 4.0 %     | ISO 1817   |
| (168 hr, 100 °C)                                                | 5.0 %     | ISO 1817   |
| Tensile Strain at Break, (23 °C)                                | 450 %     | ISO 37     |
| Tensile Elongation at Break                                     | 450 %     | ASTM D412  |
| Tear Strength, (24 °C, Die C)                                   | 20.8 kN/m | ASTM D624  |
| <b>Impact</b>                                                   |           |            |
| Ductile/Brittle Transition Temperature                          | -67.8 °C  | ISO 812    |
| <b>Hardness</b>                                                 |           |            |
| Shore Hardness, (Shore A, 5 sec)                                | 49        | ISO 868    |
| Durometer Hardness, (Shore A, 5 sec)                            | 49        | ASTM D2240 |
| <b>Additional Information</b>                                   |           |            |
| Compression Set                                                 |           |            |
| (24 °C, 22 hr, Method B)                                        | 19 %      | ASTM D395  |
| (100 °C, 22 hr, Method B)                                       | 68 %      | ASTM D395  |
| (24 °C, 22 hr)                                                  | 19 %      | ISO 815    |
| (100 °C, 22 hr)                                                 | 68 %      | ISO 815    |
| (70 °C, 22 hr, Method B)                                        | 41 %      | ASTM D395  |
| (70 °C, 22 hr)                                                  | 41 %      | ISO 815    |
| Taber Abrasion Resistance, (CS-17 Wheel, 1.0E+6 g, 1000 Cycles) | 70.0 mg   | ASTM D1044 |



| 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 |

## Notes

These are typical property values not to be construed as specification limits.

## Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

## Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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