

## Technical Data Sheet

### Diamaloy QR-1220 IM Dark Grey LDR 1/100



Polycarbonate + ABS

#### Product Description

Diamaloy QR-1220 IM Dark Grey LDR 1/100 is a Polycarbonate + ABS material. Features include: High Heat Resistance, High Impact Resistance, Impact Modified, and Low Temperature Impact Resistance.

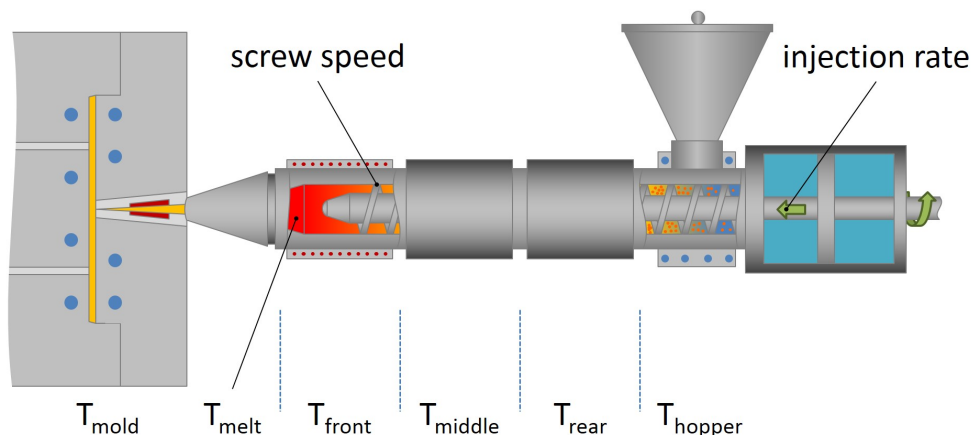
#### Regulatory Status

For regulatory compliance information, see QR-1220 IM Dark Grey LDR 1/100 [Product Stewardship Bulletin \(PSB\)](#) and [Safety Data Sheet \(SDS\)](#).

|                     |                                                                                                  |
|---------------------|--------------------------------------------------------------------------------------------------|
| <b>Status</b>       | Commercial: Active                                                                               |
| <b>Availability</b> | North America                                                                                    |
| <b>Attribute</b>    | High Heat Resistance; High Impact Resistance; Impact Modified; Low Temperature Impact Resistance |
| <b>Forms</b>        | Pellets                                                                                          |
| <b>Appearance</b>   | Black; Colors Available; Natural Color                                                           |
| <b>Additive</b>     | Impact Modifier                                                                                  |

| Typical Properties                         | Nominal Value | Units                   | Test Method |
|--------------------------------------------|---------------|-------------------------|-------------|
| <b>Physical</b>                            |               |                         |             |
| Melt Flow Rate, (260 °C/5.0 kg)            | 20            | g/10 min                | ASTM D1238  |
| Melt Volume Flow Rate, (260 °C/5.0 kg)     | 22            | cm <sup>3</sup> /10 min | ASTM D1238  |
| Density - Specific Gravity                 | 1.14          | g/cm <sup>3</sup>       | ASTM D792   |
| <b>Mechanical</b>                          |               |                         |             |
| Tensile Elongation at Yield, (23 °C)       | 150           | %                       | ASTM D638   |
| Tensile Strength at Yield, (23 °C)         | 52.0          | MPa                     | ASTM D638   |
| Flexural Strength at Yield, (23 °C)        | 84.8          | MPa                     | ASTM D790   |
| Tensile Stress at Yield, (23 °C, 5 mm/min) | 54.5          | MPa                     | ISO 527-2   |
| Tensile Strain at Break, (23 °C, 5 mm/min) | 100           | %                       | ISO 527-2   |
| <b>Flexural Modulus</b>                    |               |                         |             |
| (23 °C)                                    | 2250          | MPa                     | ASTM D790   |
| (23 °C, 2.0 mm/min, Chord, 64.0 mm)        | 2560          | MPa                     | ISO 178     |
| Tensile Strain at Yield, (23 °C)           | 3.4           | %                       | ISO 527-2   |
| Tensile Stress at Break, (23 °C, 5 mm/min) | 52.0          | MPa                     | ISO 527-2   |
| Tensile Modulus, (23 °C, 1 mm/min)         | 2340          | MPa                     | ISO 527-1   |
| Flexural Stress, (23 °C, 2.0 mm/min)       | 90.0          | MPa                     | ISO 178     |
| <b>Impact</b>                              |               |                         |             |
| <b>Charpy Impact Strength - Notched</b>    |               |                         |             |
| (23 °C)                                    | 46            | kJ/m <sup>2</sup>       | ISO 179     |
| (-30 °C)                                   | 33            | kJ/m <sup>2</sup>       | ISO 179     |
| <b>Notched Izod Impact Strength</b>        |               |                         |             |
| (23 °C)                                    | 47            | kJ/m <sup>2</sup>       | ISO 180     |
| (-30 °C)                                   | 37            | kJ/m <sup>2</sup>       | ISO 180     |

|                                                                               |        |          |            |
|-------------------------------------------------------------------------------|--------|----------|------------|
| Notched Izod Impact                                                           |        |          |            |
| (23 °C)                                                                       | 530    | J/m      | ASTM D256  |
| (-30 °C)                                                                      | 430    | J/m      | ASTM D256  |
| <b>Thermal</b>                                                                |        |          |            |
| Vicat Softening Temperature, (B (50N), 50 °C/h)                               | 122    | °C       | ISO 306    |
| Deflection Temperature Under Load Unannealed (0.45 MPa)                       | 122    | °C       | ISO 75-2/B |
| Deflection Temperature Under Load Unannealed (1.80 MPa)                       | 104    | °C       | ISO 75-2/A |
| Deflection Temperature Under Load Unannealed (264 psi)                        | 104    | °C       | ASTM D648  |
| Coefficient of Linear Thermal Expansion (CLTE), Flow, (-30 to 80 °C)          | 7.5E-5 | cm/cm/°C | ASTM E228  |
| Coefficient of Linear Thermal Expansion (CLTE), Perpendicular, (-30 to 80 °C) | 7.6E-5 | cm/cm/°C | ASTM E228  |



| Injection Parameters   | Nominal    |       |
|------------------------|------------|-------|
|                        | Value      | Units |
| Drying Time            | 2.0 to 4.0 | hr    |
| Drying Temperature     | 74         | °C    |
| Nozzle Temperature     | 243 to 271 | °C    |
| Processing (Melt) Temp | 249 to 260 | °C    |
| Front Temperature      | 243 to 271 | °C    |
| Middle Temperature     | 243 to 271 | °C    |
| Rear Temperature       | 227 to 254 | °C    |
| Mold Temperature       | 38 to 71   | °C    |
| Drying Time, Maximum   | 4          | hr    |

## Notes

These are typical property values not to be construed as specification limits. The typical values for this product may have been tested on a natural grade.

## 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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