

# Lupolen 4021 K RM Black Powder

Medium Density Polyethylene

LyondellBasell Industries

## Message:

Lupolen 4021 K RM Black Powder is the black compound version of the new generation hexene linear medium-density polyethylene LP 4021 K RM for rotational molding. Typical customer applications include large tanks including underground and infrastructure applications. The product exhibits outstanding ESCR combined with high impact at low temperatures and improved UV resistance. Lupolen 4021 K RM Black Powder is a fully UV-stabilized polymer. The product is delivered as a powder. Tests have shown that this material is resisting against the harmful effect of biodiesel fuel.\*\* It is not intended for use in medical and pharmaceutical applications.

\*\* Resistance is based on our latest patented technology

| General Information                       |  |                   |             |
|---|--|-------------------|-------------|
| Additive                                  | UV stabilizer                          |                   |             |
| Features                                  | Low warpage                            |                   |             |
|   | High ESCR (Stress Cracking Resistance) |                   |             |
|   | Workability, good                      |                   |             |
|   | Low temperature impact resistance      |                   |             |
| Uses                                      | Industrial application                 |                   |             |
|   | Industrial water tank                  |                   |             |
|   | Fuel Tank                              |                   |             |
| Appearance                                | Black                                  |                   |             |
| Forms                                     | Powder                                 |                   |             |
| Processing Method                         | rotomolding                            |                   |             |
| Physical                                  | Nominal Value                          | Unit              | Test Method |
| Density <sup>1</sup>                      | 0.940                                  | g/cm <sup>3</sup> | ISO 1183    |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 4.0                                    | g/10 min          | ISO 1133    |
| Environmental Stress-Cracking Resistance  | > 1000                                 | hr                | ASTM D1693B |
| FNCT <sup>2</sup> (50°C)                  | 2.1                                    | day               | ISO 16770   |
| Mechanical                                | Nominal Value                          | Unit              | Test Method |
| Tensile Modulus                           | 750                                    | MPa               | ISO 527-2   |
| Tensile Stress (Yield)                    | 19.0                                   | MPa               | ISO 527-2   |
| Tensile Strain (Yield)                    | 9.0                                    | %                 | ISO 527-2   |
| Films                                     | Nominal Value                          | Unit              | Test Method |
| Tensile Elongation (Break)                | > 450                                  | %                 | ISO 527-3   |
| Impact                                    | Nominal Value                          | Unit              | Test Method |
| Tensile Impact Strength                   |  |                   | ISO 8256/1A |
| -30°C                                     | 120                                    | kJ/m <sup>2</sup> | ISO 8256/1A |
| 23°C                                      | 265                                    | kJ/m <sup>2</sup> | ISO 8256/1A |
| Thermal                                   | Nominal Value                          | Unit              | Test Method |

|  |               |      |             |
|--|---------------|------|-------------|
| Vicat Softening Temperature  | 114           | °C   | ISO 306/A50 |
| Extrusion  | Nominal Value | Unit |             |
| Melt Temperature   | 180 - 210     | °C   |             |
| Extrusion instructions   |               |      |             |
| Processing: Recommended range for PIAT (Peak Internal Air Temperature) is 180 - 210 °C. PIAT should not exceed 225 °C. |               |      |             |
| NOTE   |               |      |             |

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|----|---|
| 1. | Density value is given of the base polymer. Final density of the black product is higher due to pigmentation. |
| 2. | 6.0 MPa, 2% Arkopal N100  |

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### Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

