

## Technical Data Sheet

### *Circulen 2420K Plus*



Low Density Polyethylene

#### Product Description

*Circulen 2420 K Plus* is a circular polymer, which contains building blocks from non-mechanical recycling processes converting renewables and organic wastes into new cracker feedstock.

The bio content of recycled cracker feedstock is measured and certified on the Certificate of Analysis.

*Circulen 2420 K Plus* is a non-additivated, low density polyethylene. It is characterized by a good processability. Films made from *Circulen 2420 K Plus* exhibit good optical properties. It is delivered in pellet form.

This product is not intended for use in medical and pharmaceutical applications.

#### Regulatory Status

For regulatory compliance information, see *Circulen 2420K Plus* [Product Stewardship Bulletin \(PSB\) and Safety Data Sheet \(SDS\)](#).

|                          |   |
|--------------------------|---|
| <b>Status</b>            | Commercial: Active  |
| <b>Availability</b>      | Africa-Middle East; Asia-Pacific; Europe  |
| <b>Application</b>       | Coatings, Protective; Food Packaging Film; Hygiene Film; Shrink Film; Surface Protection Film |
| <b>Market</b>            | Flexible Packaging  |
| <b>Processing Method</b> | Blown Film; Cast Film; Extrusion Coating; Injection Molding                                   |
| <b>Attribute</b>         | Good Heat Seal; Good Optical Properties; Good Processability                                  |

| Typical Properties                    | Nominal Value | Units             | Test Method   |
|---------------------------------------|---------------|-------------------|---------------|
| <b>Physical</b>                       |               |                   |               |
| Melt Flow Rate, (190 °C/2.16 kg)      | 4.0           | g/10 min          | ISO 1133-1    |
| Density                               | 0.924         | g/cm <sup>3</sup> | ISO 1183-1    |
| <b>Mechanical</b>                     |               |                   |               |
| Tensile Modulus                       | 260           | MPa               | ISO 527-1, -2 |
| Tensile Stress at Yield               | 11            | MPa               | ISO 527-1, -2 |
| <b>Film</b>                           |               |                   |               |
| Dart Drop Impact Strength, F50        | 100           | g                 | ASTM D1709    |
| Tensile Strength                      |               |                   |               |
| MD                                    | 22            | MPa               | ISO 527-1, -3 |
| TD                                    | 17            | MPa               | ISO 527-1, -3 |
| Tensile Strain at Break               |               |                   |               |
| MD                                    | 300           | %                 | ISO 527-1, -3 |
| TD                                    | 600           | %                 | ISO 527-1, -3 |
| Coefficient of Friction               | >0.7          |                   | ISO 8295      |
| <b>Impact</b>                         |               |                   |               |
| Failure Energy                        | 3.5           | J/mm              | DIN 53373     |
| <b>Thermal</b>                        |               |                   |               |
| Vicat Softening Temperature, (A/50 N) | 92            | °C                | ISO 306       |
| Peak Melting Point                    | 111           | °C                | ISO 3146      |

#### Optical

|               |      |            |
|---------------|------|------------|
| Haze, (50 µm) | <8 % | ASTM D1003 |
| Gloss         |      |            |
| (20°)         | >60  | ASTM D2457 |
| (60°)         | >105 | ASTM D2457 |

#### Additional Information

|   |      |
|---|------|
| Test Specimen   | Film |
| Film properties tested using 50 µm thickness blown film extruded at a melt temperature of 170°C and a blow-up ratio of 2.5:1. |      |

#### Processing Parameters

|                       |            |
|-----------------------|------------|
| Extrusion Temperature | 150-190 °C |
| Blown Film Extrusion  |            |

#### Notes

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