

## Technical Data Sheet

### *Circulen*Renew C14 LD2420K



Low Density Polyethylene

#### Product Description

*Circulen*Renew C14 LD2420 K is part of the *Circulen*@ product family of circular and sustainable solutions. *Circulen*Renew C14 polymer reduces the carbon footprint as it replaces fossil feedstock through using renewable raw materials made from bio-based waste and residue oils. The renewable content of *Circulen*Renew C14 is measured by an accredited third party laboratory and stated as a parameter on the Certificate of Analysis (CoA).

*Circulen*Renew C14 LD2420 K is a drop-in solution and therefore doesn't require any adaptation of the existing processing equipment.

*Circulen*Renew C14 LD2420 K is a non-additivated, low density polyethylene. It is characterized by a good processability. Films made from *Circulen*Renew C14 LD2420 K exhibit good optical properties. It is delivered in pellet form.

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

|                          |   |
|--------------------------|---|
| <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     |

| Thermal   |            |             |
|---|------------|-------------|
| Vicat Softening Temperature, (A/50)   | 92 °C      | ISO 306     |
| Peak Melting Point  | 111 °C     | ISO 11357-3 |
| 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  |            |             |