

## Technical Data Sheet

### *Lupolen 2421K*

Low Density Polyethylene

#### Product Description

*Lupolen 2421 K* is an additivated, low density polyethylene. It is characterized by a good processability. Films made from *Lupolen 2421 K* exhibit good optical properties. It contains an antioxidant and is delivered in pellet form.

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

|                          |                                                                           |
|--------------------------|---------------------------------------------------------------------------|
| <b>Application</b>       | Food Packaging Film; Hygiene Film; Shrink Film; Surface Protection Film   |
| <b>Market</b>            | Flexible Packaging                                                        |
| <b>Processing Method</b> | Blown Film; Cast Film                                                     |
| <b>Attribute</b>         | Antioxidant; 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) | 92            | °C                | ISO 306       |
| Peak Melting Point                  | 111           | °C                | ISO 11357-3   |
| <b>Optical</b>                      |               |                   |               |
| 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                                                                                                          |            |            |