



## Technical Data Sheet

# IPETHENE® 4140

### Low Density Polyethylene



#### Product Description

IPETHENE® 4140 is a low-density polyethylene film grade, produced by high-pressure autoclave technology.

|                            |                                                                                                                    |                                                                                                               |
|----------------------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Features:</b>           | <ul style="list-style-type: none"><li>No additives</li><li>Good environmental stress cracking resistance</li></ul> | <ul style="list-style-type: none"><li>Excellent bubble stability</li><li>Good mechanical properties</li></ul> |
| <b>Uses:</b>               | <ul style="list-style-type: none"><li>Large diameter agricultural films</li><li>Construction films</li></ul>       | <ul style="list-style-type: none"><li>Shrink films</li><li>Pipes</li><li>Heavy duty bags</li></ul>            |
| <b>Processing Methods:</b> | <ul style="list-style-type: none"><li>Blown film extrusion</li><li>Blow molding</li></ul>                          | <ul style="list-style-type: none"><li>Pipe extrusion</li></ul>                                                |

| Properties                         |                    | Method      | Typical Value* | Unit              |
|------------------------------------|--------------------|-------------|----------------|-------------------|
| <b>Physical</b>                    |                    |             |                |                   |
| <b>Melt Flow Rate</b>              | (190°C/2.16 kg)    | ISO 1133    | 0.13           | g/10 min          |
| <b>Density</b>                     |                    | ISO 1183-A  | 0.920          | g/cm <sup>3</sup> |
| <b>Thermal</b>                     |                    |             |                |                   |
| <b>Peak Melting Temperature</b>    | By DSC             | ISO 11357-3 | 109            | °C                |
| <b>Vicat Softening Temperature</b> | (10 N)             | ISO 306     | 97             | °C                |
| <b>Mechanical**</b>                |                    |             |                |                   |
| <b>Dart Drop Impact</b>            | (F <sub>50</sub> ) | ISO 7765-A  | 500            | g                 |
| <b>Tensile Stress at Break</b>     | (MD/TD)            | ISO 527-3   | 25/24          | MPa               |
| <b>Tensile Strain at Break</b>     | (MD/TD)            | ISO 527-3   | 650/600        | %                 |

\*Typical values; not to be construed as specifications.

\*\* Measured on 100 µm blown film, Blow-up ratio 2.5:1, output 10 kg/h, melt temperature ~210°C.

#### Processing Recommendations

IPETHENE® 4140 can be easily processed on conventional extruders at melt temperature range 180-230°C. Due to differences in screw and die head designs, processing conditions should be optimized for each production line. With suitable equipment, it can be drawn down to 70 µm films.

#### Health, Quality, Regulations and Safety

This product is not classified as dangerous substance and intended for industrial use, to produce plastic articles. Material safety data sheets, international standards certificates and other regulatory documents are available on our website. Carmel Olefins products have not been tested and therefore not validated for use in pharmaceutical/medical applications, and their suitability for these uses cannot be guaranteed. It is the customer's responsibility to test and approve their technical and regulatory suitability in order to satisfy themselves as to the particular purpose and application(s).

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