

### Technical Information

## Smart™ 151

### Introduction

Smart™ 151, metallocene LLDPE, is an **ethylene-octene copolymer** produced via Nexlene™ technology. Smart™ 151 performs well in a wide range of various food & non-food packaging films with excellent sealing property, impact strength, and processability.

Typical Performance:

- Excellent low seal initiation temperature and hot tack strength
- Superior impact strength and transparency
- Outstanding bubble stability & processability

Compiles with:

- US. FDA 21 CFR 177.1520
- EU. No 10/2011

Additives:

- Antiblock: No
- Slip: No

### Properties

|                         |                             | Typical Values | Unit               | Test Method            |
|-------------------------|-----------------------------|----------------|--------------------|------------------------|
| <b>Resin Properties</b> | Density                     | 0.915          | g/cm <sup>3</sup>  | ASTM D792              |
|                         | Melt index (2.16 kg @190°C) | 1.0            | g/10min            | ASTM D1238             |
|                         | Melting temperature         | 113            | °C                 | SK Method              |
|                         | Vicat softening temperature | 102            | °C                 | ASTM D1525             |
| <b>Film Properties</b>  | Film thickness - tested     | 40             | µm                 | ASTM D374              |
|                         | Dart impact strength        | >1000          | g                  | ASTM D1709A            |
|                         | Haze                        | 10             | %                  | ASTM D1003             |
|                         | Seal initiation temperature | 104            | °C                 | SK Method <sup>1</sup> |
|                         | Elmendorf tear strength     | MD 12          | g/µm               | ASTM D1922             |
|                         |                             | TD 22          | g/µm               | ASTM D1922             |
|                         | Tensile strength at break   | MD 530         | kg/cm <sup>2</sup> | ASTM D882              |
|                         |                             | TD 550         | kg/cm <sup>2</sup> | ASTM D882              |

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|                     |    |      |                    |           |
|---------------------|----|------|--------------------|-----------|
| Elongation at break | MD | 600  | %                  | ASTM D882 |
|                     | TD | 650  | %                  | ASTM D882 |
| Secant modulus (1%) | MD | 1430 | kg/cm <sup>2</sup> | ASTM D882 |
|                     | TD | 1630 | kg/cm <sup>2</sup> | ASTM D882 |

|                                |   |                              |
|--------------------------------|---|------------------------------|
| <b>Extrusion<br/>Condition</b> | • | Screw size: 35 mm            |
|                                | • | Die diameter: 100 mm         |
|                                | • | Die gap: 1 mm                |
|                                | • | Blow-up ratio: 2.1           |
|                                | • | Melt temperature: 160-180 °C |

<sup>1</sup> Temperature at which 0.4 kg/25.4 mm heat seal strength is achieved

#### Notes

These are **typical values** and are **not be construed as specifications**. The physical properties are highly dependent on the manufacturing conditions. So customers should confirm performances by their own tests.

#### For additional sales, order and technical assistance

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