



Date Prepared: 20<sup>th</sup>, May 2014

## Smart™ 181S

Smart™ 181S, metallocene LLDPE, is an ethylene-octene copolymer produced via Nexlene™ Technology from SK. It performs well in a wide range of general purpose of LLDPE blown film applications, and has excellent melt flow characteristics.

Applications: Low-temperature seal packaging, lamination film, food and non-food packaging, etc.

**Additives**      Antiblock: Yes      Slip: Yes

|                         |                                  |    | Typical Values  | Unit               | Test Method |
|-------------------------|----------------------------------|----|-----------------|--------------------|-------------|
| <b>Resin properties</b> | <b>Co-monomer</b>                |    | <b>Octene-1</b> |                    | SK Method   |
|                         | <b>Density</b>                   |    | <b>0.918</b>    | g/cm <sup>3</sup>  | ASTM D1505  |
|                         | <b>MI</b>                        |    | <b>1.0</b>      | g/10min            | ASTM D1238  |
|                         | <b>Melting point</b>             |    | <b>~ 115</b>    | °C                 | SK Method   |
| <b>Film Properties*</b> | <b>Dart drop impact</b>          |    | 800             | g                  | ASTM D1709  |
|                         | <b>Haze</b>                      |    | 12              | %                  | ASTM D1003  |
|                         | <b>Gloss (at 45°)</b>            |    | 55              |                    | ASTM D2457  |
|                         | <b>Lowest heat-seal Temp.</b>    |    | 110             | °C                 | SK Method   |
|                         | <b>Initial tear strength</b>     | MD | 115             | kg/cm              | ASTM D1004  |
|                         |                                  | TD | 120             | kg/cm              | ASTM D1004  |
|                         | <b>Elmendorf tear strength</b>   | MD | 14              | g/um               | ASTM D1922  |
|                         |                                  | TD | 22              | g/um               | ASTM D1922  |
|                         | <b>Tensile strength at break</b> | MD | 550             | kg/cm <sup>2</sup> | ASTM D882   |
|                         |                                  | TD | 550             | kg/cm <sup>2</sup> | ASTM D882   |
|                         | <b>Elongation at break</b>       | MD | 630             | %                  | ASTM D882   |
|                         |                                  | TD | 730             | %                  | ASTM D882   |
|                         | <b>Tensile strength at yield</b> | MD | 120             | kg/cm <sup>2</sup> | ASTM D882   |
|                         |                                  | TD | 115             | kg/cm <sup>2</sup> | ASTM D882   |
|                         | <b>Secant modulus (1%)</b>       | MD | 1430            | kg/cm <sup>2</sup> | ASTM D882   |
|                         |                                  | TD | 1590            | kg/cm <sup>2</sup> | ASTM D882   |

\* Typical values, not to be used as specifications.

### Conditions for blown film production

- Machine: Macci blown film line with 50Ø screw
- Film specification: 50um x 600mm