

# Hanwha Total PE 532L

Low Density Polyethylene

HANWHA TOTAL PETROCHEMICALS Co., Ltd.

Message:

532L is a low-density polyethylene resin for skin layer of multi-layer lamination films. This grade is designed to be processed in conventional blown film equipment.

| General Information                       |                                        |                   |             |
|-------------------------------------------|----------------------------------------|-------------------|-------------|
| Features                                  | Low density                            |                   |             |
|                                           | Low speed solidification crystal point |                   |             |
|                                           | Highlight                              |                   |             |
|                                           | High tensile strength                  |                   |             |
|                                           | Optical                                |                   |             |
|                                           | Workability, good                      |                   |             |
|                                           | Heat sealable                          |                   |             |
|                                           | Good flexibility                       |                   |             |
|                                           | Definition, high                       |                   |             |
|                                           | Excellent appearance                   |                   |             |
| Uses                                      | Films                                  |                   |             |
|                                           | Laminate                               |                   |             |
|                                           | Sheet                                  |                   |             |
|                                           | Medical/nursing supplies               |                   |             |
| Appearance                                | Clear/transparent                      |                   |             |
| Forms                                     | Particle                               |                   |             |
| Processing Method                         | Blow film                              |                   |             |
| Physical                                  | Nominal Value                          | Unit              | Test Method |
| Density                                   | 0.924                                  | g/cm <sup>3</sup> | ASTM D1505  |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 2.8                                    | g/10 min          | ASTM D1238  |
| Mechanical                                | Nominal Value                          | Unit              | Test Method |
| Tensile Strength (Break)                  | 12.7                                   | MPa               | ASTM D638   |
| Tensile Elongation (Break)                | 700                                    | %                 | ASTM D638   |
| Apparent Bending Modulus                  | 275                                    | MPa               | ASTM D747   |
| Films                                     | Nominal Value                          | Unit              | Test Method |
| Film Thickness - Tested                   | 40                                     | μm                |             |
| Tensile Strength                          |                                        |                   | ASTM D882   |
| MD: Yield, 40 μm                          | 22.6                                   | MPa               | ASTM D882   |
| TD: Yield, 40 μm                          | 15.7                                   | MPa               | ASTM D882   |
| Tensile Elongation                        |                                        |                   | ASTM D882   |

| MD: Break, 40 μm                                                                          | 240           | %    | ASTM D882               |
|-------------------------------------------------------------------------------------------|---------------|------|-------------------------|
| TD: Break, 40 μm                                                                          | 590           | %    | ASTM D882               |
| Dart Drop Impact (40 μm)                                                                  | 65            | g    | ASTM D1709              |
| Seal Initiation Temperature (40 μm)                                                       | 140           | °C   |                         |
| Thermal                                                                                   | Nominal Value | Unit | Test Method             |
| Brittleness Temperature                                                                   | -70.0         | °C   | ASTM D746               |
| Vicat Softening Temperature                                                               | 95.0          | °C   | ASTM D1525 <sup>1</sup> |
| Melting Temperature                                                                       | 113           | °C   |                         |
| Optical                                                                                   | Nominal Value | Unit | Test Method             |
| Gloss (45°, 40.0 μm)                                                                      | 75            |      | ASTM D2457              |
| Haze (40.0 μm)                                                                            | 6.0           | %    | ASTM D1003              |
| Additional Information                                                                    |               |      |                         |
| Heat Seal Strength, SAMSUNG TOTAL: 1200 g/cm <sup>2</sup> Fish-eye, SAMSUNG TOTAL: 1 ea/g |               |      |                         |
| Extrusion                                                                                 | Nominal Value | Unit |                         |
| Cylinder Zone 1 Temp.                                                                     | 130 - 150     | °C   |                         |
| Cylinder Zone 2 Temp.                                                                     | 130 - 150     | °C   |                         |
| Cylinder Zone 3 Temp.                                                                     | 130 - 150     | °C   |                         |
| Cylinder Zone 4 Temp.                                                                     | 130 - 150     | °C   |                         |
| Cylinder Zone 5 Temp.                                                                     | 130 - 150     | °C   |                         |
| Melt Temperature                                                                          | 160           | °C   |                         |
| Die Temperature                                                                           | 160 - 170     | °C   |                         |
| Extrusion instructions                                                                    |               |      |                         |
| Blow up ratio: 1 to 2                                                                     |               |      |                         |
| NOTE                                                                                      |               |      |                         |

1. 压力1 (10N)

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