

# SABIC® LDPE HP2022NN

## LOW DENSITY POLYETHYLENE

### DESCRIPTION

HP2022NN is a Low Density Polyethylene grade suitable for general-purpose packaging. They exhibit better draw down, good optical and mechanical properties. HP2022NN contains no slip, no antiblock and no antioxidant additives.

### TYPICAL APPLICATIONS

Thin shrink film, lamination film, produce bags, textile packaging, soft goods packaging, general-purpose bags with good optics and t-shirts carrier bags.

### TYPICAL PROPERTY VALUES

| PROPERTIES                         | TYPICAL VALUES | UNITS             | TEST METHODS |
|------------------------------------|----------------|-------------------|--------------|
| <b>POLYMER PROPERTIES</b>          |                |                   |              |
| <b>Melt Flow Rate (MFR)</b>        |                |                   |              |
| at 190°C and 2.16 kg               | 2.0            | g/10 min          | ASTM D1238   |
| <b>Density</b>                     |                |                   |              |
| at 23°C                            | 922            | kg/m <sup>3</sup> | ASTM D1505   |
| <b>MECHANICAL PROPERTIES</b>       |                |                   |              |
| <b>Dart Impact Strength</b>        | 2              | g/μm              | ASTM D1709   |
| <b>OPTICAL PROPERTIES</b>          |                |                   |              |
| <b>Haze</b> <sup>(1)</sup>         | 10             | %                 | ASTM D1003   |
| <b>Gloss</b>                       |                |                   |              |
| at 45°                             | 55             | -                 | ASTM D2457   |
| <b>FILM PROPERTIES</b>             |                |                   |              |
| <b>Tensile Properties</b>          |                |                   |              |
| stress at break, MD                | 29             | MPa               | ASTM D882    |
| stress at break, TD                | 15             | MPa               | ASTM D882    |
| strain at break, MD                | 120            | %                 | ASTM D882    |
| strain at break, TD                | 530            | %                 | ASTM D882    |
| stress at yield, MD                | 11             | MPa               | ASTM D882    |
| stress at yield, TD                | 11             | MPa               | ASTM D882    |
| 1% secant modulus, MD              | 180            | MPa               | ASTM D882    |
| 1% secant modulus, TD              | 230            | MPa               | ASTM D882    |
| <b>Tear Resistance</b>             |                |                   |              |
| MD                                 | 18             | g/μm              | ASTM D1922   |
| TD                                 | 4              | g/μm              | ASTM D1922   |
| <b>THERMAL PROPERTIES</b>          |                |                   |              |
| <b>Vicat Softening Temperature</b> | 92             | °C                | ASTM D1525   |

(1) Properties have been measured by producing 30 μm film with 2.5 BUR using 100% HP2022NN.

## PROCESSING CONDITIONS

Typical processing conditions for HP2022NN are:

Barrel temperature: 160 - 190°C, Blow up ratio: 2.0 – 3.0

## STORAGE AND HANDLING

Polyethylene resin should be stored in a manner to prevent a direct exposure to sunlight and/or heat. The storage area should also be dry and preferably do not exceed 50°C. SABIC would not give warranty to bad storage conditions, which may lead to quality deterioration such as color change, bad smell and inadequate product performance. It is advisable to process PE resin within 6 months after delivery.