

# DOWLEX™ 2045.11S

Polyethylene Resin

The Dow Chemical Company

## Message:

For high speed, thin film applications

Additional thermal stability

Complies with U.S. FDA 21 CFR 177.1520 (c) 3.2a.

Complies with Canadian HPFB No Objection (With Limitations)

Complies with EU, No 10/2011

Consult the regulations for complete details.

| General Information                       |                              |                   |                 |
|-------------------------------------------|------------------------------|-------------------|-----------------|
| Additive                                  | Anti-caking agent (3000 ppm) |                   |                 |
|                                           | Sliding agent (1200 ppm)     |                   |                 |
| Agency Ratings                            | FDA 21 CFR 177.1520(c) 3.2a  |                   |                 |
|                                           | HPFB (Canada) No Objection 2 |                   |                 |
|                                           | Europe No 10/2011            |                   |                 |
| Forms                                     | Particle                     |                   |                 |
| Processing Method                         | Blow film                    |                   |                 |
| Physical                                  | Nominal Value                | Unit              | Test Method     |
| Specific Gravity                          | 0.922                        | g/cm <sup>3</sup> | ASTM D792       |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 1.0                          | g/10 min          | ASTM D1238      |
| Films                                     | Nominal Value                | Unit              | Test Method     |
| Film Thickness - Tested                   | 25                           | µm                | Internal method |
| Film Puncture Energy                      | 1.24                         | J                 | Internal method |
| Film Puncture Force                       | 31.1                         | N                 | Internal method |
| Film Puncture Resistance                  | 6.21                         | J/cm <sup>3</sup> | Internal method |
| Film strength                             |                              |                   | ASTM D882       |
| MD                                        | 110                          | J/cm <sup>3</sup> | ASTM D882       |
| TD                                        | 114                          | J/cm <sup>3</sup> | ASTM D882       |
| secant modulus                            |                              |                   | ASTM D882       |
| 1% secant, MD                             | 211                          | MPa               | ASTM D882       |
| 2% secant, MD                             | 172                          | MPa               | ASTM D882       |
| 1% secant, TD                             | 234                          | MPa               | ASTM D882       |
| 2% secant, TD                             | 189                          | MPa               | ASTM D882       |
| Tensile Strength                          |                              |                   | ASTM D882       |
| MD: Yield                                 | 13.4                         | MPa               | ASTM D882       |
| TD: Yield                                 | 14.1                         | MPa               | ASTM D882       |

| MD: Fracture                | 46.1          | MPa  | ASTM D882       |
|-----------------------------|---------------|------|-----------------|
| TD: Fracture                | 35.3          | MPa  | ASTM D882       |
| Tensile Elongation          |               |      | ASTM D882       |
| MD: Fracture                | 540           | %    | ASTM D882       |
| TD: Fracture                | 660           | %    | ASTM D882       |
| Dart Drop Impact            | 180           | g    | ASTM D1709A     |
| Elmendorf Tear Strength     |               |      | ASTM D1922      |
| MD                          | 440           | g    | ASTM D1922      |
| TD                          | 630           | g    | ASTM D1922      |
| Thermal                     | Nominal Value | Unit | Test Method     |
| Vicat Softening Temperature | 104           | °C   | ASTM D1525      |
| Melting Temperature (DSC)   | 122           | °C   | Internal method |
| Optical                     | Nominal Value | Unit | Test Method     |
| Gloss (45°)                 | 34            |      | ASTM D2457      |
| Haze                        | 20            | %    | ASTM D1003      |
| Extrusion                   | Nominal Value | Unit |                 |
| Melt Temperature            | 216           | °C   |                 |
| Extrusion instructions      |               |      |                 |

吹塑薄膜的制造条件:

螺杆尺寸:2.5 英寸 (63.5 mm);24:1 L/D

螺杆类型:DSB II

模具间隙:70 密尔 (1.8 mm)

熔体温度:430-450°F (221-232°C)

输出:模具周长的 10 磅/小时/英寸

模具直径:6 英寸

放大比:2.5:1

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