# SABIC® LDPE 2005EC

## Low Density Polyethylene

Saudi Basic Industries Corporation (SABIC)

## Message:

SABIC® LDPE 2005EC is the first commercially proven tubular LDPE grade for extrusion coating. The product gives a good combination of processing and end-performance properties. SABIC® LDPE 2005EC can be used on low and (very) high line speed extrusion coating and lamination processes. Due to its excellent draw down performance and good adhesion, very thin coating layers can be applied on the substrate.

#### Application

General Information

SABIC® LDPE 2005EC is typically used in extrusion coating and lamination applications, such as liquid packaging, food packaging and building & construction. Typical substrates for coating or lamination are paper, board, aluminum, PET or PA.

This product is not intended for and must not be used in any pharmaceutical/medical applications.

| Features  | Low density                     |          |               |  |  |
|---|---------------------------------|----------|---------------|--|--|
|   | Good stripping                  |          |               |  |  |
|   | Good adhesion                   |          |               |  |  |
|   |                                 |          |               |  |  |
| Uses  | Packaging                       |          |               |  |  |
|   | Laminate                        |          |               |  |  |
|   | Building materials              |          |               |  |  |
|   | Architectural application field |          |               |  |  |
|   | Food packaging                  |          |               |  |  |
|   |                                 |          |               |  |  |
| Processing Method                                   | Lamination method               |          |               |  |  |
|   | Extrusion coating               |          |               |  |  |
|   |                                 |          |               |  |  |
| Physical  | Nominal Value                   | Unit     | Test Method   |  |  |
| Density   | 0.920                           | g/cm³    | ISO 1183      |  |  |
| Melt Mass-Flow Rate (MFR) (190°C/2.1                | 6                               |          |               |  |  |
| kg)   | 5.0                             | g/10 min | ISO 1133      |  |  |
| Mechanical  | Nominal Value                   | Unit     | Test Method   |  |  |
| Tensile Stress (Break, 2.00 mm,                     | 12.0                            | . 40     | 100 507 2 750 |  |  |
| Compression Molded)                                 | 12.0                            | MPa      | ISO 527-2/50  |  |  |
| Tensile Strain (Break, 2.00 mm, Compression Molded) | 600                             | %        | ISO 527-2/50  |  |  |
| Films   | Nominal Value                   | Unit     | Test Method   |  |  |
| Film Thickness - Tested                             | 25                              | μm       |               |  |  |
| Tensile Stress                                      |                                 |          | ISO 527-3     |  |  |
| MD: Yield, 25 µm                                    | 7.50                            | MPa      | ISO 527-3     |  |  |
| TD: Yield, 25 µm                                    | 7.50                            | MPa      | ISO 527-3     |  |  |
| MD: Break, 25 μm                                    | 13.0                            | MPa      | ISO 527-3     |  |  |
| · •   | 15.0                            | IVII U   |               |  |  |
| TD: Break, 25 µm                                    | 13.0                            | MPa      | ISO 527-3     |  |  |

| MD: Break, 25 μm                                       | 400  | %            | ISO 527-3       |  |
|--|--|--------------|-----------------|--|
| TD: Break, 25 µm                                       | 550  | %            | ISO 527-3       |  |
| Oxygen Permeability <sup>1</sup> (23°C, 25 µm)         | 0.800  | cm³/m²/24 hr | ISO 15106-3     |  |
| Water Vapor Transmission Rate (38°C, 90%<br>RH, 25 µm) | 20   | g/m²/24 hr   | ISO 15106-3     |  |
| Thermal  | Nominal Value  | Unit         | Test Method     |  |
| Vicat Softening Temperature                            | 88.0   | °C           | ISO 306         |  |
| Melting Temperature (DSC)                              | 107  | °C           | DIN 53765       |  |
| Enthalpy Change  | 100  | J/g          | DIN 53765       |  |
| Tear Strength  |  |              | ISO 6383-2      |  |
| MD : 25.0 μm   | 45.0   | kN/m         | ISO 6383-2      |  |
| TD : 25.0 µm   | 45.0   | kN/m         | ISO 6383-2      |  |
| Neck-in <sup>2</sup>                                   | 140.0  | mm           | Internal method |  |
| Minimum coating weight <sup>3</sup>                    | 1.4  | g/m²         | Internal method |  |
| NOTE   |  |              |                 |  |
| 1.   | 0% RH  |              |                 |  |
| 2.   | Measured on pilot line at 200 m/min, 300°C, 10 g/m², airgap 300 mm |              |                 |  |
| 3.   | Measured on pilot line at 400 m/min, 300°C, airgap 300 mm          |              |                 |  |
|  |  |              |                 |  |

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