Technical Data Sheet

# CLEARFLEX®
# FG 336 A BA

LLDPE
Linear low-density polyethylene bio-attributed

## SUSTAINABILITY

The "bio attributed" product Clearflex FG 336 A BA is a highly sustainable LLDPE produced using bionafta from renewable raw materials together with traditional raw materials. In order to attribute the sustainable feedstock component to the final product, Versalis applies the Mass Balance approach, a recognized methodology that allows to trace the flow of materials along the value chain and to assign the sustainability characteristic of the raw material to the final product on a documentary basis. Clearflex FG 336 A BA provides the same chemical composition and physical-mechanical performance of the traditional grade, in addition is accompanied by a sustainability declaration that certifies the share of bio attributed product. It is a hexene comonomer, additivated with antioxidant, slip agent, antiblocking agent and processing aid, and suitable for blown film technology. The production of Clearflex FG 336 A BA allows to contribute to the circular economy, since the bionafta used derives from renewable sources (e.g. vegetable oils). Clearflex FG 336 A BA will be bio attributed for 85%. The exact amount of "bio attributed" product will be reported in the sustainability certificate issued upon the delivery of the product.

## MAIN PROPERTIES

| Resin Properties | Value | Unit | Test method |
|---|---|---|---|
| Melt Flow Rate (190 °C/2.16 kg) | 0.8 | g/10min | ISO 1133 |
| Melt Flow Rate (190 °C/5 kg) | - | g/10min | ISO 1133 |
| Melt Flow Rate (190 °C/21.6 kg) | - | g/10min | ISO 1133 |
| Density | 0.926 | g/cm$^3$ | ISO 1183 |
| Melting Point | 127 | °C | Internal Method |
| Brittleness temperature | <-70 | °C | ASTM D 746 |
| Vicat softening point (1 kg) | 110 | °C | ISO 306/A |

| Film Properties * | Value | Unit | Test method |
|---|---|---|---|
| Tensile stress at yield MD | 12 | MPa | ISO 527-3 |
| Tensile stress at yield TD | 13 | MPa | ISO 527-3 |
| Tensile stress at break MD | 45 | MPa | ISO 527-3 |
| Tensile stress at break TD | 36 | MPa | ISO 527-3 |
| Elongation at break MD | 550 | % | ISO 527-3 |
| Elongation at break TD | 740 | % | ISO 527-3 |
| 1% Secant modulus MD | 180 | MPa | ISO 527-3 |
| 1% Secant modulus TD | 200 | MPa | ISO 527-3 |
| Elmendorf tear resistance MD | 82 | N/mm | ISO 6383-2 |
| Elmendorf tear resistance TD | 250 | N/mm | ISO 6383-2 |
| Impact resistance F50 (Dart Drop Test) | 120 | g | ISO 7765-1/A |
| Dynamic coefficient of friction (COF) | 0.11 | - | ISO 8295 |
| Haze | 13 | % | ISO 14782 |
| Gloss, 45° | 54 | % | ASTM D 2457 |
| Recommended film thickness | 10 ÷ 50 | micron | - |

**CLEARFLEX** ® LLDPE / Linear low-density polyethylene bio-attributed **FG 336 A BA**

## MAIN APPLICATIONS

Clearflex FG 336 A BA is recommended for shipping sacks where the perfect balance between additivation (interms of slip and antiblocking) and mechanical performances leads to the manufacture of a tough and easypeelable film. Moreover for its sealing characteristics, together with low temperature mechanical resistance, Clearflex FG 336 A BA is suggested for the production of freezer bags, either in coextrusion and in blend with LDPE.

## PROCESSING NOTES

Clearflex FG 336 A BA is easily processable using blown film technology. Melt temperature should be between 190°C and 230°C.
Recommended thickness: 10 - 50 µm.

## STORAGE AND HANDLING

Clearflex FG 336 A BA is supplied in pellet form. This material may readily be conveyed and bulk fed through equipment designed for conventional pelletized polyethylene resin, provided the equipment is designed to prevent accumulation of the fines and dust particles that are contained in all polyethylene resins. These fines and dust particles can, under certain conditions, pose an explosion hazard. We recommend that the conveying system used be equipped with filters of adequate size, operated and maintained in such a manner to ensure that no leaks develop and earthed adequately. We further recommend that good housekeeping should be practiced throughout your facility. The product should be stored in dry conditions at temperatures below 50°C and protected from sunlight. Improper storage can initiate degradation which results in odor generation, color changes and can have negative effects on the physical properties of the product. Before using this product, it is recommended to read and understand the relevant Safety Data Sheet.

## AVAILABILITY

Contact the Versalis sales office nearest to you regarding availability and your specific application requirements.

## FOOD CONTACT STATUS

Clearflex FG 336 A BA complies with the rules and regulations of the European Union, as well as other countries, regarding the use of plastic materials in food contact applications. Certificates of compliance are available upon request.