# SABIC® HDPE FI1157

HIGH DENSITY POLYETHYLENE

## DESCRIPTION

SABIC® HDPE FI1157 is a High Density Polyethylene copolymer grade typically used for blown film applications. It has high molecular weight, broad molecular weight distribution and high density to produce film with low gels level, high stiffness, high melt strength, high impact resistance and with narrow gauge tolerances at low film thickness. SABIC® HDPE FI1157 can be processed at high throughput with good bubble stability.

The product mentioned herein is in particular not tested and therefore not validated for use in pharmaceutical/ medical applications

## TYPICAL APPLICATIONS

SABIC® HDPE FI1157 is typically used for the production of grocery sacks, shopping bags, refuse bags, inliners, bitumen release foils, lamination and paper lamination films, labels, artificial paper, thin films for bag on roll and heavy duty bags.

## TYPICAL PROPERTY VALUES

Revision 20180807

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| **POLYMER PROPERTIES** | | | |
| **Melt Flow Rate (MFR)** | | | |
| at 190 °C and 5 kg | 0.35 | g/10 min | ISO 1133 |
| at 190 °C and 21.6 kg | 11 | g/10 min | ISO 1133 |
| **Density** | 957 | kg/m³ | ASTM D1505 |
| **MECHANICAL PROPERTIES** | | | |
| **Hardness Shore D** | 62 | - | ISO 868 |
| **FILM PROPERTIES** | | | |
| **Tensile Properties** [1] | | | |
| stress at break, MD | 50 | MPa | ISO 527-3 |
| stress at break, TD | 45 | MPa | ISO 527-3 |
| strain at break, MD | 400 | % | ISO 527-3 |
| strain at break, TD | 450 | % | ISO 527-3 |
| **Dart Impact Strength** | | | |
| F50 | 240 | g | ASTM D1709 |
| **Elmendorf Tear Strength** | | | |
| MD | 200 | mN | ISO 6383-2 |
| TD | 450 | mN | ISO 6383-2 |
| **THERMAL PROPERTIES** | | | |
| **Vicat Softening Temperature** | | | |
| at 50 N (VST/B) | 75 | °C | ISO 306/B |
| **Brittleness Temperature** | <-80 | °C | ASTM D746 |

(1) Properties are based on 20 µm film produced at a BUR of 4 using 100% FI1157.

## PROCESSING CONDITIONS

Typical processing conditions for FI1157 are:

Melt Temperature: 200 - 225°C.

Frost Line Height: 6 - 8 times die cross-cut.

BUR: 3 – 5

## ENVIRONMENT AND RECYCLING

The environmental aspects of any packaging material do not only imply waste issues but have to be considered in relation with the use of natural resources, the preservations of foodstuffs, etc. SABIC Europe considers polyethylene to be an environmentally efficient packaging material. Its low specific energy consumption and insignificant emissions to air and water designate polyethylene as the ecological alternative in comparison with the traditional packaging materials. Recycling of packaging materials is supported by SABIC Europe whenever ecological and social benefits are achieved and where a social infrastructure for selective collecting and sorting of packaging is fostered. Whenever 'thermal' recycling of packaging (i.e. incineration with energy recovery) is carried out, polyethylene -with its fairly simple molecular structure and low amount of additives- is considered to be a trouble-free fuel.

## 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.

## DISCLAIMER