



Doc  
Name:

Product Data sheet -High Density polyethylene  
HFI 5110

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## Typical Data

| Properties   | Value <sup>(1)</sup> | unit               | Test method |
|--|----------------------|--------------------|-------------|
| <b>Physical Properties</b>                                       |                      |                    |             |
| Density (23 °C)  | 951                  | kg/cm <sup>3</sup> | ISO 1183    |
| MFI (190 °C /21.6Kg)   | 10                   | dg/min             | ISO 1133    |
| <b>Mechanical properties <sup>(2)</sup></b>                      |                      |                    |             |
| Tensile Modulus of elasticity                                    | 1050                 | MPa                | ISO527-1;2  |
| Tensile Strength (MD)  | 55                   | MPa                | ISO 527-1;3 |
| Tensile Strength (TD)  | 55                   | MPa                | ISO 527-1;3 |
| Tensile Strain at Break (MD)                                     | 580                  | %                  | ISO 527-1   |
| Tensile Strain at Break (TD)                                     | 620                  | %                  | ISO 527-1   |
| Tensile stress at Yield  | 26                   | MPa                | ISO 527-1   |
| Tensile strain at Yield  | 10                   | %                  | ISO 527-1   |
| Elemendorf tear strength(MD)                                     | 250                  | mN                 | ISO 6383-2  |
| Elemendorf tear strength(TD)                                     | 800                  | mN                 | ISO 6383-2  |
| <b>Thermal Properties</b>  |                      |                    |             |
| Melting Point  | 132                  | °C                 | ISO 3146    |
| Vicat Temperature , (A50,50 °C/h , 10 N)                         | 127                  | °C                 | ISO 306     |
| <i>Additives :Antioxidant –Heat stabilizer<br/>Zinc Stearate</i> |                      |                    |             |

### Notes:

- (1) Typical Values: not to be construed as specifications limits.
- (2) Properties are based on 20 µm blown film produced at a melt temperature of 220°C and 4 BUR using 100% HFI5110.

## Product Description

HFI5110 is a high molecular weight, high density polyethylene, which has a broad molecular weight distribution and high melt strength. This product specially designed for producing thin films with excellent strength and rigidity.

## Typical Application

HFI5110 is recommended for blown film extrusion. This product is suitable for manufacture of high strength grocery sacks, shopping bags and high quality thin films for uni/multi-wall packaging. Films produced with this product can be readily treated and printed to give high quality graphics.

## General Information

Licensor: HFI5110 has been manufactured using Basell Lupotech G licensed technology.  
Producer: ARYA SASOL Polymer Company.

## Processing Conditions

Extruder temperature profile: 200-235°C  
Frost line height: 6-8 times die diameter.  
Blow Up Ratio: 3-5  
Recommended film thickness: 15 to 50 µm

**Please note that, these processing conditions are recommended by producer only for 100% HFI5110 resin (not in the case of blending with any other compatible material), but because of the many particular factors which are outside our knowledge and control, and may affect the use of product, no warranty is given.**

**Note:** This information is based on our current knowledge and experience .In view of many factors that may affect processing and application, this data does not relieve processors from the responsibility of carrying out their own tests and experiments, neither does it imply any legally binding assurance of certain properties or of suitability for a specific purpose. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed.



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### Packaging

Supplied in pellet form and can be packaged in 25kg Bags, one ton semi bulk or 17 tons bulk containers.

### Food Packaging

The above mentioned grade meets the relevant requirements of plastics directive 2002/72/EC (06-08-2002) and its amendments till directive 2008/39EC relating to plastic materials and articles intended to come into contact with foodstuffs.

### Pharmaceutical Application

The above mentioned grade meets the requirements of the European pharmacopeia version 6 section 3.1.5 for pharmaceutical application.

### Conveying

Conveying equipment should be designed to prevent accumulation of fines and dust particles can, under certain conditions, pose an explosion hazard. We recommend that the conveying system used:

1. Be equipped with adequate filters.
2. Is operated and maintained in such a manner to ensure no leaks develop.
3. That adequate grounding exists at all times.

We further recommend that good housekeeping will practiced throughout the facility.

### Storage

All resins should be protected from direct sunlight and/or heat during storage. The storage location should also be dry, dust free and the ambient temperature should not exceed 50°C. It is also advisable to process polyethylene resins (in pelletized or powder form) within 6 months after delivery, this because also excessive aging of polyethylene can lead to a deterioration in quality. ASPC would not give warranty to bad storage conditions which may lead to quality deterioration such as color change, bad smell and inadequate product performance.

### Handling

Minimal protection to prevent possible mechanical or thermal injury to the eyes is required. Fabrication areas should be ventilated to carry away fumes or vapors.

### Combustibility

Polyethylene resins will burn when supplied adequate heat and oxygen. They should be handled and stored away from contact with direct flames and/or other ignition sources .in burning; polyethylene resins contribute high heat and may generate a dense black smoke. Fires can be extinguished by conventional means with water and mist preferred. In enclosed areas, fire fighters should be provided with self-contained breathing apparatus.

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