


**Datasheet**

23/09/2019

## High Density Polyethylene GM5340PRK

**Description:**

GM5340PRK is a High Density Polyethylene compound specially developed for the manufacturing of ducts, subducts and jacketing for wires and cables. This resin is produced with bimodal technology and shows mechanical properties and resistance to stress cracking. GM5340PRK contains carbon black pigment that protects it against ultraviolet radiation action and photodegradation. The type and amount of carbon black used assure high UV absorption coefficient. It is also specially additivated to prevent copper catalytic oxidation.

**Applications:**

Optical and metallic cable cover, Pipes for irrigation, Pipes for mining , Copper cables insulation, Self-propelled irrigation pipes, Wire insulation

**Processes:**

Wire and Cable Extrusion, Pipes Extrusion

**Control Properties:**

| Feature                       | Method | Units             | Values |
|-------------------------------|--------|-------------------|--------|
| Melt Flow Rate (190°C/2.16kg) | D 1238 | g/10 min          | 0.55   |
| Density                       | D 792  | g/cm <sup>3</sup> | 0.959  |

**Typical Properties - Plaque<sup>1</sup>:**

Plaque Properties

| Feature                                                                              | Method      | Units  | Values               |
|--------------------------------------------------------------------------------------|-------------|--------|----------------------|
| Tensile Strength at Yield (a)                                                        | D 638       | MPa    | 23                   |
| Elongation at Yield (a)                                                              | D 638       | %      | 9.9                  |
| Tensile Strength at Break (a)                                                        | D 638       | MPa    | 28                   |
| Elongation at Break (a)                                                              | D 638       | %      | 840                  |
| Flexural Modulus - 1% Secant (b)                                                     | D 2240      | -      | 980                  |
| Shore D Hardness (c)                                                                 | D 1693      | h/F50  | 61                   |
| Izod Impact Strength (b)                                                             | D 256       | J/m    | 85                   |
| Environmental Stress Cracking Resistance - notch 0,3 mm; 50°C; 100% Igepal CO630 (a) | ASTM D 1693 | h/F50  | > 1000               |
| Deflection Temperature under Load at 0.455 MPa (b)                                   | D 648       | °C     | 68                   |
| Vicat Softening Temperature at 10 N (b)                                              | D 1525      | °C     | 121                  |
| Relative Dielectric Constant, 1 KHz                                                  | D 150       | -      | 2.6                  |
| Dissipation Factor, 1 KHz                                                            | D 150       | -      | 0.001                |
| Dielectric Strength                                                                  | D 149       | kV/mm  | 28                   |
| Volume Resistivity                                                                   | D 257       | ohm.cm | > 1x10 <sup>15</sup> |
| Carbon Black Content                                                                 | D 1603      | %      | 3                    |
| UV Absorption Coefficient                                                            | D 3349      | Abs/cm | > 4000               |

<sup>1</sup> Test specimens from compression molded plaque according to ASTM D4703. Plaque Thickness: a) 2mm. b) 3mm c) 6mm. NB = No break.

**Final Remarks:**

- The information presented in this Data Sheet reflects typical values obtained in our laboratories, but should not be considered as absolute or as warranted values. Only the properties and values mentioned on the Certificate of Quality are considered as guarantee of the product.
- For regulatory information of the product, please refer to Regulatory Document or contact our Technical Assistance Area.
- For information about safety, handling, individual protection, first aids and waste disposal, please refer to MSDS.
- The mentioned values in this report can be changed at any moment without Braskem previous communication.
- HDPE is not a hygroscopic material. However, carbon black, which is used as an anti-UV additive, absorbs moisture from the

environment. Therefore, all HDPE containing carbon black in its composition must be dried before use. The drying process must be made at least for 2 hours at 90°C. Under these conditions the amount of moisture decreases to values that will not interfere in the processability of the resin. The use of this resin without previous drying may cause problems in the finished product, such as blistering and/or roughness of the surface.

