

## High Density Polyethylene GM5240PR

### Description:

GM5240PR is a High Density Polyethylene compound specially developed for the manufacturing of pipes, underground conduits, and steel pipe coating. This resin is produced with bimodal technology and shows excellent mechanical properties and resistance to stress cracking. GM5240PR contains carbon black pigment that protects it against ultraviolet radiation action and photodegradation.

### Application:

Triple-layer coating for metallic pipes; localized irrigation pipes; ducts for mining.

### Process:

Extrusion.

### Control Properties:

	ASTM Method	Units	Values
Melt Flow Rate (190/2.16)	D 1238	g/10 min	0.55
Density	D 792	g/cm <sup>3</sup>	0.957

### Typical Properties:

#### Plaque Properties<sup>a</sup>

	ASTM Method	Units	Values
Tensile Strength at Yield	D 638	MPa	23
Tensile Strength at Break	D 638	MPa	28
Flexural Modulus – 1% Secant	D 790	MPa	980
Shore D Hardness	D 2240	-	61
Notched Izod Impact Strength	D 256	J/m	85
Environmental Stress Cracking Resistance <sup>b</sup>	D 1693	h/F50	> 1000
Vicat Softening Temperature at 10 N	D 1525	°C	121
Deflection Temperature under Load at 0.455 MPa	D 648	°C	68
Elongation at Yield	D 638	%	9.9
Elongation at Break	D 638	%	840
Carbon Black Content	D 1603	%	2.4
UV Absorption Coefficient	D 3349	Abs/cm	> 3000

(a) Test specimens prepared from compression molded sheet made according to ASTM D 4703.

(b) Compression molded 2 mm thickness, 0.3 mm notched-plaques; 100% Igepal; 50°C.

### Final Remarks:

- 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.
- 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.
- In some applications, Braskem has developed tailor-made resins to reach specific requirements.
- In case of doubt regarding utilization, or for other applications, please contact our Technical Assistance.
- For information about safety, handling, individual protection, first aids and waste disposal, please see MSDS. CAS Registry number: 25087-34-7.
- The mentioned values in this report can be changed at any moment without Braskem previous communication.
- Braskem does not recommend this grade for packages, parts or any kind of product manufacture that will be used for storage or contact with solution that will have internal contact with human body.
- The content of this Data Sheet replaces previous revisions published for this product.
- This resin does not contain the substance Bisphenol A (BPA, CAS # No. 80-05-7) in its composition.