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.

Application:

Jacketing for wires and optic fiber metallic cables; insulation of copper wires and cables; self-propelled irrigation 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/cm3	0.959

Typical Properties:

Plaque Properties[a]

	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 Resistanceb	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	ºC	68
Elongation at Yield	D 638	%	9.9
Elongation at Break	D 638	%	840
Carbon Black Content	D 1603	%	3.0
UV Absorption Coefficient	D 3349	Abs/cm	> 4000
Dieletric Constant, 1 KHz	D 150		2.6
Dissipation Factor, 1 KHz	D 150		0.001
Dieletric Strength	D 149	kV/mm	28
Volume Resistivity	D 257	ohm/cm	> 1x1015

(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; 50ºC.

Final Remarks:

1. 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.
2. 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.
3. In some applications, Braskem has developed tailor-made resins to reach specific requirements.
4. In case of doubt regarding utilization, or for other applications, please contact our Technical Assistance.
5. For information about safety, handling, individual protection, first aids and waste disposal, please see MSDS. CAS Registry number: 25087-34-7.
6. The mentioned values in this report can be changed at any moment without Braskem previous communication.
7. 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.
8. The content of this Data Sheet replaces previous revisions published for this product.
9. This resin does not contain the substance Bisphenol A (BPA, CAS # No. 80-05-7) in its composition.