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Description

Lumicene[®] mPE M5510 EP is a second generation metallocene high density homopolymer Polyethylene.

Lumicene[®] mPE M5510 EP can be processed at high output rates with low extrusion pressure, excellent bubble stability and gauge control in comparison with conventional LLDPE and first generation metallocene based polyethylene. The outstanding stiffness combined with good optical properties brings a significant down-gauging potential.

The high density of Lumicene[®] mPE M5510 EP enables its use in applications with moisture barrier requirements, such as dry food packaging, and brings improved heat resistance, compared to commonly used HDPE.

Lumicene[®] mPE M5510 EP is suited for many applications in the field of consumer, industrial, food or hygiene packaging such as bags, heavy-duty sacks, automatic packaging speciality film, mailing film and lamination.

Characteristics

Property	Method	Unit	Typical value
Density	ISO 1183	g/cm ³	0.955
Melt Flow Rate (190°C/2.16 kg)	ISO 1133	g/10 min	1.2
Melting temperature	ISO 11357	°C	134
Vicat temperature	ISO 306	°C	133

Values indicated are typical for this product. Density and MFR are properties routinely measured during "the standard quality control procedure". The other figures are generated by tests not included in the "standard quality control procedure", and are given for information only. Data are not intended for specification purposes.

Processing

Lumicene[®] mPE M5510 EP is typically extruded at a melt temperature around 210°C.

Lumicene[®] mPE M5510 EP can be blown easily at any of the following conditions:

- Temperature: 200 to 230°C
- BUR : 1.5:1 to 4.5:1
- Die gap : 0.8 to 2.8 mm

An excellent blending ability of mPE M5510 EP with LDPE and LLDPE was observed.

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Additives

Antioxidant : yes
 PPA : yes

Blown film properties

These values have been measured on a 40 µm blown film.

Property	Method	Unit	Typical value (*)
Tensile Strength at Yield MD/TD**	ISO 527-3	MPa	27.5/28
Tensile Strength at Break MD/TD**	ISO 527-3	MPa	57/45
Elongation at Break MD/TD**	ISO 527-3	%	870/910
Elmendorf MD/TD**	ISO 6383-2	N/mm	11/90
Dart test	ISO 7765-1	g	100
Haze	ISO 14782	%	24
Gloss 45°	ASTM D2457		40

(*) Figures stated hereabove are obtained using laboratory test specimens produced with the following extrusion conditions: 45 mm screw diameter, L/D = 30, die diameter = 120 mm, die gap = 1.4 mm, BUR = 2.5:1, temperature = 210°C.

(**) MD : Machine Direction TD : Transverse Direction

Handling and storage

Please refer to the safety data sheet (SDS) for handling and storage information. It is advisable to convert the product within one year after delivery provided storage conditions are used as given in the SDS of our product. SDS may be obtained from the website: www.totalrefiningchemicals.com

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