

**TOTAL**Refining & Chemicals
Polymers

Lumicene® Supertough 32ST05

Technical data sheet
Polyethylene BLOWN FILM
Produced in Europe

Description

Lumicene® Supertough 32ST05 is a polyethylene blown film grade that is especially designed to have an excellent processability on extrusion and conversion lines and to give a very high toughness – stiffness balance allowing new innovative multilayer film concepts. Thanks to this innovative design, Lumicene® Supertough 32ST05 brings a huge down-gauging potential in the film market.

Characteristics

Property	Method	Unit	Typical value
Density	ISO 1183	g/cm ³	0.931
Melt Flow Rate (190°C/2.16 kg)	ISO 1133	g/10 min	0.5
Melting temperature	ISO 11357	°C	123
Vicat temperature	ISO 306	°C	115

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® Supertough 32ST05 is typically extruded at a melt temperature around 210°C and can be blown easily at any of the following conditions:

- Possibility to blend Supertough with a wide variety of products
- Optimal result in pure or in blend with low amount of another product in the same layer
- Wide range of thicknesses achievable
- Versatile product for different extrusion technologies : Low & High neck configuration, cast & MDO
- Temperature: 180 to 230°C
- BUR: 1.5:1 to 5.0:1
- Die gap: 1.2 to 2.8 mm

Additives

Antioxidant: yes

PPA: yes

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These values have been measured on a 40 µm blown film in low neck configuration.

Property	Method	Unit	Typical value (*)
Tensile Strength at Yield MD/TD (**)	ISO 527-3	MPa	15.5/16
Tensile Strength at Break MD/TD (**)	ISO 527-3	MPa	57/48
Elongation at Break MD/TD (**)	ISO 527-3	%	576/633
Elmendorf MD/TD (**)	ISO 6383-2	N/mm	55/200
Dart test	ISO 7765-1	g	280
Haze	ISO 14782	%	14
Gloss 45°	ASTM D2457		50

(*) 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.

These values have been measured on a 40 µm blown film in high neck configuration.

Property	Method	Unit	Typical value (***)
Tensile Strength at Yield MD/TD (**)	ISO 527-3	MPa	15/15
Tensile Strength at Break MD/TD (**)	ISO 527-3	MPa	56/56
Elongation at Break MD/TD (**)	ISO 527-3	%	585/590
Elmendorf MD/TD (**)	ISO 6383-2	N/mm	72/145
Dart test	ISO 7765-1	g	340
Haze	ISO 14782	%	14
Gloss 45°	ASTM D2457		38

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

(***) Figures stated hereabove are obtained using laboratory test specimens produced with the following extrusion conditions: 70 mm screw diameter, L/D = 25, die diameter = 120 mm, die gap = 1.2 mm, BUR = 4.0:1, temperature = 215°C

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