

Introducing laser-printable black jacketing compounds designed for fibre optic cables



Borstar® HE6069

Demand for fibre optic micro cables is increasing. The challenge of printing on such cables is also growing in complexity. Conventional embossing techniques cause mechanical stress, and risk destruction of the cable fibre. Traditional ink jet techniques result in printing which may be easily scraped off when micro cables are blown into ducts during their deployment. Conventional laser printing avoids the above-mentioned problems, yet cannot produce the necessary contrast on black jacketing.

Borstar® HE6069 solves this dilemma. A black laser-printable, UV-stabilised, bimodal high density (HD) jacketing compound, it exhibits the very low shrink properties of Borstar HE6067, yet enables a black jacketing with fine contrast in the laser printing process.

Description

Produced with the proprietary Borealis Borstar bimodal process technology, HE6069 has been specifically designed for laser-printed fibre optic cables. Borstar technology makes it possible to produce polymers outside the traditional melt flow rate (MFR) and density range. This allows for optimal processability and reduced shrinkage, yet also provides excellent physical toughness and environmental stress crack resistance (ESCR). Borstar HE6069 contains sufficient well-dispersed UV stabiliser in order to provide a measure of weathering resistance.

Benefits when using Borstar HE6069

- Substantially reduced shrinkage (helps maintain low signal attenuation for communication cables, and low jacket retraction for energy cables)
- Very fine contrast when using conventional laser-printing systems
- Enabler of high line speeds (good results can be achieved with low energy laser density)
- As a fully formulated compound, eliminates the need for extra feeding equipment (easier dosing)
- No risk of contamination stemming from additional material handling
- Masterbatches are not required, thus eliminating any potential compatibility issues

PRODUCT NEWS

Typical values

Property	HE6062	HE6067	HE6069
Density – Base resin	946 kg/m ³	942 kg/m ³	942 kg/m ³
Melt Flow Rate (190°C/2.16 kg)	0.5 g/10 min	1.7 g/10 min	1.7 g/10 min
Tensile Strength (50 mm/min)	≥ 25 MPa	≥ 25 MPa	≥ 25 MPa
Laser printable	No	No	Yes

* Data should not be used for specification work

Physical Properties

Property	Typical value	Test method
Density	944 kg/m ³	ISO 1183-1, Method A
Normal density	942 kg/m ³	
Melt Flow Rate (190°C/2.16 kg)	1.7 g/10 min	ISO 1133-1, Method A
Flexural Modulus	700 MPa	ISO 178
Brittleness temperature	< -76°C	ASTM D 746
Environmental Stress Crack Resistance (50°C, Igepal 10%, F0)	> 5,000 h	IEC 60811-406
Hardness, Shore D (1 s)	61	ISO 868
Pressure Test at High Temperature (115°C, 6 h)	< 10%	ICE 60811-508

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For further information, please contact your Borealis Sales Manager or visit the Borealis website.

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Borealis and Borouge aim to proactively benefit society by taking on real societal challenges and offering real solutions. Both companies are committed to the principles of Responsible Care®, an initiative to improve safety performance within the chemical industry, and work to solve the world's water and sanitation challenges through product innovation and their Water for the World programme.

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