Product News

# Introducing Laser-printable Black Jacketing Compounds designed for Fiber Optic Cables

## Borstar® HE6069

Demand for fiber optic micro cables is increasing and, in parallel, the challenge of printing on them is becoming increasingly complex. Embossing can stress and potentially damage the cable fiber, while inkjet printing may wear off when cables are installed. Conventional laser printing, while avoiding these issues, fails to offer sufficient contrast on black jacketing.

Borstar® HE6069 solves this dilemma. This black, laser-printable, UV-stabilized, bimodal high-density (HD) jacketing compound combines the very low shrink properties of Borstar® HE6067 with the ability to achieve sharp contrast through laser printing on black jacketing.

## Description

Produced using Borealis' proprietary Borstar® bimodal process technology, HE6069 is tailor-made for laser-printed fiber optic cables. Our Borstar® technology makes it possible to produce polymers outside the traditional melt flow rate (MFR) and density range, enhancing processability and reducing shrinkage. Borstar® HE6069 also provides excellent physical toughness and environmental stress crack resistance (ESCR) and contains a well-dispersed UV stabilizer for added weather resistance.

## Benefits of using Borstar® HE6069

- Substantially reduced shrinkage, which helps maintain low signal attenuation for communication cables and low jacket retraction for energy cables.
- Enables very fine contrast using conventional laser-printing systems
- Supports high line speeds, enabling good results to be achieved with low-energy laser density.
- As a fully formulated compound, it eliminates the need for additional feeding equipment, simplifying dosing.
- Avoids the risk of contamination associated with extra material handling.
- Masterbatches are not required, eliminating any potential compatibility issues.

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# Typical Values

| Property | HE6062 | HE6067 | HE6069 |
|---|---|---|---|
| Density – Base resin | 946 kg/m³ | 942 kg/m³ | 942 kg/m³ |
| 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/m³ | ISO 1183-1, Method A |
| Normal density | 942 kg/m³ | |
| 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**.

**All our grades are also available as the Bornewables™,** our portfolio of premium polyolefins produced with ISCC PLUS-certified renewable feedstock. These sustainable polyolefins offer the same high material performance as virgin polyolefins, yet decoupled from fossil-based feedstock and with reduced carbon emissions.
Learn more: **www.borealisgroup.com/circular-economy/bornewables**

**Borealis solutions bring energy all around**

Borealis has been a trusted partner to the energy industry for over 60 years, delivering innovative polyolefin solutions that help power our lives. Our portfolio includes high-performance compounds for wire and cables applications ranging from underwater power projects to transmission and distribution networks, communications, and advanced energy storage systems and capacitors.

With operations and joint ventures in the US (Baystar™ and Rockport), South Korea (DYM Solutions) and the UAE (Borouge), our reach extends well beyond Europe. This global presence widens our expertise and extends the impact of our work.

Our purpose is to reinvent essentials for sustainable living. As part of this commitment, we're helping to accelerate electrification and the green energy transition through our proprietary technologies and advanced material solutions. These include technology platform Borlink™, sustainable engineering polymer class Stelora™, solar brand Quentys™, and Borclean™ capacitor film resins.

Meanwhile, our Borcycle™ M, Borcycle™ C and Bornewables™ portfolios are meeting demand for sustainable solutions that don't compromise on quality. Independently certified by ISCC PLUS, these high-performance compounds are the tangible result of our EverMinds™ initiative to drive progress in the transition to a circular economy.



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