

Borealis HE4883: the first ADCA-free insulation for data cables up to category 8



The digital revolution has brought challenges and opportunities to network providers. With experts forecasting a tripling of global data centre IP traffic over the next five years, network providers are more pressed than ever to offer reliable, high-quality transmission at increasingly higher frequencies, and to offer broader bandwidths. At the same time, the European Chemical Agency (ECHA) has classified azodicarbonamide (ADCA), the commonly used blowing agent for foamed communication cables, as a “Substance of Very High Concern” due to its respiratory sensitising properties. It has recommended its inclusion on the ECHA Annex XIV list of compounds requiring prior authorisation for use.

The launch of Borealis HE4883 gives Borealis customers a viable, ADCA-free replacement solution with the enhanced process stability essential to achieving consistent data cable quality at high line speeds. As an advanced insulation solution based on high density polyethylene (HDPE), Borealis HE4883 has been formulated to enable excellent foaming in the gas injection extrusion of cellular insulation, at high line speeds, and to achieve the best possible electric performance within a broad spectrum of frequencies.

Borealis HE4883 fulfils the requirements for category 6 and 7, and is suitable for category 8 data cables. With this innovative material solution, network providers can offer greater volume data transmission services with enhanced reliability and quality. Borealis HE4883 exhibits the following properties:

- ADCA-free – ADCA not required as a blowing agent
- Fully formulated compound for reliable consistency
- Less scrap due to stable processing
- Longer production runs
- High core line speed
- Fine and homogenous cell structure
- Improved dissipation factor

Fully formulated compound for physical foam insulation

Borealis HE4883 is a fully formulated compound for physical foam insulation. It has been developed to better serve the needs of advanced screened, twisted pair data cables produced using the gas injection foaming process.



PRODUCT NEWS

Increased productivity

- As a carefully crafted balance between polymer system and special nucleating agent, the compound Borealis HE4883 can enable some cable makers to achieve higher line speeds approaching 2000m/min.
- Greater homogeneity and uniformity of cells delivers increased resilience. This allows for higher twisting speeds and jacketing line speeds without crush damage to the cables.

Fine and homogeneous cell structure

The very low dielectric loss exhibited by Borealis HE4883 gas injected cellular insulation allows for its use in the highest data cable frequency transmissions, and also for mini-coaxial cables.

Superior concentricity and homogeneous cell structure are essential to support higher frequency transmission characteristics. The enhanced homogeneity of Borealis HE4883 aids the uniformity of cell formation in the foamed insulation, while the fine homogenous and closed cell structure provides improved adhesion to the conductor skin.

Customer quote

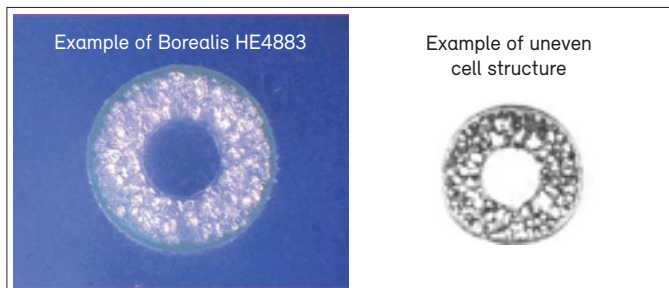
“Using Borealis HE4883 in our products will allow the next generation of high performance data communication cables to use more environmentally sound materials whilst still maintaining the excellent processing capability and electrical performance that we expect today.

This material will allow our designers to push the boundaries of electrical performance in our copper cabling systems whilst continuing to reduce our environmental impact.”

Kennedy Miller
Technology and Sustainability Manager
Brand-Rex Ltd, Scotland, UK

Borealis HE4883 characteristics in brief:

- Fully formulated compound for reliable consistency
- Less scrap due to stable processing
- Higher line speeds of up to 2000 m/min
- Longer production runs
- Fine and homogeneous cell structure



Bringing energy all around | Date of issue: February 2017

About Borealis and Borouge Borealis is a leading provider of innovative solutions in the fields of polyolefins, base chemicals and fertilizers. With its Head Office in Vienna, Austria, the company currently has around 6,600 employees and operates in over 120 countries. Borealis generated EUR 7.2 billion in sales revenue and a net profit of EUR 1,107 million in 2016. The International Petroleum Investment Company (IPIC) of Abu Dhabi owns 64% of the company, with the remaining 36% belonging to Austria-based OMV, an integrated, international oil and gas company. Borealis provides services and products to customers around the world in collaboration with Borouge, a joint venture with the Abu Dhabi National Oil Company (ADNOC). Building on its proprietary Borstar® and Borlink™ technologies and more than 50 years of experience in polyolefins, Borealis and Borouge support key industries with a wide range of applications in the areas of energy, automotive, pipes, consumer products, healthcare, and advanced packaging. The Borouge 3 plant expansion made Borouge the world's largest integrated polyolefins complex. Now fully ramped up, the additional 2.5 million tonnes of polyolefins capacity yield a total Borouge capacity of 4.5 million tonnes, and a combined Borealis and Borouge capacity of 8 million tonnes. Borealis offers a wide range of base chemicals, including melamine, phenol, acetone, ethylene, propylene, butadiene and pygas, servicing a wide range of industries. Borealis also creates real value for the agricultural industry, selling approximately 5 million tonnes of fertilizers. Technical nitrogen and melamine products complement the portfolio with applications ranging from mono-nitrogen oxide (NO_x) abatement to glues and laminates in the wood working industry. 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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