Borealis and Borouge – Dedicated to Wire & Cable Solutions

Borealis and Borouge are the world’s leading providers of innovative, value-creating plastics solutions for the wire and cable industry. Our solutions are customer-driven and designed to satisfy the industry’s continuously evolving demands for higher technical performance. Consequently, they can be found in the most challenging EHV and HV cable applications, as well as the MV and LV energy transmission and distribution cables, building wires, and communications cables.

In answer to the need for production, installation and cable systems’ lifetime enhancements, we create the innovation links for modern energy infrastructure. We provide our customers with technologies and systems for both energy consumption and utilities.

Recent Ambicat™ technology further develops its potential as a highly active tin-free catalyst system for the ambient temperature production of crosslinked polyethylene. Casico is the perfect solution for the most demanding fire resistance requirements in cable systems.

In any fire numerous aspects of the combustion process are challenged 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 contribute to solving the world’s water 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 contribute to solving the world’s water challenges and offering real solutions.

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### Glossary of terms

**Permittivity**
For power applications, insulation electrical performance may be defined in terms of volume resistivity. However, for polyolefins these values are far in excess of any specified need and, as a result, of little concern. For communication cables working at higher frequencies, reactive losses are more important. Reactive losses correlate with polymer permittivity which is unity for air. Permittivity increases with density and can exceed 4.0 for polyolefins highly filled with hydrate. Many Casico products have a permittivity of less than 3 which is considered satisfactory for many communication applications.

**Heat of combustion**
A key parameter by which given cable weights can be summed to generate cable heat of combustion expressed as MJ/m.

**Hardness**
The standard measure of hardness. LDPE has a Shore D (15 sec) of +/- 45 and HDPE +/- 65.

**Vertical FR**
Casico flame retardancy is more directed towards building applications where single wire burning is specified. However, this performance is linked to cable construction so higher performance is sometimes possible.

### Bibliography
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  - Casico technology
  - Euroclassification and legislation
- **Euroclassification and legislation**
  - Extrusion
  - High speed extrusion of non halogenated flame retardant compounds based on silicon elastomer modified polyolefin, Eurocable, Antwerp, 1998.
  - Toxicity