

Summary Data Sheet

Flame Retardant Solutions for Wire & Cable



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Flame Retardant Solutions for Wire & Cable



Product name	Density [kg/m ³]	LOI [%]	Hardness Shore D [15s]	Tensile strength [Mpa]	Elongation at break [%]	Pressure test at high temperature [< 50%]	Description
Thermoplastic insulation compounds, halogen-free							
Casico™ FR4802	1,150	32	40	13	550	90 °C	70 °C rated insulation or sheathing
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Casico™ FR4802	1,150	32	40	13	550	90 °C	70 °C rated insulation or sheathing
Casico™ FR4803	1,150	31	39	12	500	90 °C	Sheath for fixed building wires and 1 kV energy cables, shielded data cables, UV stabilized
Casico™ FR4807	1,150	34	31	12	700	80 °C	Sheath for flexible cords and patch cord data cables, OEM cables, UV stabilized
Casico™ FR6082	1,175	28	53	15	450	115 °C	High strength sheath for power cables, excellent tear resistance, black colored
Casico™ FR6083	1,160	28	53	15	500	115 °C	High strength sheath for power cables, excellent tear resistance, natural colored, UV stabilized
FR6012	1,320	32	57	15	450	110 °C	High strength and good flame retardant sheath for power cables, meeting ST12 specification, black colored
FR4810	1,270	35	48	11	500	90 °C	High flame retardant sheath for campus cables and fiber optic cables, for tough environment, black colored
Silane crosslinkable insulation and sheathing compounds, halogen-free							
Visico™ FR4450	1,100	32	47	16	400	140 °C	Silane crosslinkable compound for building and industrial wire, used together with LE4433 or LE4439, UL 44, UL854
Visico™ FR4451	1,190	32	40	16	400	140 °C	Silane crosslinkable compound for photovoltaic cables, used together with LE4439, TÜV 2 PFG 1169/08.2007, EN 50618
Visico™ FR4452	1,470	32	44	11.5	200	100 °C	Silane crosslinkable EI5 compound for building wires, type H07Z, used together with LE4439, natural color
LE4439	940	–	–	–	–	–	Crosslinking catalyst master batch to be used with Visico™ FR4450, FR4451, FR4452, recommended dosage 3–5%, natural color
LE4433	1,100	–	–	–	–	–	Crosslinking catalyst master batch to be used with Visico™ FR4450, recommended dosage 7%, black color
Compounds for automotive wire insulation, halogen-free							
FR4830	1,400	25	50	16	220	–	Chemically crosslinkable compound for 125 °C automotive wire and appliance wire, SAE J1128/J1127, UL AWN Style 3173 125 °C, UL 44 SIS
FR4832	1,400	25	50	17	200	–	Chemically crosslinkable compound for 125 °C automotive wire, SAE J1128/J1127
FR4845	1,400	25	50	14	180	–	Irradiation crosslinkable compound for 125 °C automotive wire, SAE J1128/J1127
FR4847	1,400	25	48	9	280	–	Thermoplastic stripping compound for automotive wire, to be used in conjunction with Borealis crosslinkable products for automotive wire
FR4852	1,270	24	60	> 15	> 300	–	Thermoplastic, PP, compound for 125 °C automotive wire, ISO 6722, SAE J1128/J1127, for larger conductor sizes



All our grades are also available as the Borneables™, 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/borneables

Borealis Flame Retardant Solutions – Empowering a Safe and Sustainable Future

Flame Retardant Cables for the Construction Industry

The use of flame retardant (FR) materials is essential in buildings, including residential, commercial, and industrial properties. These materials must comply with increasingly stringent regulations for effective flame-spread prevention and low smoke emission. Additionally, they need to be easy to manufacture and adhere to all relevant safety standards.

At Borealis, our low fire hazard (LFH) solutions are compliant with a wide range of industry standards. Our proprietary Casico™ compounds are specially designed to minimize heat release and smoke production, while also ensuring no corrosive gases are emitted. Furthermore, their reduced density allows for downsizing, which reduces material use—an approach that supports environmental sustainability without compromising system performance.

Key features of Casico™

- Halogen-free flame retardancy
- Low smoke and no corrosive gas emissions
- Excellent processing characteristics
- Superb system ageing compatibility
- Good mechanical strength and low water permeability
- UV-stabilized and suitable for coloring
- Enables cable downsizing

With low voltage cables frequently being used at high temperatures, there is growing demand for crosslinkable LFH materials. Our newly developed Visico™ FR compounds are designed to meet exacting mechanical and electrical requirements, whilst also offering ease of processing and extended storage stability.

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.

Borealis AG

Trabrennstraße 6–8, 1020 Vienna, Austria
Tel +43 1 22 400 000
borealisgroup.com

Borouge Pte Ltd Sales and Marketing Head Office
1 George Street #18–01 Singapore 049145
Tel +65 6 27 541 00
borouge.com

Flame Retardant Cables for the Automotive Industry

Automotive manufacturers are continually striving to improve vehicle performance, while at the same time navigating a complex global landscape of varying environmental and safety regulations. To meet these demands, automotive wiring must be cost effective while also offering exceptional temperature and wear resistance, high flexibility, and compliance with all relevant technical specifications.

We offer a broad range of flame retardant crosslinked polyethylene (XLPE) compounds based on both peroxide and irradiation cross-linking, designed for primary wiring in automobiles.

Our XLPE solutions deliver tangible benefits to OEMs and suppliers:

- Halogen-free flame retardancy
- Temperature performance range from -40 °C to 125 °C
- Compliance with SAE (Society of Automotive Engineers) standards J-1127 and SAE J-1128
- Non-tarnishing characteristics
- Excellent heat stability and easy extrusion
- Easy colorability

In the fast-paced automotive sector, shifting requirements fuel a constant need for innovative products-solutions to meet the needs of new applications, support compliance with rigorous international standards, and deliver cost savings.

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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