

Summary Data Sheet

Flame Retardant Solutions for Wire & Cable



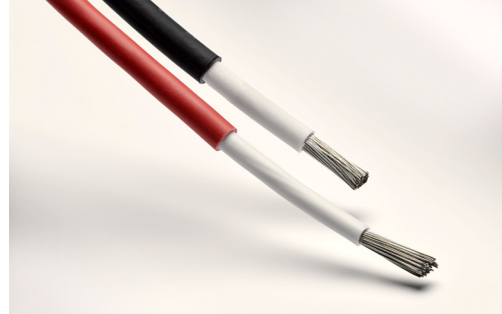
BOREALIS

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Flame Retardant Solutions for Wire & Cable



Product Name	Density [kg/m³]	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
Thermoplastic sheathing compounds, halogen-free							
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™ FR4808	1,150	30	37	12	400	90 °C	Sheath for fixed building wires and 300/500 V energy cables, shielded data 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
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
LE4439	940	–	–	–	–	–	Crosslinking catalyst masterbatch to be used with Visico™ FR4450, FR4451, recommended dosage 4–5%, natural color
LE4433	1,100	–	–	–	–	–	Crosslinking catalyst masterbatch 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 striping compound for automotive wire, to be used in conjunction with Borealis crosslinkable products for automotive wire



Casico grades 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

Summary Data Sheet

HFFR Grades Indication	Ratios	Density mixture (g/cm3)	MFR (g/10min)	BS 7655 LTS3	BS 7655 LTS1-4	CSA 22.2	UL44 horizontal flame	UL 44 SIS	UL 854	UL AWN Style 3173, 125 °C	IEC 60502 Part 1 ST3	IEC 60502 Part 1, Type ST3, ST7	IEC 60502 Part 2, Type ST3, ST7	IEC 60840 Type ST12	IEC 62930	ISO 6722	EN 50290-2-26	EN 50290-2-27	EN 50288	EN 50363-5 EI5	EN 50363-7 T16 & T17	EN 50363-8 TM7	EN 50618	SAE J1128/J1127	GMW15626	HD 603 S1 DMO 1	HD 620 S1 DMZ2	HD 620 S2 DMZ 3-5	HD 632 S1, ST3, ST7	TÜV 2 PtG 1169/08.2007	VDE 0207 Teil 23 (H12)	VDE 0207 Teil 24 (HM2)	VDE 0207 Teil 24 (HM4 & HM5)	VDE 0250 Pt 215-NHMH	XP C32-325
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Thermoplastic Insulation Compounds

FR4802		1,155	0.45	•						•							•	•			•	•									•	•	•		
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Thermoplastic Sheathing Compounds

FR4803		1,150	0.4	•						•								•	•			•											•	•	•
FR4807		1,150	1.0	•														•	•			•											•		
FR4808		1,150	0.45	•									•					•	•	•													•	•	•
FR6012		1,320	6.3											•																					
FR6082		1,175	0.6	•							•	•						•				•			•	•	•	•	•				•	•	
FR6083		1,160	0.6	•							•	•						•				•				•		•					•	•	

Silane Crosslinkable Insulation Compounds

FR4450/LE4433	93/7	1,100	0.7		•	•		•																											•
FR4450/LE4439	95/5	1,092	0.7		•	•		•																											•
FR4451/LE4439	95/5	1,178	0.5											•		•			•			•								•					

Silane Crosslinkable Sheathing Compounds

FR4450/ LE4433	93/7	1,100	0.7			•	•		•																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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Compound for Automotive Wire Insulation

FR4830	1,400						•		•														•													
FR4832	1,400																						•													
FR4845	1,400														•								•													

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.

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.

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