

ENVIROPLUS™

EnviroPlus™ – is Low Smoke Zero Halogen insulation over the cable instead of PVC. EnviroPlus™ is a Polyolefin Jacket made from a non-halogen, highly flame retardant, thermoplastic, low smoke, low corrosive and low toxic compound. An EnviroPlus™ jacket is lead free, halogen free, and has limited smoke generation with following characteristics:

- EnviroPlus™ contains hydrated mineral flame retardant fillers in place of Halogens
- It decomposes endo-thermically to form a metal oxide that forms a char or barrier layer that maintains physical integrity and prevents flame propagation.
- This also inhibits flowing or dripping.
- Smoke from zero-halogen cable is less dense and white, allowing for more visibility.

Cables with EnviroPlus™ jackets are group 1 rated cable and hasve fire propagation index of 10 – in absence of direct flame the cable will stop burning.

Halogens like chlorine and fluorine—highly reactive elements—are widely used in jacketing material like PVC, CPE, Hypolone or Neoprene. These chemicals when combined with moisture (from the fire-suppression systems) can generate corrosive acids like HCL or vision impairing smoke. These acids can cause more damage to systems than the original fire. Smoke is the leading cause of death in most fires. Limited smoke generation allows extra time to exit the building before smoke overwhelms the occupants.

Cables with EnviroPlus™ jackets can take up to 20 minutes of continuous flame before reaching the same level of total smoke generation achieved within the first minute of flame with a CPE cable.

Service Wire was the original manufacturer of a full wall, Low Smoke, Zero Halogen “LSZH” cable. We developed and manufactured EnviroPlus™ jacket over ten years ago for general purpose cable jacket applications that can meet the IEEE-383/UL-1581/UL-1685 (Limited Smoke Test) vertical tray cable burn tests.

Please visit the link below to see EnviroPlus™ cable performance during these burn tests:

<http://www.servicewire.com/videos.aspx>

Polyolefin jackets can be used on cables operating at up to 90°C to replace PVC, low smoke PVC, and halogenated rubbers due to its excellent fire safety characteristics:

- Highly flame retardant (IEEE 383 flame test rating)
- Environmentally friendly (lead-free, halogen-free, sulfur/antimony-free)
- Low smoke, low corrosivity, and low toxicity
- Excellent cut-through, crush, and abrasion resistance
- Good UV, moisture and fluid resistance
- Good balance of toughness and flexibility
- Track and erosion resistant

This compound meets or exceeds many industry jacket specifications:

- UL-1072 Medium Voltage Power Cable,
- UL-1277 Tray Cable,
- UL Subject 444 for general purpose communication cable, mass transit applications,
- IEC 332 requirements



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COMPARISON

	EnviroPlus	CSPE	CPE	PVC
Limited Oxygen Index	40	30	30	28 to 35
Corrosive Gas Emission	None	Very High	Very High	Very High
Smoke Emission	Extremely Low	Very High	Very High	Very High
Fire Retardant Properties	Excellent	Good	Good	Excellent

The Leadership in Energy and Environmental Design (LEED) is actively encouraging and accelerating global adoption of sustainable green building and EnviroPlus™ is a great fit for such initiatives.

EnviroPlus™ jacketed cables are appropriate for paper mills, chemical plants, transit (tunnels, subways), zero-halogen applications, steel mills, clean rooms, Departments of Transportation, low-smoke applications, utility applications and computer rooms.

EnviroPlus™ is highly flame retardant. The cable jacket will not melt, drip or run. This prevents the spread of fire to other surfaces and allows the core of the cable to remain intact longer, thus ensuring increased circuit integrity time for the cable. This charring effect helps keep other equipment safe from damage during a fire.

EnviroPlus™ is Factory Mutual Group 1 listed, which means it is completely self-extinguishing in absence of direct flame.

EnviroPlus™ has Limited Oxygen Index: which is a test that rates flammability of materials in a mixture of oxygen. It specifies the percentage of oxygen that must be present before the material will sustain flame.

EnviroPlus™ maintains circuit integrity by allowing continuation of power in case of conductor or cable exposure to fire. A cable with higher flame retardant property will maintain circuit integrity long enough to affect orderly shutdown in event of a fire.

EnviroPlus™ has a slick jacket with lower coefficient of friction than Hypalon. This allows the cable to be pulled into raceways and conduit with less effort. Lower pulling tensions during pulls lower sidewall pressures and decrease the chances to damage to the cable during installation.

EnviroPlus™ has excellent cut through, crush and abrasion resistance to pass UL's Direct Burial Crush Test. Additionally, it has a Durometer Hardness value of 88 (Shore A) and passes the ASTM D1044 Abrasion Test (1,000 cycle).

EnviroPlus™ has superior water resistance when tested per UL 1581, a test to measure the quantity of water absorbed by the cable.



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