



CONNECT AND PROTECT

WHITE PAPER: IBS & IBSB ADVANCED

Low Smoke, Halogen-Free, Flame Retardant and high temperature flexible power conductor


nvent

ERIFLEX

UNIQUE, SAFE, READY TO USE.

In December 2017, an electrical fire below the Atlanta Hartsfield-Jackson International Airport caused both the main power system and backup to fail, causing a power outage for nearly 11 hours.

But the risk of electrical fires is not unique to the Atlanta airport, nor is it unique to airports in general. As the volume of power conductors drastically increases across industrial, commercial and residential environments, so too does the demand for manufacturers to choose proper electrical protection for both equipment and people.

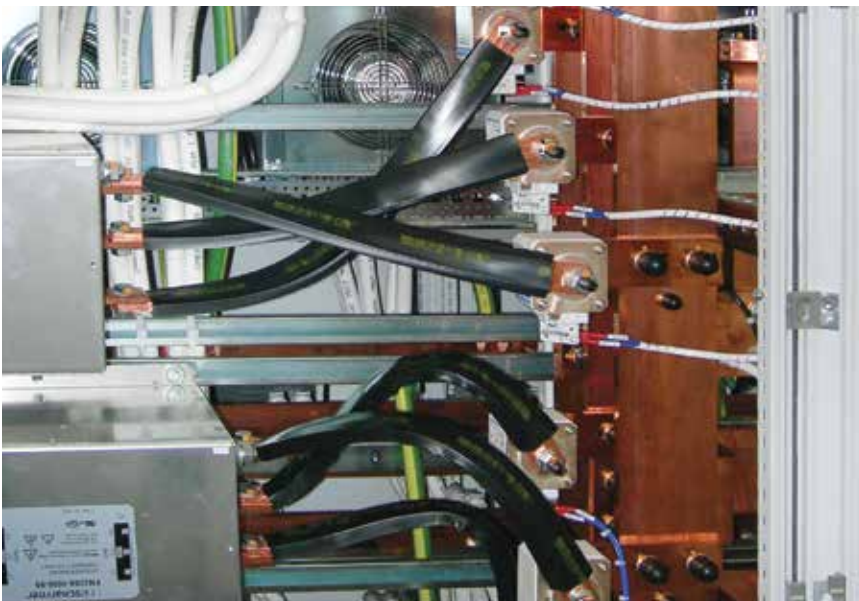
Fires that involve dangerous plastic can produce toxic fumes, injuring people and damaging equipment

As a leader in the electrical power conductor industry, nVent ERIFLEX has worked to meet market needs by developing a unique ThermoPlastic Elastomers (TPE) solution. nVent ERIFLEX IBS & IBSB Advanced combines Low Smoke, Halogen-Free, Flame Retardant (LSHFFR) and high temperature features without compromising the flexibility of their insulated braids.

IBS & IBSB Advanced are the ideal ready-to-install flexible wire replacement solution. Specifically designed for connections to suit all molded case circuit breakers, IBS & IBSB Advanced has the flexibility to meet a variety of needs. IBS & IBSB Advanced connects to the front access terminals of the breakers without any additional accessories, such as angular connectors, spreaders, ring terminal connectors or extenders. IBS & IBSB Advanced is formed by weaving high quality electrolytic copper wire to form a durable low voltage connector with maximum flexibility that allows more compact power connections to circuit breakers. IBS & IBSB Advanced allows users to reduce the total size and weight of the installation, reducing labor and improving both design flexibility and assembly aesthetics.

IBSB Advanced is intended for applications in which insulation with low toxicity, low smoke generation and low corrosiveness is necessary. Examples of applications like this include:

- Transportation
- Datacenters
- Aviation
- Industrial environments
- Subways
- Buildings
- Nuclear/Military use
- Shipyards
- Public area
- Wherever human safety and protection of equipment is a primary goal
- Confined spaces with large amounts of cables near people or electronics



LOW SMOKE FEATURES IMPROVE SAFETY



The low smoke feature of IBSB Advanced allows users to measure the quantity of smoke in cases of emergency such as combustion. This feature is in compliance with various standards and regulations such as IEC and UL to provide the safest low smoke solution.

In case of an accident, people must easily locate emergency exits and rescue workers need easy access to the emergency situation. Having low smoke features helps determine the smoke density generated during a fire and allows for the situation to be evaluated properly. IBSB Advanced is also compliant with IEC 60754-2 and UL 2885, meaning the light transmittance improves the visibility to locate the emergency exit and help firefighters work.

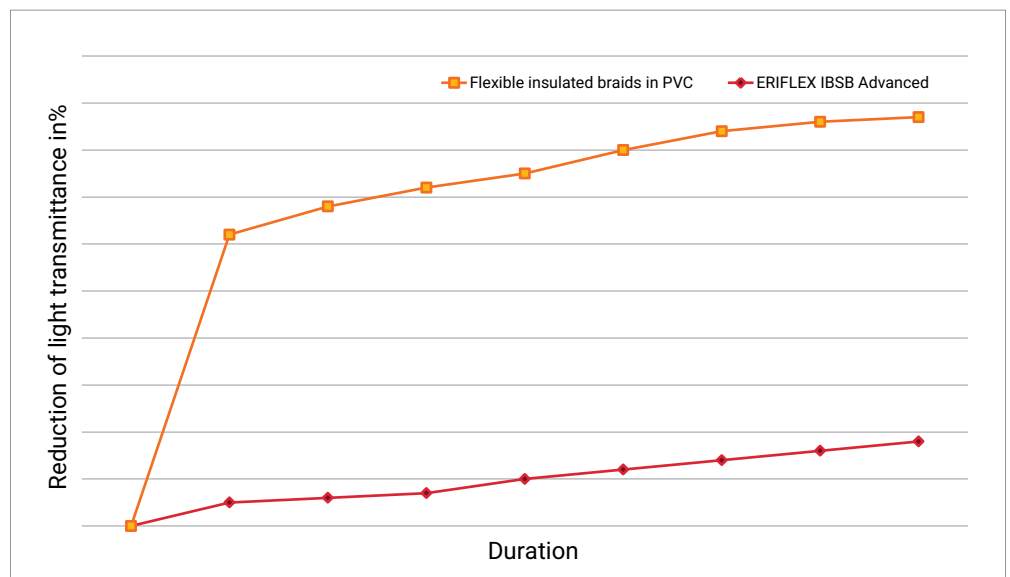


Figure 1: Impact of low smoke feature in the reduction of light transmittance.

IBSB ADVANCED IS COMPLIANT WITH MAIN STANDARDS SUCH AS IEC 60754-2 AND UL 2885 FOR LOW SMOKE FEATURE.

THE BOOM OF HALOGEN-FREE POWER CONDUCTORS

As further chemical research demonstrates halogen materials' highly corrosive and toxic nature, the demand for halogen-free solutions has risen to protect both electrical equipment and safety of people.

The nVent IBSB Advanced range meets halogen-free requirements for both IEC and UL standards. In the case of a fire, IBSB

Advanced does not induce corrosive gases and instead produces mainly steam with a low level of carbon monoxide.

Advanced technology contains halogen-free materials and offers better protection for people's safety and your electrical installation by reducing corrosion and smoke generation.

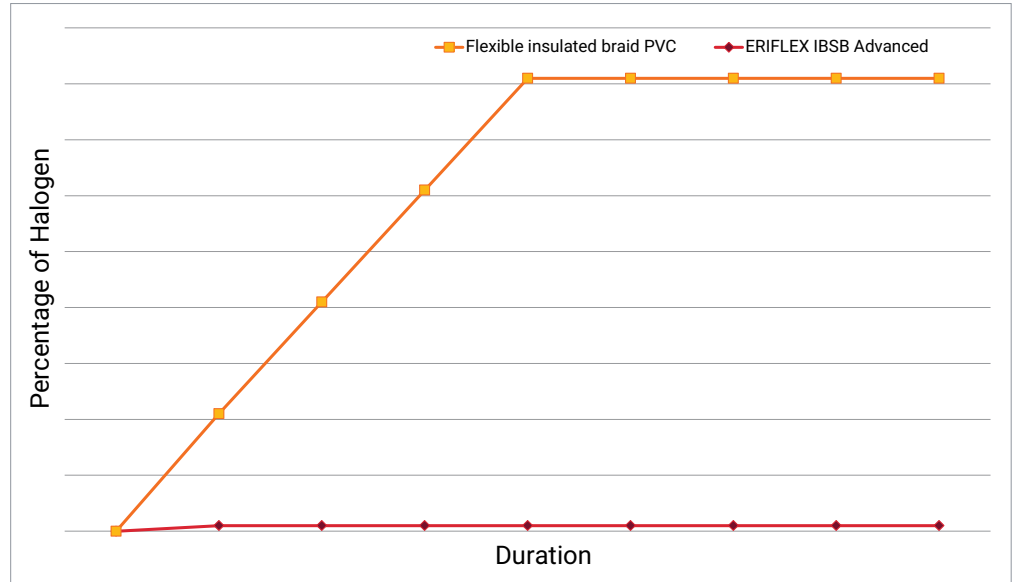


Figure 2: Percentage of halogen with IBSB Advanced

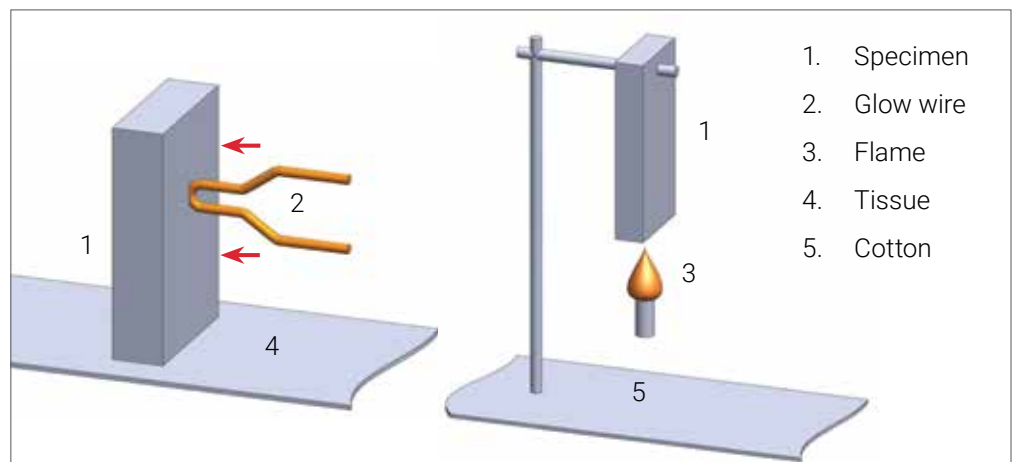
USING FLAME RETARDANT THERMOPLASTIC

IBSB Advanced uses flame retardant thermoplastic technology in compliance with main standards such as UL94V-0 and IEC 60695-2-11 Glow Wire test 960°C.

Flame Retardant thermoplastic reduces fire hazards and mitigates danger by delaying

the ignition, reducing the heat dissipation and increasing escape time. It also reduces the damage on electrical installations. The IBSB Advanced is also demonstrated its superior feature with a the Limiting Oxygen Index (LOI) at 30%.

NVENT IBSB
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GLOW WIRE TEST
960°C FOR FLAME
RETARDANT
FEATURES



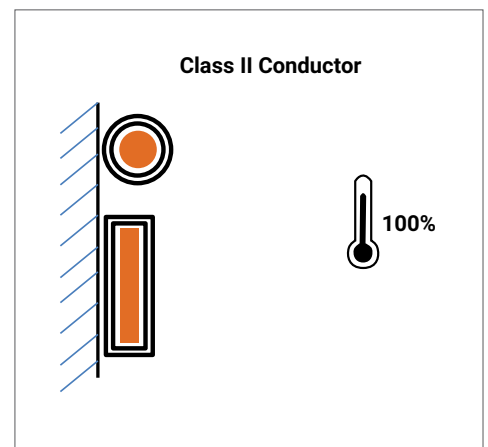


THIS OPERATING TEMPERATURE IS DETERMINED BY THE INSULATION AND/OR SHEATHING MATERIAL AROUND THE CABLE

nVent IBSB Advanced is a class II conductor with a high temperature resistance 115°C. This high working temperature reduces the risk of hot points at the connecting area.

The operating temperature of an electrical cable normally refers to the minimum and maximum temperature that the cable can safely operate at for a sustained period of time. This operating temperature is determined by the insulation and/or sheathing material around the cable.

A typical PVC insulation material has a temperature range of -15°C to 70°C.



INTEGRAL /SOLID PALM

The unique manufacturing process of nVent IBSB Advanced with pure copper and tinned integral/solid palm ensure an optimal connection.

The tinned copper offers better corrosion resistance and less maintenance while maintaining a higher electrical conductivity.

The tinned copper is compliant with UL standards and also various applications.



WORLDWIDE CERTIFICATIONS FOR UNSURPASSED USE

IBSB Advanced is a unique, safe and ready to use solution compliant with these main international standards:

Visit our website to discover our complete range of certification that may fit to your applications.

IBSB ADVANCED
IS A UNIQUE, SAFE
AND READY TO
USE SOLUTION

	UL Standard	IEC Standard
Low smoke	UL2885	IEC 61034-2 / ISO 5659-2
Halogen-free	UL2885	IEC60754-1 / IEC 60754 -2
Flame retardant	UL94V-0	IEC 60695-2-11 Glow Wire test 960°C

Our powerful portfolio of brands:

CADDY ERICO HOFFMAN RAYCHEM SCHROFF TRACER



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WARNING: nVent products shall be installed and used only as indicated in nVent's product instruction sheets and training materials. Instruction sheets are available at [nVent.com/ERIFLEX](https://www.nvent.com/ERIFLEX) and from your nVent customer service representative. Improper installation, misuse, misapplication or other failure to completely follow nVent's instructions and warnings may cause product malfunction, property damage, serious bodily injury and death and/or void your warranty.

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