

WHEN IT COMES TO FIRE SAFETY, CAN YOUR WIRING TAKE THE HEAT? PHELPS DODGE CAN!

In a fire, even the smallest detail can mean the difference between life and death.

That's why Phelps Dodge has developed specialized wires and cables designed to maximize safety during the crucial minutes of an emergency.

- Better visibility
- Less chances of suffocation
- Less harmful emissions
- Reliable emergency facilities and life support equipment.

When lives depend on you, depend on Phelps Dodge.

phelps dodge

One time investment. Lifetime protection.



LOW-SMOKE HALOGEN-FREE BUILDING WIRE

- Produces less smoke, for more visibility, less risk of smoke inhalation/ suffocation.
- Releases little or no halogen gas when burned, so less harmful to lungs.
- Fire retardant, so it takes longer to ignite, slowing down the spread of fire.

Recommended applications

- High-rise buildings
- Hospitals and other institutions
- Historic buildings
- Tunnels and subways
- Airports, stadiums, hotels, banks, etc.
- Industrial plants
- Other areas where cables are exposed

FIRE-RATED LOW-SMOKE HALOGEN-FREE CABLE

Low-smoke halogen-free cable **PLUS** the capacity to continuously conduct electricity even in a fire, **FOR AT LEAST THREE HOURS.**

Proven by tests conducted according to international standards

- Allows continuous illumination going towards emergency exits
- Allows continuous power for emergency and life support equipment

Recommended applications

- Emergency lighting and exit signs
- Life support equipment
- Fire pumps
- Fire alarm and voice communication system
- Fire fighters' and service elevators
- Smoke extraction fans

tel: 813-2529 • fax: 812-0798 • email: customercare@phelpsdodge.com.ph • web: www.phelpsdodge.com.ph



Manufactured by: Phelps Dodge Philippines Energy Products Corp.
General Manager: A. Soriano Corp.

LOW-SMOKE HALOGEN-FREE BUILDING WIRE



Low-Smoke Halogen-Free Insulation
Copper Conductor

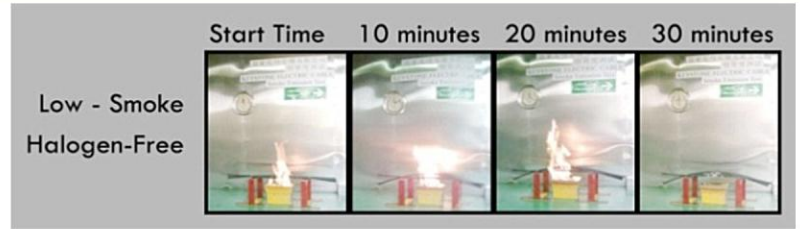
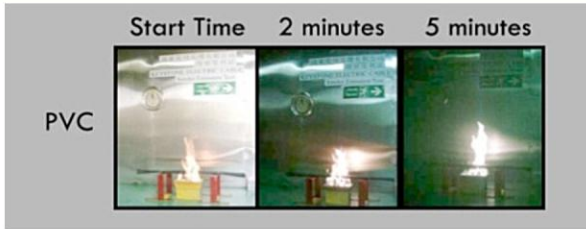
LSHF Properties

- Low dark smoke emission in case of fire
- No acid and corrosive burning gases emission
- Low toxicity of burning gases emission

Advantages of Low-Smoke Halogen-Free Building Wires

- It produces less smoke which means more visibility and less risk of smoke inhalation and suffocation, so people are able to find emergency exits more quickly.
- It releases little or no halogen gas when burned, so even if inhaled, will do less damage to the lungs
- It is also fire retardant. This means that it takes longer to catch fire and thus slows down the spread of the fire.
- Available sizes: 2.0mm²-50mm²

SMOKE EMISSION TEST



Low-Smoke Halogen-Free vs. PVC cable Fire Demo test. A Halogen-Free Cable would not burn easily unlike a traditional cable.

FIRE RATED LOW-SMOKE HALOGEN-FREE CABLE

Single Core, 600V



Low-Smoke Halogen-Free Jacket
Low-Smoke Halogen-Free Insulation
Fire-Barrier Tape
Copper Conductor

Standards for Fire Resistance Cable

- IEC 60331 and BS 6387

Categories of Cable

- Resistance to fire alone

Condition	Fire Symbol
650°C for 3 hours	A
750°C for 3 hours	B
950°C for 3 hours	C
950°C for 20 minutes	S

- Resistance to fire with water (W)
- Resistance to fire with mechanical shock

Fire Condition	Symbol
650°C	X
750°C	Y
950°C	Z

Cable in the following categories meets the following fire conditions:

CWZ - 950°C for 3 hours, water spray, and mechanical shock at 950°C

CY - 950°C for 3 hours, and mechanical shock at 750°C

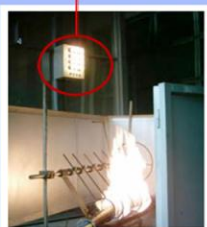
ASWX - 650°C for 3 hours, 950°C for 20 minutes, water spray, and mechanical shock at 650°C

TECHNICAL DATA*								
CONDUCTOR			NOMINAL			APPROX.		
Construction			X'sect. Area (mm ²)	Tape Thick. (mm)	Ins Thick. (mm)	Jkt. Thick. (mm)	Cable Diam. (mm)	Cable Weight (kg/km)
Size (mm ²)	No. of Strands	Diam. (mm)						
50	19	8.8	48.3	0.145	1.0	1.4	14.8	602
70	19	10.6	70.3	0.145	1.1	1.5	17.0	842
95	19	12.3	94.8	0.145	1.1	1.5	18.7	1,085
120	19	13.9	120.4	0.145	1.2	1.6	20.6	1,358
150	37	15.7	153.7	0.145	1.4	1.7	23.1	1,728
185	37	17.2	184.5	0.145	1.6	1.8	25.2	2,067
240	61	19.7	240.4	0.145	1.7	1.8	27.9	2,633
400	61	25.5	402.9	0.145	2.0	2.1	34.9	4,315

*The figures listed in the table are nominal values and subject to standard tolerances.

FIRE TEST

Light bulbs are on



Start time



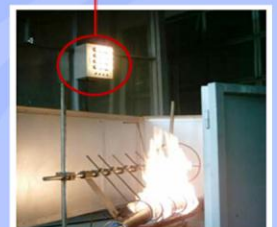
5 minutes



15 minutes



90 minutes



180 minutes

Light bulbs are still working even after 3 hours

Fire Rated cable Fire Demo Test. Results show that the wires can last for at least 3 hours.