

ECOFLEX Coaxial Cable with HEATEX jacket



ECOFLEX®-HEATEX is a flame retardant, halogenfree coaxial cable designed for use in public buildings, hazardous environments and other facilities that require cables with low flammability as well as low flame propagation properties.

ECOFLEX®-HEATEX cables were developed due to the increased demand for low-loss coaxial cables that comply with all relevant emission and flame retardancy standards.

These cables were designed specifically for their low flammability and flame propagation properties. The **HEATEX** halogen-free jacketing produces very little smoke when ignited and contains no reactive elements like Fluorine, Chlorine, or Bromine.

PVC cables conforming to appropriate standards and when installed and used according to existing safety codes are safe and will never be the start of a fire. However, an already existing fire could spread through the entire length of an individual cable or cable bundle within a matter of minutes with potentially devastating results.

ECOFLEX®-HEATEX cables offer the solution to all of these issues: low fire propagation, low smoke and no corrosive gases make **ECOFLEX®-HEATEX** the clear choice!

Comparison of Flammability Properties of PVC and HEATEX Cables

PVC cable

HEATEX cable

Flame Retardancy

PVC cables are normally self-extinguishing. PVC naturally resists fire due to its high chlorine content. However, gases released by PVC will ignite at certain temperatures and can thus spread the fire.

HEATEX-cables are flame-retardant and only slightly flame propagating, thus helping to confine the fire.

Formation of Smoke

PVC contains various Polymers that will create dense smoke reducing visibility almost down to zero. A single kilogram of PVC is enough to fill a room of up to 500 m³ completely with black smoke.

HEATEX-cables are low-smoke propagating. Escape routes remain visible, facilitating rescue and evacuation if required.

Corrosive Gases

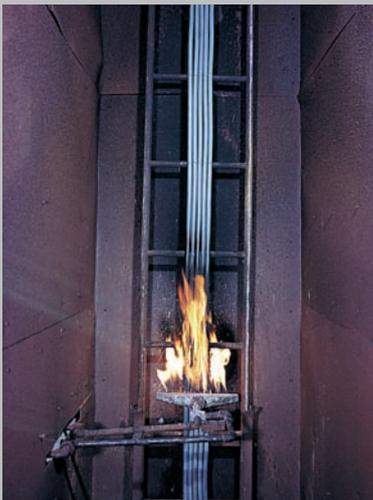
PVC cables generate large amounts of corrosive and toxic gases (HCl) when ignited that can cause serious damage. A single kilogram of PVC can release more than 300 liters of hydrogen chloride, which mixed with water will produce hydrochloric acid. Inventory will be seriously damaged and facilities will be contaminated requiring refurbishing or rebuilding at great expense.

HEATEX-cables produce no corrosive gases at all.

Test Procedures and Respective Regulations

Fire Behavior of Individual Cables

EN 50265-2-1, IEC 60332-1



A piece of cable is mounted in a metal chamber with an open front. A propane gas burner is then set up in a manner that its flame cone hits the cable sample at a 45° angle. Test duration depends on the cable diameter.

Samples will pass the test if they do not catch fire, generated flames must extinguish by themselves.

Smoke Density

IEC 61034-1+2, EN 50268-1+2



The test chamber is a 27 m³ cube. The measurement system consists of a light source (100 Watt halogen lamp) and a silicon photo-electric-cell as the receiver. A tray filled with 1 liter of alcohol serves as the ignition source. A fan is used to ensure even smoke distribution with a metal screen protecting the tray from any flame turbulence. The alcohol is ignited and the light intensity of the photocell will be recorded.

Samples will pass the test if light intensity does not drop below 60 percent.



Test Procedures and Respective Regulations

Corrosiveness of Combustible Gases

HD 602-1, EN 50267-2-3, IEC 60754-2

This test allows the determination about the corrosiveness of different insulation, sheathing and jacketing compounds. Already small amounts of halogens and thus corrosive components can be detected by measuring the pH-value and electrical conductivity. A sample of the test material is burned at a temperature of 935°C. An air current directs any released gases into a gas-washing bottle filled with distilled water, where two electrodes measure both pH value and conductivity.

Samples will pass the test if the measured pH value does not undercut 4.3 and conductivity does not exceed 10 µS/mm.



Comparison Chart

Property	PVC cable	HEATEX cable
Flammability		
Halogen-free	No	Yes
Flame propagation (single cable)	High	Low
Flame propagation (cable bundle)	High	Low
Release of corrosive gases	Yes	No
Smoke density	High	Low
Dioxin in fire residue	Yes	Very low
Mechanical properties		
Durability	Good	Good
low temperature resistance	Good	Good
Flexibility	Very Good	Good
Regulations		
Cable fire behavior		
Complies with EN 50265-2-1	No	Yes
IEC 60332-1	No	Yes
Smoke density		
Complies with IEC 61034-1+2	No	Yes
EN 50268-1+2	No	Yes
Corrosiveness of combustible gases		
Complies with HD 602 - S1	No	Yes
EN 50267-2-3	No	Yes
IEC 607542-2	No	Yes



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