



PVC CABLES: A RESPONSIBLE CHOICE FOR FIRE SAFETY AND THE ENVIRONMENT

Recent developments in the European PVC cable industry show that PVC remains a safe and responsible choice, offering excellent fire safety and environmental benefits. Some common misconceptions about PVC, like its smoke production and toxicity, acidity and corrosivity, overlook important facts about how it performs in real fires.

Why Choose PVC Cables?

PVC cables do not contain harmful substances. The specific plasticisers (phthalates) commonly used in the EU have been thoroughly tested and proven safe. If required, PVC cables can also be produced without phthalates to meet specific labelling criteria, such as those set by the Nordic Ecolabelling.

Well-designed PVC cables with flame retardants and smoke suppressants achieve excellent ratings (Class s2 under the EU Construction Products Regulation, CPR) for smoke production.

It's also important to note that, despite common assertions, acidity is not a good measure of smoke toxicity. In fires, carbon monoxide (CO) is the main toxic threat, while hydrogen chloride (HCl) is less concerning. Fire safety studies show that the leading cause of fire fatalities is how quickly a fire grows, not just the smoke it produces. The heat release rate (HRR) is the single most important variable in fire hazard, and in this regard, PVC cables excel in performance.

Other PVC cables formulations, such as the ones of Flame Retardant Low Smoke (FRLS) PVC cables commonly used outside the EU, help reduce smoke and toxicity. Moreover, new Low Smoke Acidity (LSA) PVC cables have been developed to further limit harmful emissions, offering even better fire safety performance compared to alternative materials.

From an economic point of view, post-fire repair costs are usually driven by smoke removal, rather than corrosion from HCl. FRLS PVC cables minimise smoke density, reducing post-fire clean-up expenses. In addition, fire-safety studies show that HCl-related corrosion remains a secondary concern in fires, as critical threats like intense heat and CO levels occur well before HCl reaches problematic concentrations.

PVC's recyclability supports the EU's circular economy goals. Unlike alternative materials, PVC cables can be easily recycled, and the European PVC industry is continuing to advance recycling technologies to ensure sustainability and high-quality recycled materials.

Conclusion

Modern PVC cables offer excellent fire safety, durability, and environmental benefits. These cables meet and often exceed strict fire safety standards, confirming PVC as a trusted choice for cable applications. PVC4Cables is committed to supporting the European PVC cable industry in delivering high-performance, sustainable innovations.

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