KemSafe CES (Cable Enclosure System)

A prefabricated fire protection cable enclosure system, supplied in bespoke sections, ready for onsite installation.
Kemwell KemSafe CES (cable enclosure systems) are specifically designed and manufactured to provide optimum fire protection and thermal insulation performance at high temperatures.

KemSafe CES is a proven solution for the protection of medium and high voltage cables in the building and construction industry, and a tested solution to the requirements of BS 8519:2010.

Electrical cables which may pose significant risk in fire scenarios are installed in many areas of a building, including corridors, and also often distributed to adjoining rooms and compartments.

Corridors are used as escape routes during a fire; therefore, cable installations are of particular concern to those responsible for the safety of the building and its occupants, especially with electrical short circuits being a major cause of a fire, and the risk of smoke and toxic gases accumulating in access and escape routes.

KemSafe CES inhibits the spread of fire and heat when ignited inside the duct, containing it and stopping it entering other compartments (e.g. corridor escape routes) for enough time to allow safe evacuation or for the emergency services to enter.

KemSafe CES also provides protection when the fire is from the outside to maintain the functionality of the cable installations. This is of vital importance as electricity is often required to sustain emergency and exit lighting and other emergency and support systems required to remain active and operational during a fire.

A High Performance Fire Protection Cable Enclosure System Solution

Our project team provides expert support services throughout all stages of any construction project, including:

- Technical advice
- Supply of data sheets and certification
- Product selection and application consultation
- Site-visits
- Installation advice
- On-site and off-site Educational Seminars
- Benefit from years of industry knowledge and experience

We understand the complex and stringent requirements of the building and construction industry and our products provide architects, developers, and contractors with adaptability and performance benefits to enable safe and innovative designs to be easily realised.

Please contact us to discuss your project or requirements further.

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You can specify Kemwell KemSafe CES with confidence.
APPLICATIONS

- Power and control cables
- Emergency lighting
- Fire alarm systems
- Lifts
- Sprinkler systems
- Emergency power systems
- Smoke and heat extract systems
- Essential life support systems
- Vital Computer, IT and communication networks

SECTORS

- Healthcare
- Commercial
- Industrial
- Public Sector
- Retail, sports and leisure
- Residential

FEATURES

**Fire Performance**
Tested at BRE to meet BS 8519: 2010 and EN 1366-5: 2010 to provide EI180 fire resistance classification for integrity and insulation.

**Thermal/Acoustic Insulation**
Provides optimum insulation performance at high temperatures and has a more efficient thermal conductivity compared to standard boards.

**Prefabricated for Ease of Installation**
Simple to create modular duct and shaft enclosures offsite. Systems can be adapted on-site and include a robust hanging system which is designed for all substrates. Bespoke sizing relating to the cable size and the box can be minimised to reduce/save space and costs.

**Durability**
Excellent dimensional stability and lightweight construction manufactured using corrosion proof materials for durability.
Fire Test Example

Kemwell KemSafe CES was tested to meet the revised BS 8519: 2010 and current EN 1366-5: 2010 specification.

The main objective was to determine the temperature of the internal enclosure face in accordance with BS 8519: 2010, section 12.

The mean temperature recorded on the duct internal face did not exceed the 180 °C temperature rise limit throughout the test (180 minutes).

KemSafe CES are tested for both Type A and Type B fires (i.e. inside to out and outside to in).

BS 8519:2010 (Excerpts)

Scope
British Standard BS 8519:2010 provides guidance and recommendations on the selection and installation of power and control cable systems required to maintain their circuit integrity for life safety and fire-fighting applications.

It also gives specific recommendations for electrical system design for such applications and recommended limits for survival times.

Fire protective enclosures for cables
Fire protective enclosures (ducts or shafts) may be used as a means of protecting non-fire-resistant high voltage cables.

In such cases, the enclosure should fully surround the cable(s) and enable them to operate for the required 120 minutes duration. The enclosure should contain nothing other than the cable(s) that it is designed to protect.

The performance of the enclosure should be assessed in accordance with BS EN 1366-5:2003 for integrity and thermal insulation under furnace exposure conditions for a fire outside the duct. The protective enclosure (duct or shaft) should meet the performance criteria given in BS EN 1366-5:2003 after 120 minutes.
SUPPORTING THE M&E MARKET

Electrical and mechanical services need to have appropriate fire protection to maintain the safe and effective function of essential electrical and mechanical systems and services during a fire. Protection is also required to prevent fire, smoke and fumes spreading throughout the building’s fire compartments and hindering the effective evacuation of the building’s occupants.

KemSafe CES has been designed to meet the needs of Mechanical and Electrical consultants and fulfills the following criteria:

- Tested at BRE in accordance with BS EN 1366-5: 2010 for 180 minutes
- Enables a modular system to be manufactured off-site
- Bespoke sizing relating to the cable size and the box can be minimised to reduce/save space and costs
- Robust hanging system is designed for fixing on all substrates

PROJECTS

London Wall Place
The Scalpel
Principal Place
Rathbone Place
St. Helens Place
The International Quarter
100 Bishopsgate
Leicester Square
Royal Liverpool University Hospital
TYPICAL INSTALLATIONS

Straight Section Installation Examples

Stepped and Curved Section Installation Examples (90° Bends)
TYPICAL INSTALLATIONS

Stepped and Curved Section Installation Examples (45˚ Bends)