



# BS: FIRE-RATED DUCT



Most highly accredited passive fire protection system in the market



# 2 HOURS FIRE-RATED DUCT

BS CERTIFIED

## Introduction

Designed to meet the most stringent fire safety requirements in the building industry, the fire-rated duct system has been comprehensively tested by Exova Warrington-fire research department, achieving 245 minutes - the highest fire rating achieved by a ventilation duct.

Besides the internationally recognized testing and certifications, the range is approved by the Civil Defense Authorities in Abu Dhabi, Dubai and Sharjah. Strictest procedures in manufacturing, installation and inspection are adhered to and certification is provided by trained inspectors on completion of the project.

## The prevention of fire spread through ducted systems

The prevention of fire spread through ducted systems is of critical importance. Non fire-resisting ductwork systems can be responsible for allowing the initial spread of fire and smoke between compartments. The correct use of fire-rated ductwork will maintain fire compartmentation and assist in the safe dispersal of hazardous smoke and fumes.

### Building Regs.

BS5588 Part 9 consists of 3 methods of fire protection for ventilation ductwork.

#### Method 1: Protection using fire dampers

Fire is isolated in the compartment of origin by the automatic actuation of fire dampers. This method cuts off the passage of air and is not acceptable where ventilation requires to be maintained or where fire dampers are not permitted.

#### Method 2: Protection using fire-resisting enclosures

Service shafts through which the ventilation ductwork passes. Protective shafts form a compartment when constructed to the highest standard of fire resistance.

#### Method 3: fire-resisting ductwork

The ductwork itself forms a protective shaft. The fire resistance of the ductwork when tested should not be less than the fire resistance required for the elements of construction in the area through which it passes. The product has to be tested and certified to BS476 Part 24:1987 (ISO 6944-1985).

## Performance Criteria:

BS476 Part 24:1987 (ISO 6944)

The assessment of fire resistance enables the criteria to be assessed in the following areas:

**Stability:** Stability failure shall be deemed to have occurred in duct 'A' within the furnace and in ducts 'A' and 'B' outside the furnace when the duct collapses in such a manner that the duct no longer fulfils its intended function.

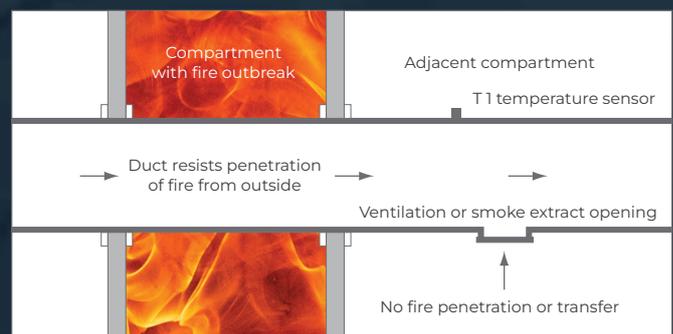
**Insulation:** Insulation failure shall be deemed to have occurred when temperature rise above initial ambient temperature in the laboratory, on the unexposed surface of the test specimen outside the furnace, exceeds either:

- a) 140°C as an average value
- b) 180°C as a maximum value read by any surface thermocouple.

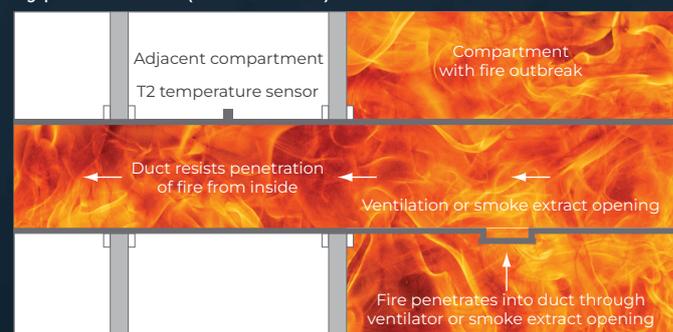
**Note:** See also the Annex., BS476 Part 24:1987, clause A1 c in respect of insulation failure of ducts 'A' within the furnace where such ducts contain combustible materials (i.e. kitchen extracts).

**Integrity:** The presence and formation in the test specimen of cracks, holes or other openings, outside the furnace, through which the flames or hot gases can pass shall constitute integrity failure.

### Type A Duct (fire outside)



### Type B Duct (fire inside)

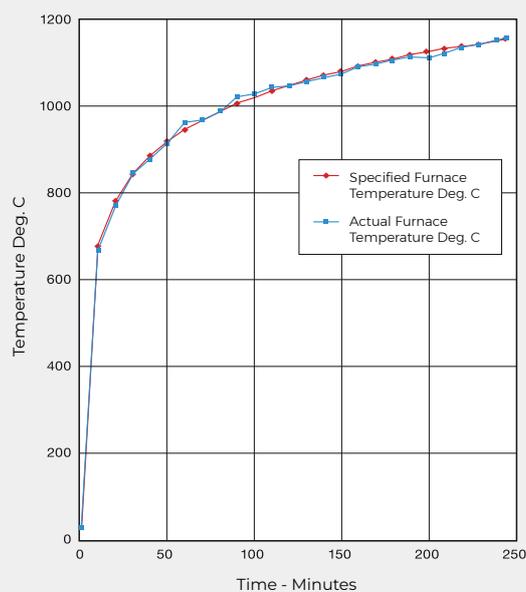




## SAFE4

- All system components are manufactured in-house ensuring quality and quick turnaround
- Strictest procedures in manufacturing, installation and inspection are adhered to
- Single fix installation
- Non-coated
- 2 hours stability and integrity
- Lighter in weight than other fire-rated ductwork
- Available in square, round and flat oval duct
- BS476 Part 24:1987 Type A and Type B Certified
- Lloyds approved for use on marine projects

Graph showing Mean Furnace Temperature, together with the Temperature/Time relationship specified in the standard



## SAFE4i - Up to 2 hours insulation

SAFE4i ductwork offers insulation of up to three hours at 1200°C in applications where an insulation criteria is required. Thickness and density is calculated by the type of system and time period required.

Full installation instructions are provided for installers



## Certification

Upon completion of installation SAFE4 inspectors can issue a certificate for all items manufactured and installed stating that the system conforms to the requirements of BS476 Part 24:1987.



EN  
CERTIFIED



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