

FLAMESHIELD FIREDUCT **HIGH PERFORMANCE FIRE RATED DUCTWORK**



INSTALLATION: THE SHARD, LONDON



INSTALLATION: THE PALACE OF WESTMINSTER, LONDON



INSTALLATION: O2, LONDON



INSTALLATION: WESTFIELD SHOPPING CENTRE, LONDON



YOU CAN'T SPECIFY ANYTHING BETTER

EN 1366 PARTS 1 & 8

EN 13501-3 A

BS 476 PART 24

ISO 6944 (1985)

LPCB ACCREDITED



FLAMESHIELD FIREDUCT

HIGHLY SPECCED. RIGOROUSLY TESTED.

HIGHLY TRUSTED.

FLAMESHIELD FIREDUCT IS A UNIQUE, NON-COATED, FIRE RATED DUCTWORK FABRICATED FROM GALVANISED SHEET STEEL ON DEDICATED, STATE-OF-THE-ART EQUIPMENT. TESTED AND CERTIFIED BY INDEPENDENT LABORATORIES, IT HAS ACHIEVED FULL STANDARDS COMPLIANCE FOR ALL CRITICAL MEANS OF ESCAPE.

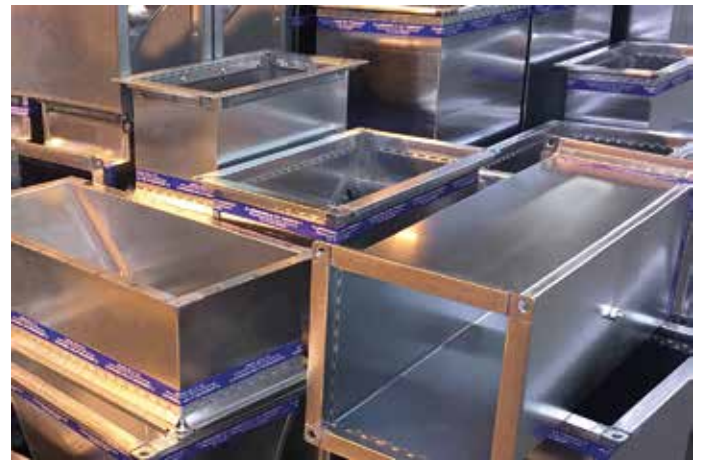
The Flameshield Fireduct system has been fully tested under cellulosic fire conditions and has successfully achieved **EN 1366 Parts 1 & 8** and **EN 13501-3 A** standards, alongside **BS 476 Part 24** and **ISO 6944 (1985)**. The Flameshield Fireduct system is listed in the Loss Prevention Certification Board (LPCB) and is a certified fire safety product in the specifiers bible 'The Red Book Live'.

Highly trusted by specifiers and developers for its exceptional performance, Flameshield Fireduct has been successfully installed into the UK's most prestigious buildings including The Shard, The Palace of Westminster and Westfield Shopping City, Stratford. It is also available in the UAE through approved resident licensees.

Fully approved by local authority building control officers, consultants and building's insurers, Flameshield Fireduct is manufactured in compliance with the FPC quality control plan and is installed by approved contractors under the LPS 1531 installer scheme.

Our products are certified to **BS.EN. 15871** and **BS.EN. 12107**, as per the CPR/ harmonisation program which became law and superseded British Standards on July 1st 2013.

Flameshield Fireduct - quite simply you can't specify anything better!



APPLICATION AREAS

Flameshield Fireduct is the perfect choice for all critical means of escape where guaranteed integrity is required.

- Smoke Extraction
- Kitchen Extraction
- Car Park Extraction
- Stair Pressurisation
- General Ventilation
- Marine Applications



TECHNICALLY ADVANCED. PROVEN PERFORMANCE.

FIRE RESISTANT DUCTWORK NEEDS TO MEET A WIDE RANGE OF CRITERIA TO BE STANDARDS COMPLIANT, AND DEPENDING ON THE APPLICATION, INVOLVES TESTING FOR FIRE EXPOSURE FROM BOTH THE OUTSIDE (TYPE A) THE INSIDE (TYPE B) AND SMOKE EXTRACTION (TYPE C). NO OTHER FIRE RATED DUCTWORK HAS BEEN AS RIGOROUSLY TESTED AS FLAMESHIELD FIREDUCT.

Flameshield Fireduct has been fully tested to meet Types A and B criteria for BS 476-24 and ISO 6944 and has now fully achieved Types A, B and C criteria for BS EN 13661 parts 1 & 8. This means all required testing has been undertaken and will be able to be CE marked when the appropriate product standards have been published. You can be fully confident when specifying Flameshield Fireduct for ventilation and extraction systems and even for critical means of escape systems. It is listed for all standards in the Red Book Live.

BS 476 PART 24 TEST STANDARD COMPLIANCY

Flameshield Fireduct meets the standard for Type A where ductwork should demonstrate 2 hours of fire resistance.

Flameshield Fireduct meets the standard for Type B where ductwork should demonstrate 4 hours of fire resistance.

Flameshield Fireduct also meets the smoke extract criteria of up to 4 hours integrity and stability.

Stability and integrity ratings are used to analyse test outcomes. Stability is measured by the ability of a smoke extract duct to retain at least 75% of its cross sectional area along its whole

length, both inside and outside of the furnace, and failure occurs when the duct collapses and no longer fulfils its function.

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

In different application areas, different accessories are required for the optimum operation of system. For example, some areas may require dampers to ensure integrity and other areas such as kitchen extract systems should not have fire dampers incorporated as the extremely high temperatures within the duct and accumulation of grease may prevent the damper from closing, deeming it ineffective.

Insulation failure is considered when the temperature rise above initial ambient temperature, on the unexposed surface of the test specimen outside the furnace, exceeds either:

140 C plus ambient as an average value,

or;

180 C plus ambient as a maximum value.

Flameshield Fireduct is guaranteed to maintain integrity and stability in each case.



FULLY COMPLIANT WITH BS EN 1366

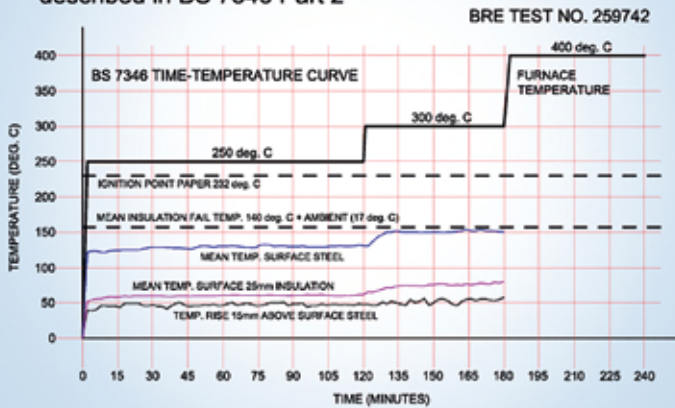
Flameshield Products have been fully tested in accordance with BS EN 1366 Parts 1 & 8 with compliance in all standards.

Many fire rated ductworks claim to be compliant with these standards yet in reality tests have only been undertaken against certain parts of the standards.

Innovative Flameshield Fireduct is the leading fire rated ductwork with compliance in all standards, ensuring complete peace of mind with all current building regulations, maintaining the upmost quality and reliability.

LOW TEMPERATURE PLATE TEST

Insulation Performance in accordance with the testing procedures of BS 476 Part 24 (ISO 6944) when a fire inside duct exposure is subjected to the temperature classifications described in BS 7346 Part 2



The EN 1366 standards go beyond BS 476 with more scenarios and criteria to meet.

EN 1366 Parts 1 & 8

There are three different test scenarios, duct A, duct B and duct C. Unlike the test standard for BS 476 Part 24 the EN 1366 test standards require larger sizes not covered by the standard, different orientations (horizontal or vertical), rectangular, circular or flat oval ducts, are all required to be tested.

EN 1366 Part 1 (Ventilation Ducts)

A standard duct A test is carried out incorporating a duct size of 1000mm x 500mm or 800mm diameter (whether horizontal or vertical). A successful test for both of these shapes enables ducts up to either 1250mm x 1000mm or 1000mm diameter to be offered in accordance with the test standard.

A standard duct B test is carried out incorporating a duct size of 1000mm x 250mm or 630mm diameter (whether horizontal



or vertical). A successful test for both of these shapes enables ducts up to either 1250mm x 1000mm or 1000mm diameter to be offered in accordance with the test standard.

A duct A test (fire exposure from outside to inside) MUST meet a leakage criteria (not required in the BS 476 Part 24 test standards) before being able to be tested in accordance with the Part 8 and Part 9 (smoke extract) standard.

Any ducts sized in excess of either 1250mm x 1000mm or 1000mm diameter MUST be tested in accordance with the EN 1366 Part EXAP (Extended Field of Application BS EN 15882-1:2011) up to a maximum duct size of 2500mm x 1250mm.

The conditions of these tests are:

- Both horizontal and vertical applications **MUST** be tested.
- Ducts with an external application of insulation **MUST** be tested for the different time periods of protection required.

EN 1366 Part 8 (Smoke Extract Ducts)

The rectangular duct size is tested at 1000mm x 250mm and **MUST** be insulated. A successful tested solution for a horizontal duct will also be accepted for ducts in a vertical orientation. A successful test enables ducts up to 1250mm x 1000mm or 1000mm diameter to be offered in accordance with the test standard.

Any ducts sized in excess of 1250mm x 1000mm **MUST** be tested in accordance with the EN 1366 Part EXAP (Extended Field of Application) up to a maximum duct size of 2500mm x 1250mm however, the EXAP test standard for smoke ducts has not currently been published therefore larger sized smoke extract ducts **CANNOT** be tested at this time.

The EN standard is extensive and more onerous than the BS 476 Part 24 test standard as many more tests are required for full compliance and new specific sets of criteria are required. As an example, Duct C tests (smoke extract) must retain at least 90% of its cross sectional area as compared to 75% in a similar BS 476 Part 24 test.

Other Ductwork just doesn't come close.

To be even remotely comparable to the Flameshield product, other ductworks would have to pass a minimum of at the very least 20 EN tests - we have carried out 37. Currently, there is ductwork available on the market that have completed as little as 2 BS tests and no EN test.

MEETS ALL LEGAL REQUIREMENTS. SATISFIES ALL SAFETY REQUIREMENTS.

FLAMESHIELD PRODUCTS TAKE THEIR CORPORATE RESPONSIBILITIES VERY SERIOUSLY.
AS SUCH FLAMESHIELD FIREDUCT COMPLIES WITH ALL LEGAL AND SAFETY REGULATIONS.

THE REGULATORY REFORM FIRE SAFETY ORDER 2005 (RRFSO)

The Regulatory Reform Fire Safety Order places the responsibility for the fire safety of a building and its occupants under the care of a 'responsible' person.

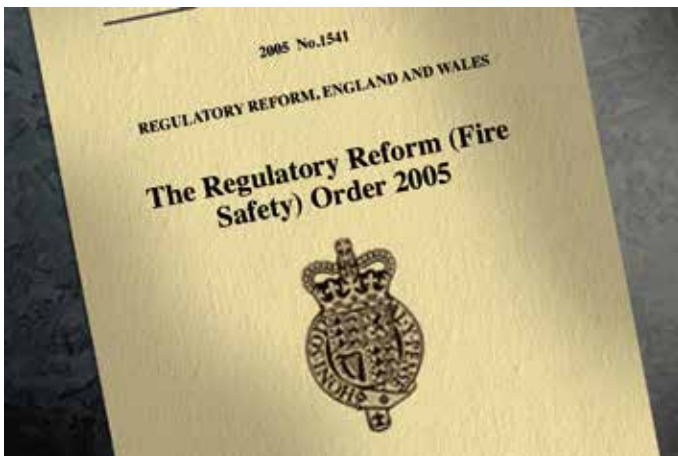
The 'responsible' person would be deemed to be for example, the developer, architect, consultant, main contractor or the provider/installer of the fire duct system - there is a stated liability and 'duty of care' for all parties involved. The intent of the RRFSO is to ensure that any changes to the building structure or services do not adversely affect the integrity of the building.

The reform maintains and enhances the protection afforded to users of premises by the previous legislation and applies to virtually all premises, covering nearly every type of building, structure and open space.

It is your legal duty to take all provisional precautions against potential fires, or diminishing the potential damage done.

Flameshield Fireduct is the leading choice for full compliance to all legal requirements.

**Don't risk prosecution - choose Flameshield
Fireduct for fire resistance you can trust.**



MANUFACTURING CONTROL

The Flameshield Fireduct product is proof of our commitment to the safety and effectiveness of fire-rated systems.

Flameshield Fireduct has certification from the LPCB (Loss Prevention Certification Board) ensuring full compliance with all requirements. This means service to the UK construction market is protected - **only certified licensees** who are able to fabricate the unique flanging system are able to produce the product.

We maintain manufacturing control over our licensees, ensuring only the highest quality ductwork is supplied and as such all licensees are regularly audited internally and by the LPCB to demonstrate full compliance with the FPC (factory production control) quality control plan.

Flameshield Fireduct is manufactured in strict accordance with both BS476 Part 24 and EN 1366 Parts 1 & 8 and EN 13501-3A standards compliance with available evidence.

Our products are certified to BS.EN. 15871 and BS.EN.12107, as per the CPR/ harmonisation program which became law and superseded British Standards on July 1st 2013.

In addition, Flameshield's LPCB certification gives the end user the added reassurance of a fire-rated system that is recognised by insurers.

TRUSTED FOR INSTALLATION IN THE UK'S MOST PRESTIGIOUS BUILDINGS.

SPECIFIERS, ARCHITECTS AND DEVELOPERS WORLDWIDE HAVE MADE FLAMESHIELD FIREDUCT THEIR No.1 CHOICE.

Flameshield fire rated ductwork has been successfully installed into the UK's most prestigious buildings and developments for all critical means of escape where guaranteed integrity is required. Below are just a few examples.

Office developments:

- The Shard, London
- One New Change, Cheapside
- More, London
- CityPoint, London

Retail Outlets:

- The O2, London
- Westfield Shopping Centre, London
- Stratford Shopping Centre, London

Heritage Buildings:

- The Palace of Westminster
- The Natural History Museum, London

Hospitals:

- St. Bartholomews, London
- North Middlesex
- Pembury
- Southmead, Bristol

Restaurants:

- Gordon Ramsey
- ASK
- Zizzi
- Domino Pizza

Sports Stadiums:

- Olympic stadium, London
- Tottenham Hotspur FC
- Twickenham RFU

UK Airports:

- Gatwick
- Heathrow



INSTALLATION: THE NATURAL HISTORY MUSEUM, LONDON



INSTALLATION: CITYPOINT, LONDON

FLAMESHIELD PRODUCTS. A REPUTATION FOR INNOVATIVE TECHNOLOGY AND RELIABILITY.

Flameshield Products Limited are the innovators and rights owners of Flameshield Fireduct the UK's first, and one of the leading non-coated, fire rated ductwork system to achieve full standards compliance and LPCB certification for both BS and EN standards.

Flameshield Products are completely focused on developing and testing the Flameshield Fireduct system - we do not manufacture Flameshield Fireduct.

The company service the UK and the UAE construction markets through a number of approved licensees who are all major air conditioning and ventilation contractors.



**ADVICE AND INFORMATION
AVAILABLE AT ALL TIMES.**

Flameshield Product's advisors are on hand to discuss your requirements and share their expertise and technical knowledge to make sure that you get exactly the right solution for your requirement.



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