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SPECIMEN

TEST REPORT

No. FCT XXX

**Enclosure Integrity Test
Abco Ltd.
Smith House
Eastcheap
London, EC3**

Sponsored By

**Fire Systems Inc.
Scroll Court
Camberley Road
Bracknell, Berks.**

Date of Test: 3rd September 2007

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FCTXXX

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1 Introduction

A room integrity test was carried out as part of the commissioning programme for a recently installed inergen extinguishing system protecting the lower ground floor comms room at Abco's premises in Smith House, Eastcheap, EC3.

The test was conducted in accordance with the general requirements of NFPA 2001 / BS:ISO Standard 14520 (2000) by Peter Lake for Fire Systems Inc. and was witnessed by John Brown of Abco.

2 Results

The results are calculated using descending interface methodology as it is understood that there is no recirculation after system discharge. Under these conditions extinguishant is lost via leakage through low level apertures to be replaced by fresh air entering at high level, thus creating a descending interface. The retention time is the time it takes for the interface to reach the highest item requiring protection.

As the air handling provisions for the room were solely recirculatory, it was unnecessary to close down any dampers or fans for the test.

The test readings showed that, assuming a worst-case leakage path distribution, the enclosure had an equivalent leakage area of 384 cm², giving a predicted retention time of **11.9 minutes** at a risk height of 2.1m (cabinet above slab floor). This satisfies the 10-minute retention time required by the Standard.


Full details of the input data, results and floor plan for the enclosure are appended.

3 Conclusions

The enclosure is sufficiently leak-tight to retain the extinguishant for the necessary time-period. Although corrective action is not essential, it is considered that it would be good practice to seal the principal leakage paths identified in the appended plan. Care should also be taken to ensure that no additional leakage is introduced, for example when installing further cabling.

To ensure the continuing efficiency of the extinguishing system, it is essential that annual enclosure integrity testing is included as part of routine system maintenance, commencing **September 2008**, as is required by BS:ISO Standard 14520 (2000). Failure to do so may jeopardise system effectiveness.

Authorised for Issue:
3rd September 2007



Dr P J Lake
For FC&T Ltd.

ROOM INTEGRITY TEST RESULTS

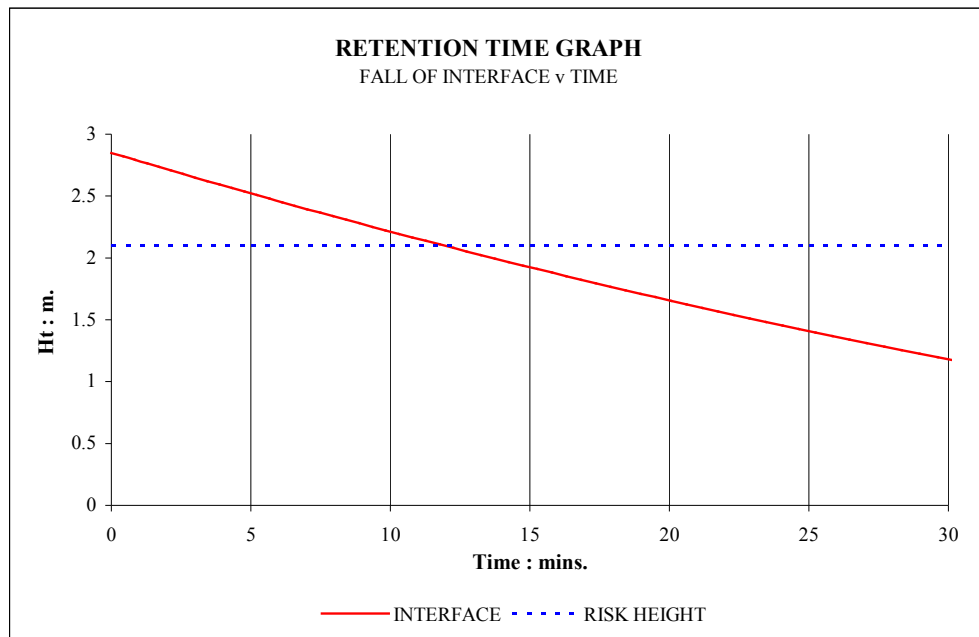
**LOWER GROUND FLOOR COMMS ROOM
ABCO. LTD.
SMITH HOUSE, EC3**

PROJECT DETAILS

Client Abco. Ltd.
Date 3rd September 2007
Site Smith House, EC3
Room LG Floor Comms Room

RESULTS

Equivalent Leakage Area (cm²) 384
Retention Time at Risk Height (mins) 11.9



ROOM & SYSTEM DETAILS

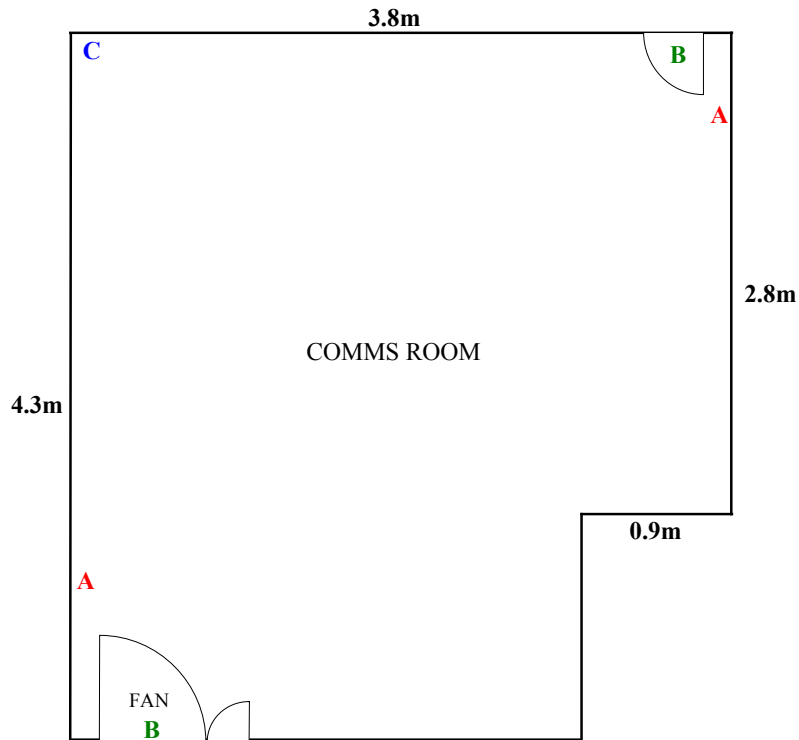
Floor Area (sq m) 15.0
Overall Height (m) 2.85
Gross Volume (cu m) 42.8
Risk Height (m) 2.1
Bias Pressure (Pa) 0
Room Temp. (deg c) 20
Inergen Supply (kg) 35
Design Conc. (%) 43.9
Column Pressure (Pa) 3
Lower Leakage Fraction 0.5

TEST DETAILS

Test Number 1
Pressurisation
Room Pressure (Pa) 10
Total Flow (l/s) 97
Depressurisation
Room Pressure (Pa) 10
Total Flow (l/s) 94

**PLAN VIEW OF
LOWER GROUND FLOOR COMMS ROOM
ABCO. LTD.
SMITH HOUSE, EC3**

**ENCLOSURE INTEGRITY TEST ON 3/9/07
(DRAWING NOT TO SCALE)**



- A = Unsealed service penetrations in ceiling void
- B = Gaps at door thresholds
- C = Gap at edge detail in floor void

Ceiling void height	=	n/a
Room height	=	2.60 m
Floor void height	=	<u>0.25 m</u>
Overall room height	=	2.85 m
Risk height	=	2.10 m (cabinet)
Inergen supply	=	35 kg