

TECHNICAL PAPER TD061097 **CLASSIFICATION OF FIRE RESISTING DOORS**

There is still some confusion with regard to the numbering classifications of fire resisting hinged doors, in accordance with B.S.476 & B.S.5588.

Historically, fire doors were tested in accordance with B.S.476 Pt.8 1972, as part of "Building Materials & Structures" for STABILITY, INTEGRITY, & INSULATION, and the compliance with each criteria was noted in minutes.

Stability - The deformation or collapse of a specimen, which would affect its fire performance.

Integrity - The ability to remain free of gaps in excess of 150mm x 6mm, or any fissure which would allow the passage of hot gaseous products of combustion, or any flaming on the non-fire side of the door, sustained in excess of 10 seconds.

Insulation - The ability to restrict the mean temperature rise of the unexposed face to below 140°C, or 180°C at any one location.

This led to doors being coded 60/60/0, 60/60/30, 120/120/0, etc.

In 1987, B.S.476 Pts.20,21,22,& 23 were introduced, in an effort to define the test operating procedures more closely, with doors now being tested in accordance with Part 22, "Non-loadbearing Elements of Construction."

The Stability criteria was deleted from the requirement, as it was obvious that if a door had satisfied the criteria for integrity, it must have remained in position, therefore the fire test documents now refer to Integrity & Insulation only.

B.S.5588 "Fire precautions in the design & construction of buildings" was introduced in 1983, superseding CP3 :Chapter IV :Part3:1968, which was then withdrawn.

B.S.5588:Pt3:1983 has been the subject of several revisions, to incorporate amendments in building practice, requirements for smoke control, etc. and, in accordance with amendments introduced up to Oct.1989 (Section 9.6 Fire Doors Paragraph 3):-

"The performance of a fire door when tested in accordance with B.S.476:Pt22 is judged by its time to failure (in minutes) for each of the criteria of "integrity" and "insulation"; regulations and codes of practice do not however normally specify any performance for insulation."

This is also confirmed in Building Regulations - Approved Document B, Appendix A, Table A1 1985.

Basic Fire Door Designation

Because of this, there is normally only one number quoted with reference to fire rated hinged doors, that number referring to the Integrity requirement only.

Smoke Control

The basic designation number may also be suffixed by a letter "S", denoting that the door is also required to resist the passage of smoke at ambient temperatures, as defined by B.S.476 Section 31.1.

For example :-

FD30 - 30 minutes integrity rating.

FD60S - 60 minutes integrity rating, with smoke control.

Insulated Glazing in Firedoors

Because insulated doors are not normally specified, it is not necessary to use insulated glazing within doors, providing the glazing is no greater than 25% of the door area, in buildings served by a single stairway, or no greater than 50% in buildings with access to more than one stairway.

Points to remember:-

- 1). fire test data is based on B.S.476 Pt.22.
- 2). Omega smoke seals achieve better than the requirements of B.S.476 Part 31.1 and they have also been included on actual fire tests.
- 3). none of our standard fire-rated windows exceed the 25% area limitation, so insulation would not generally be a problem.

Please note.

This document is issued for general information only and is not intended as a substitute for information contained in the relevant British Standards.

As Standards are under constant re-appraisal, it is essential that the full document be consulted.

Omega Technical Department