

SHIELDLINE

RADIATION PROTECTION DOOR SETS

RADIATION TESTS

The C W Fields radiation protection door set design has been tested by RRPPS (Radiation Protection Service within the Imaging and Medical Physics Group of University Hospital Birmingham NHS Trust). When tested using a 37GBq²⁴¹ Americium source,

“there were no discernable radiation leakage paths”

The Design included hardwood rebated type frame, architrave, door leaves with rebated meeting stiles and a vision panel with a cloak type chamfered timber glazing beads.

The lead equivalence was 3.6mm.

It is most important that the “Radiation Technical Advisor” appointed, specifies the lead equivalence required, taking into account the radiation source, its position and frequency of use.

FIRE TESTING

A door set constructed in the same manner to that tested for radiation resistance has been tested by Chiltern International Fire for fire resistance in accordance with BS476 pt.22 (The standard required by UK building regulations).

The result achieved well in excess of FD60 fire resistance.



The mark of
responsible forestry.

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Station Road Industrial Estate, Epworth,
Nr Doncaster South Yorkshire DN9 1JZ
Tel: 01427 872368 - Fax: 01472 873057
E-mail: info@cwfields.co.uk - www.cwfields.co.uk
Company Registered No. 742661
VAT Registration No. 526 1744 51

The overrun in performance will allow if necessary for an assessment to increase the door dimensions and the glazed area. The doors tested were as an unequal pair, this is considered more onerous than an equal pair (due to the possibility of differential distortion), and therefore an equal pair of similar dimensions would perform as well or better than that tested. The meeting stiles were rebated and a latch fitted (latch wired open for duration of test, this means a latch does not have to be used). Any ironmongery required has to be very carefully considered to ensure that the required radiation resistance is not compromised.

The assembly was constructed to suit a structural opening size of 2100 x 1500mm. The door leaf sizes; main leaf 2036 x 924 x 70mm, slave leaf 2063 x 483 x 70mm. The composite frame construction was 122 x 64mm overall, the rebate formed being 73 x 20mm. Vision panel was 500 x 200mm aperture size.

DOOR SET DESIGN

Doorframes and architraves constructed from hardwood, species to your specification but preferably achieving a minimum density of 640kg/m³, finished in clear lacquer, primed for painting, factory paint finish or faced in plastic laminate (restrictions may apply when fire resistance is required).

Doors can be wood veneered to your requirements, faced in pre primed melamine paper or plastic laminates. Vision panels have special glass and hardwood glazing beads. Door finish can be clear lacquer or factory spray paint if required.

IRONMONGERY

The tests were undertaken with four hinges per leaf, they were stainless steel. manufactured by Cooke Brothers, "Loadmaster" code 7935, positioned 250 and 1018mm from the bottom of the door and 250 and 450mm from the top of the door (all dimensions to the centre of the hinges). Other ironmongery can be incorporated but cutting away or piercing the protection should be avoided if at all possible, however if it is necessary the "Radiation Technical Advisor" and our technical department must be consulted.

**NOTE: THESE DOORS ARE SIGNIFICANTLY HEAVIER THAN NORMAL DOORS
SPECIAL CONSIDERATION MUST BE GIVEN TO MANUAL HANDLING. (Typically
60Kg/M²)**

For further information or to discuss particular requirements or a specific project please do not hesitate to contact C W Fields & son Ltd Technical Department.



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