

Specification — Heavy Steel Clad Doors and Frames

A&L Shielding's special doors and door frames are custom designed and built to shield in special circumstances where extra protection is required.

Neutron or Gamma Shielding Doors and Frames

GENERAL:

This type of special door and frame assembly is designed to support the high weight resulting from the shielding materials located in the core of the door.

Power operation is recommended due to the high weight and inertia of the door.

The size of the door and frame should take into consideration both the overlap needed between the door and the frame for proper shielding and the clear opening width required with the door open at 90 degrees or removal equipment within the room.

PRODUCT DETAILS:

FRAME – 1/4" steel angles and bar shall be welded together to support the door weight and to provide the necessary door-to-frame overlap for shielding purposes. An additional 1/2" x 3" x full height steel hinge reinforcement is to be added to the hinge side of the frame to provide good support for the hinge mounting bolts. Integral wall concrete anchors, floor anchors and an unlined steel threshold welded between the jambs will aid in securing the frame as it is embedded in support concrete. The frame will be supplied in a prime paint finish.

One or more frame mounted door position switches are provided. Conduit planning should include the switch wiring. Frame lifting eye holes are provided to aid in erection.

DOOR – The door will use a minimum of 1/4" A36 steel sheet for the front and rear faces and a 1/2" steel perimeter frame. A 1/2" x 5" x full height steel hinge reinforcement will be located on the inside of the door at the hinge edge to allow proper fastening of the hinges. The strike side is beveled on the door. Embedded steel lifting points for the concrete over the frame and three lifting eye points in the door are furnished for installation.

CORE – The core material will be determined by the

application and room design and shall be approved by the site physicist prior to construction. Both continuous lead sheet and polyethylene materials are commonly used in thickness determined by physicist calculation.

HARDWARE – The door hardware will include pull sets and two heavy duty adjustable ball bearing hinges. Each hinge must be rated for the entire door weight. Because of the critical nature of hinge alignment, the hinges shall be factory mounted to the door and frame and then removed for shipment and reinstallation at the time of door erection.

DOOR OPERATOR – The electric power door operator is supplied with two or more press plate switches. Wiring and electrical power shall be by others.

FINISH – The door and frame are shipped with a prime paint finish. After erection, clean and repair scratches prior to final finishing to job requirements.

EXECUTION:

The frame will be cast into the room wall at the time of wall construction. It must be kept plumb and level during concrete pour and cure.

The door is to be installed in conformance with the current issue of DHI's "Installation Guide for Doors and Hardware" with special emphasis on material handling during erection due to high door weights involved.



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