

## DESIGN CRITERIA

1. Related Sections: See related Division 05 and Division 08 Design Criteria, Commissary Door Schedule in Appendix "A", and related Design Standard Plates.
2. Typically, hollow metal doors and frames are used at office / storage areas in non-customer areas, and customer areas requiring increased durability. Hollow metal door frames with stained solid core wood doors are typically used in administrative office areas and office / storage areas facing customer areas.
3. Select all hollow metal doors and frames for high use, heavy traffic applications. Design doors and frames in accordance with ANSI/SDI A250.8, SDI-100 "Recommended Specifications for Standard Steel Doors and Frames" as Published by the Steel Door Institute.
4. Hollow Metal Frames:
  - A. Exterior frames shall be 0.067" minimum base metal thickness (nominal 14 gage) galvanized steel with reinforcement and grout guards at hardware locations. Frames shall be shop fabricated with mitered and welded face corners and seamless face joints. Do not use knockdown frames. Secure frames in masonry construction using adjustable galvanized strap-and-stirrup or T-shaped anchors. Do not use wire anchors. Grout frames solid.
  - B. Interior frames shall be 0.053" minimum base metal thickness (nominal 16 gage) (shop primed steel except where frames are exposed to a refrigerated space and where project conditions require galvanized steel) with reinforcement and grout guards at hardware locations, except where 0.067" minimum base metal thickness (nominal 14 gage) galvanized steel security frames are required. Refer to Commissary Door Schedule in Appendix "A". Frames shall be shop fabricated with mitered and welded face corners and seamless face joints. Do not use knockdown door frames. Secure door frames in masonry construction using adjustable galvanized strap-and-stirrup or T-shaped anchors. Do not use wire anchors. Grout frames solid. Secure door frames in steel stud framed partitions with stud-wall type anchors welded to steel studs. Spot grout frames at jamb anchor locations in accordance with Division 09 Section Gypsum Board.
    1. Traffic doors located in steel stud framed partitions shall have 0.067" minimum base metal thickness (nominal 14 gage) flush galvanized steel security frames with 1/4" steel plate at all hardware attachment points. Reinforcing shall be welded to concealed face of frame.
    2. Traffic doors located in concrete masonry unit (CMU) partitions shall have steel channel frames. Refer to Division 05 Metal Fabrications for further information.
5. Hollow Metal Doors:
  - A. Exterior doors shall be thermally insulated 0.053" minimum base metal thickness (nominal 16 gage) galvanized steel. Fabricate in accordance with ANSI/SDI A250.8 Level 3 and Physical Security Level A (Extra Heavy Duty), Model 2 (Seamless).
  - B. Interior doors shall be 0.053" minimum base metal thickness (nominal 16 gage) shop primed steel except where doors are exposed to a refrigerated space and where project conditions require galvanized steel. Provide thermally insulated doors at locations where doors are exposed to a refrigerated space. Fabricate in accordance with ANSI/SDI A250.8 Level 3 and Physical Security Level A (Extra Heavy Duty), Model 1 (Full Flush).
  - C. Interior security doors shall be 0.067" minimum base metal thickness (nominal 14 gage) shop primed steel. Fabricate in accordance with ANSI/SDI A250.8 Level 4 and Physical Security Level A (Extra Heavy Duty), Model 1 (Full Flush).
  - D. Glass vision panels in exterior doors shall be laminated glass. Glass vision panels in interior doors shall be tempered glass, except at security door locations where laminated glass shall be provided.

Refer to Design Standard Plates for Commissary Door Types in Appendix "A", for vision panel sizes. Note that vision panel in Cashier's Office security door shall not exceed 24" by 24" in size.

- E. Access through wall surfaces above cold storage rooms is frequently required and must be easily accessible. Provide access via a standard steel door and frame, with passage latch set, in lieu of conventional access openings as specified in Section 08 31 13 Access Doors and Frames. No locks are to be provided on these access door openings. Provide HM access doors (2'-8" wide by 3'-8" high) in these walls, allowing access from warehouse area to space above cold storage rooms as required for service access and maintenance. Locate bottom of access doors immediately above cold storage room ceilings at 11'-4 " AFF. Standard hollow metal frame, and stop, shall be continuous on all four sides of door opening.
  - F. Facilities with roof mounted refrigeration mechanical centers and HVAC systems shall be designed with a stair tower for roof access. Provide an insulated standard hollow metal door in the stair tower at roof with appropriate security grade hardware and security alarm contact.
6. Exterior swinging doors into inhabited areas shall be designed for security protection in accordance with UFC 4-010-01 DoD Minimum Antiterrorism Standards For Buildings (latest edition), Standard 12, as follows:
- A. Ensure that exterior doors into inhabited areas open outwards. By doing so, the doors will seat into the door frames in response to an explosive blast, increasing the likelihood that the doors will not enter the buildings as hazardous debris. Alternatively, position doors such that they will not be propelled into inhabited spaces or provide other means to ensure they do not become hazards to building occupants.
  - B. Glazing in and around doors must comply with Standard 10.
  - C. Sliding glass doors and revolving doors do not have to open outwards.
  - D. Because of the nature of overhead door failures due to blast loads there are no antiterrorism requirements for overhead doors.
  - E. Compliance with the door requirements in Appendix B of UFC 4-010-01 (latest edition) and UFC 4-020-01 shall be required if one of the following is true:
    - 1. The facility has an identified Design Basis Threat (DBT) and a level of protection (LOP). The ATFP planning team for the installation and the building being designed/renovated shall determine if the facility has an identified DBT and LOP, and notify the AE of their findings. When a project has an identified DBT and LOP, the building shall be designed to specifically counter the identified DBT(s) and provide the required LOP, as well as the baseline requirements of the current version of UFC 4-010-01, whichever is more stringent. The building is not required to comply with additional requirements in UFC 4-010-01 Appendix B, (latest edition) and UFC 4-020-01 that are unrelated to countering the identified DBT.
    - 2. The facility is located outside the Installation Perimeter as defined in UFC 4-010-01. Installation Perimeter is now defined as "any demarcation identifying the limit of DoD property and directly or indirectly indicating that unauthorized access is prohibited".

It will be critical for projects that fall within either of these categories to have a clear assessment and determination established of the DBT and LOP for the facility prior to design start.

END OF SECTION