

DOORS & WINDOWS, GLAZING

Doors: Exterior doors shall be of aluminum, stainless steel or insulated galvanized steel construction. Interior doors shall be hollow metal doors with steel frames or solid core wood doors with steel frames. Wood doors are to have structural composite lumber (SCL) cores except that fire rated doors may have mineral cores. Grade “A” plain sliced red oak veneer is the UND standard door veneer. Alternate species may be used where matching adjacent doors or when specifically approved by UND PM. All glass doors shall not be used. Glass in doors, if provided, must be tempered glass unless otherwise required by code. Provide a minimum of 5” side rails and a minimum 8” top and bottom rails, or provide larger rails as may be required for the specific hardware. See design specifications for doors and door hardware.

Hollow Metal Frames: Generally, require the use of hollow metal frames for interior doors, sidelights, and borrow lights throughout all building projects. Limited exceptions to this requirement may be granted by the UND PM where the use of alternative systems, such as aluminum framing systems, is deemed appropriate, or, in the case of renovation projects, where it is desirable to match existing construction.

Frame Requirements:

Construction:

Full-welded unit construction with corners mitered, reinforced, and welded full depth and width of frame.
Full-welded or K.D. unit construction with corners mitered and reinforced frame at all interior locations.
Welded full depth and width of frame where welded frames are used.

Material:

Require frames for exterior locations to be fabricated of 14 gauge galvanized steel sheets.
Require frames for interior locations to be fabricated of 16 gauge hot- or cold-rolled steel sheets.
Require frames for interior locations in animal facilities, shops and similar locations which may be subject to wash-down, to be fabricated of 16 gauge galvanized steel sheets.
Require internal hardware reinforcement for all door hardware.
Require mortar boxes to be installed by a factory authorized representative.

Frame Profile:

All hollow metal door or vision panel frames shall be required to have a 2” wide face dimension. The use of frames narrower than 2” has been shown to result in installation and maintenance problems over the long term.

Frame Installation:

Hollow metal frames shall be detailed and specified to be attached to metal stud framing with not less than 3 anchor clips at each jamb and to masonry construction with not less than 3 anchors per jamb, or in accordance with manufacturer’s installation instructions. Jamb members of metal stud-frame/drywall partitions at exterior doors are to be grouted with Portland cement/sand grout. Mullions dividing frame openings shall not be grouted. Jamb members of metal stud- frame/drywall partitions at interior doors shall be insulated with tight fitting fiberglass batt insulation.

Windows: Windows shall be of the highest quality available, with a proven balance mechanism. All windows shall be securable, preferably with locks, especially those located on ground/lower floors. Security screens or gratings shall be considered for installation where additional security is needed. See design specifications for Windows.

Glazed Curtain Walls and Storefront widows: Glazed curtain walls shall be of true “curtain wall” construction or “storefront” construction. All glazing systems shall have fully captured glass with pressure plates at all glass edges and snap on mullion covers. No structural sealant glazed systems or exposed sealant joint systems are permitted. Structural glazing systems, the design of which does not facilitate convenient pane replacement, shall not be permitted.

Exterior Glazing: All exterior glazing shall be of the insulated double pane type that incorporates metal framing separated by a thermal break that is “locked” into the extrusions, not merely a sealant. The use of “Low-E”

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exterior glazing is encouraged for energy conservation and occupant comfort. While colored glass is discouraged, any colors or tints that are used shall be standard colors readily available from a variety of manufacturers. Custom tints shall not be used because it is virtually impossible to match the color years later when a piece needs to be replaced. Tinted glazing shall be pyrolytic, not applied film. Glazing in more vulnerable locations (e.g. doors, ground/lower floor windows and curtain walls, etc.) shall be of especially durable construction (e.g. laminated glass, tempered glass, wire glass, or polycarbonate) even if not specifically required by code.

Special Construction: Special exterior window/glazing construction shall be employed as appropriate in conjunction with a winter interior design relative humidity greater than 35% and/or a summer interior design space temperature less than 65 degrees F.

Natural Lighting vs. Energy Conservation: Full advantage shall be taken of opportunities to provide natural lighting. However, full compliance with the current revision of ASHRAE Standard 90.1 and approved addenda shall not be sacrificed in the process.

Large Expanses: Large expanses of exterior glazing, particularly on building faces exposed to solar gain (especially on west exposures) shall be carefully planned and designed with special consideration for potential summer heat gain, winter heat loss, glare and wind loading issues.

Skylights: Skylights are not eligible for maintenance funds and are strictly prohibited. Clearstory windows are permitted, subject to compliance with the window requirements specified with-in these guidelines.

Canopies: Glass canopies are not permitted. All canopies shall slope away from the building