

Highlights of NFPA 80 - Standard for Fire Doors and Fire Windows 1999

Note: Numbers in brackets () refer to applicable sections of the publication.

New Developments (1-2)

- new products - manufacturer is responsible for furnishing information
- AHJ is responsible for approving devices not described in NFPA 80

Job-Site Hardware Preparation (1-3.4)

- job-site prep for surface-applied hardware, function holes for mortise locks, viewers, 3/4" max. undercutting and protection plates acceptable
- round holes through face of door only
- 1" diameter maximum except cylinder holes

Glazing Material (1-7)

- labeled fire resistance-rated glazing material in labeled lite kits
- allowable size of lite depends on type of glass and fire-testing
- rule of thumb:
 - 1/2 & 1/3 hour rated - limited to maximum area tested (rule of thumb is 1296 square inches per lite)
 - 3/4 hour rated - 1296 square inches per lite, no dimension larger than 54", unless otherwise tested
 - 1 hour, 1 1/2 hour - limited to maximum area tested (100 square inches max. in temperature rise doors)
 - 3 hour rated - 100 square inches

Lintels (1-11.3) (previously 2-2)

- Lintels shall be brick, steel, reinforced concrete, or concrete/masonry arches
- The AHJ can allow other types of lintels

Sills (1-11.2) (previously 2-3)

- sills shall be constructed of noncombustible materials
- frames with a 4" jamb depth or less - sill width shall be equal to the jamb depth
- frames with a jamb depth greater than 4" - sill width shall be 4" minimum and shall be installed so that the sill extends from the face of the frame on the door side into the frame
- combustible floor covering shall not extend through 3-hour rated openings

Swinging Doors with Builders Hardware Assembly Components (2-4)

- normal components of a fire door assembly include a door, a door frame, hinges, a lock or latch, and a closing device
- components may also include an astragal, an automatic louver, a coordinator, flush or surface bolts, gasketing, a holder/release device, protection plates, and glazing units

Door Frames & Clearances (1-11.4 & 2-3.1.7) (previously 2-5)

- door frames for drywall installation shall be the wrap-around type
 - door frames with expansion bolt anchors are for use in masonry walls only
 - clearances
 - head, jambs, and meeting stiles on pull side - 1/8" +/- 1/16" for metal doors, 1/8" maximum for wood doors (steel hinge shims may be used to meet these clearances - 2-4.3.4)
 - bottom of door - 3/8" max. between bottom of door and raised noncombustible sill, 3/4" max. between bottom of door and floor where there is no sill, 5/8" max. between bottom of door and rigid floor tile, 1/2" max. between bottom of door and nominal surface of floor coverings
- New in 1999. . .**

"15-2.5.4 When holes are left in a door or frame due to changes or removal of hardware or plant-ons, the holes shall be repaired by the following methods:

- (a) Install steel fasteners that adequately fill the holes
- (b) Fill the screw or bolt holes with the same material as the door or frame"

Hinges (2-4.3.1) (previously 2-8.1)

- hinges shall be made of steel, Labeled continuous hinges are permitted in accordance with their listing
- mortise hinges shall be attached to doors with steel screws, surface hinges shall be attached with steel through-bolts (if shims are used, they must be fabricated from steel)
- doors up to 60 inches in height shall have 2 hinges, and an additional hinge for each additional 30 inches of height or fraction thereof
- non-spring hinges shall be ball-bearing type, spring hinges shall be labeled, pivots may be used if approved and listed

Locks or Latches (2-4.4) (previously 2-8.2)

- fire doors with exit devices must have fire exit hardware
- all single doors and active leaves of pairs shall have an active latch bolt that cannot be held retracted
 - except doors not in a means of egress may have dead bolts in addition to the active latch bolts or as permitted by the AHJ
 - locks with interconnected dead bolts which are retracted when the latch bolt is retracted are permitted
 - automatic fail-safe devices which are activated by the fire protection system and become positively latched upon activation are permitted

Protection Plates (2-4.5) (previously 2-8.3)

- factory-installed protection plates shall be installed in accordance with the listing of the door
- field-installed protection plates shall be labeled and installed in accordance with their listing
 - exception: labeling is not required where the top of the plate is not more than 16" above the bottom of the door

Closing Devices (2-4.1) (previously 2-8.5)

- where there is an astragal or latch bolt that prevents the inactive door from closing and latching before the active door closes and latches, a coordinating device shall be used
- a coordinating device shall not be required where each door closes and latches independently
- where pairs of doors are provided for mechanical equipment rooms to allow the movement of equipment, the closing device may be omitted on the inactive leaf if approved by the AHJ
- closing devices shall be attached to doors and frames by steel screws or through-bolts
- all swinging doors shall be closed and latched at the time of fire

Astragals (2-4.7) (previously 2-9)

- pairs of doors rated for more than 1 1/2 hours shall have an overlapping astragal unless otherwise tested and approved
- pairs of doors in a means of egress shall not be equipped with astragals that inhibit the free use of either leaf

Gasketing (2-4.8) (previously 2-10) -

- Any gasketing used on fire doors shall be fire rated for its intended use.

Temperature Rise (E-7)

- where fire doors are used in stairway enclosures, such doors shall be constructed so that the maximum transmitted temperature end point should not exceed 450 degrees (F) above ambient temperature at the end of 30 minutes of the standard fire exposure test

Did you Know?

The 2002 Edition of NFPA 70 National Electric Code requires certain electric rooms to have doors that open in the direction of egress and are "equipped with panic bars, pressure plates, or other devices that are normally latched but open under simple pressure." According to Article 110 of the 2002 NFPA 70 National Electric Code, personnel doors serving the following types of rooms must comply:

- Rooms housing large equipment - 600 Volts, nominal or less, 1200 amperes or more.
- Rooms housing conductors and equipment used on circuits of over 600 Volts, nominal.
- Transformer Vaults