**two piece acoustical jamb**

**Maximum overall opening:** 50-11/16” wide x 121-11/32” high. (Frame buck opening)  
**Maximum door opening:** Single 4-0 x 10-0  
**Wall depth:** Minimum 4-7/8”  
**Wall type:** Wall must be constructed to meet the STC rating and lined with a wood stud for jamb attachment.  
**Gasketing:** Please refer to separate handout for required gasketing installation.

- Door side of jamb is shimmed and installed first with #8 X 1-1/2” screws spaced maximum 4” from each end and 24” on center. Stop side of jamb is then installed flush with the wall. Space in between the two jamb components is okay. Attach stop side of jamb with #8 x 2” screws or 8d finishing nails spaced a maximum 6” from the end an 24” on center. Fasteners can be located underneath the stop.
- One #8 x 2” screw or 8d finish nail should be located at each hinge pocket and strike pocket on the door side of jamb before the hardware is installed.
- Shim space is maximum 1/4” must be tightly filled with fiberglass insulation.

**Flat Stop:** Minimum 5/8” thick x 1-1/2” wide. Flat stops are installed with a 1/8” x 7/16” HDF spline and #4 finish nails or 18 gage x 1-1/2” long brads spaced maximum 4” from each end and 16” on center.

**Casing:** Minimum 3/8” thick x 1-1/2” wide. Casing is installed with minimum #4 finish nails spaced maximum 4” from each end and 16” on center and staggered.

*Failure to install the frame in accordance with these installation instructions voids the possible STC rating.*
INSTALLATION INSTRUCTIONS

UL 20-MIN. FRAME & SIDELITE OR BORROWED LITE

**Maximum overall opening:** 170.25” wide X 11’-6” high. (frame Buck opening)

**Maximum door opening:** Single 4-0 X 9-0 / Pair 8-0 X 9-0

Borrowed Lite: Maximum overall opening is 5’-9” wide X 11’-6” high.

**Wall depth:** Minimum 3-3/4” with ¾” thick MDF liner behind the frame

**Wall type:** Metal stud, wood stud or masonry. As an option metal stud or masonry openings may have a wood liner

- Frames are installed with countersunk #8 X 2-1/2” long deck screws spaced maximum 4” from each end and 32” on center. Masonry walls require ¼” X 2-1/4” masonry anchors spaced maximum 4” from each end and 32” on center. At wood stud walls or walls with a wood liner the frame may be installed with 10d finishing nails spaced maximum 4” from each end and 32” on center.
- Sills are installed with ¼ X 2-1/4” masonry anchors spaced maximum 32” OC.
- Shim space is maximum 1/2”. A shim space greater than ¼” must be tightly filled with fiberglass insulation.

**T-STOP:** Minimum 1/2” X 1-1/2” (5/8” overall thickness.) T-stops are installed with #4 finish nails spaced maximum 4” from each end and 16” on center.

**Casing:** Minimum 3/8” thick X 1-3/4” wide. Casing is installed with minimum #4 finish nails spaced maximum 4” from each end and 16” on center and staggered.

**LITE STOPS:** Minimum ¾” thick X 1-1/8” wide. Lite stops are installed with #6 finish nails or #6 X 1-5/8” trim screws spaced maximum 4” from each end and 8” on center. Maximum glass opening size is 36” X 96” or 96” X 36”. Glazing clips are not required.

**PANEL STOPS:** Minimum 3/4” thick x 1-1/8” wide. Panel stops are installed with #6 finish nails or # 6 x 1-5/8” trim screws spaced minimum 4” from each end and 8” on center. Maximum panel opening is 48”x116”.

**GLASS:** May be Firelite Plus manufactured by Technical Glass, Pyroedge-20 manufactured by Interedge Technologies or ¼” diamond wire glass manufactured by Asahi or Pilkington. Glass must be cut 7/32” smaller than the opening size in width and height. Cutting tolerance is ±1/32”.

**PANELS:** Maximum panel opening is 48” X 116”. Panels must be wood covered fire doors with minimum 20-minute rating. Panels may be installed with springbolts or countersunk No 8 X 2-1/2” long hi/lo deck screws on the vertical edges spaced maximum 10” from each end and 32” on center. HSS2000 intumescent seal material is to be applied around the perimeter of the panel along the centerline. Secure panel in place with wood stops on both sides.

*Pemko HSS2000 intumescent and Pemko S88 smoke seals are required only for positive pressure and smoke control openings. (UL 10C, U.B.C. 7-2 1997)

**Failure to install the frame in accordance with these installation instructions voids the label.
20-MINUTE UL ELEVATION

1.50 MIN

108.00 MAX

48.00 MAX
FIREGUARD 20 MINUTE HEADER/JAMB
IN WOOD STUD WALL

5/8" DRYWALL

WOOD STUD WALL
FRAME FASTENED TO WOOD STUD WITH
NO 8 X 2-1/2" HIGH/LO DECK SCREW @ 32" OC.

CASING

SHIM SPACE

3/4" MDF FILLER

3/4" FRAME

.375

1.750

.500

T-STOP

1-3/4" THICK
20-MINUTE DOOR

1.500

1-3/4" INDUSTRIAL PARK • HOLSTEIN, IA 51025 • 800.827.1615
UL 20-MIN. FRAME & SIDELITE OR BORROWED LITE

FIREGUARD 20 MINUTE TRANSOM BAR

UL APPROVED LABELED GLASS

SQUARE OR SHAPED LITE STOPS

3/4” FRAME

3/4” MDF FILLER

3/4” FRAME

1-3/4” THICK 20-MINUTE DOOR

1.125

.750

.375

.500

1.500

2.250

1.500
UL APPROVED LABELED GLASS

SQUARE OR SHAPED LITE STOPS

CASING

3/4 FRAME

3/4 MDF FILLER

3/4 MDF FILLER

T-STOP

1-3/4" THICK 20-MINUTE DOOR

1.125

.750

.375

1.500

2.250

3.000
UL APPROVED LABELED GLASS

SQUARE OR SHAPED LITE STOPS

CASING

3/4" MDF FILLER

3/4" FRAME

1.750

.750

1.125

.375
FIREGUARD 20 MINUTE SILL DETAIL

UL APPROVED LABELED GLASS

1.125

1/4" X 2-1/2" MASONRY SCREW

.750

3/4" FRAME

STOP
### UL 45-MIN. FRAME & SIDELITE OR BORROWED LITE

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum overall opening:</strong></td>
<td>144” wide x 135.75” high. (Frame Buck opening)</td>
</tr>
<tr>
<td><strong>Maximum door opening:</strong></td>
<td>Single 4-0 x 9-0 / Pair 6-0 x 9-0 or 8-0 x 8-0</td>
</tr>
<tr>
<td><strong>Borrowed Lite:</strong></td>
<td>Maximum overall opening is 5’-9” wide x 11”-6” high.</td>
</tr>
<tr>
<td><strong>Wall depth:</strong></td>
<td>Minimum 4-7/8” with 3/4” thick MDF liner behind the frame.</td>
</tr>
<tr>
<td><strong>Wall type:</strong></td>
<td>Metal stud, wood stud or masonry. As an option metal stud or masonry openings may have a wood liner.</td>
</tr>
<tr>
<td><strong>Intumescent caulk:</strong></td>
<td>FlameSafe (Grace), Metacaulk1000 (RectorSeal), or Firestop Plus (Jaco)</td>
</tr>
</tbody>
</table>

- Frames are installed with countersunk #8 x 2-1/2" long deck screws spaced maximum 4” from each end and 32” on center. Masonry walls require 1/4” x 2-1/4” masonry anchors spaced maximum 4” from each end and 32” on center. At wood stud walls or walls with a wood liner the frame may be installed with 10d finishing nails spaced maximum 4” from each end and 32” on center.

- Sills are installed with 1/4 x 2-1/4” masonry anchors spaced maximum 32” OC.

- Shim space maximum 1/2”. Shim space greater than 1/4” must be tightly filled with fiberglass insulation.

- Apply intumescent caulk a minimum of 3/8” deep filling shim space continuously on both sides of frame after frame is shimmed and installed into opening.

**T-Stop:** Minimum 1/2” X 1-1/2” (5/8” overall thickness.) T-stops are installed with 4d finish nails spaced maximum 4” from each end and 16” on center.

**Casing:** Minimum 3/8” thick and 1-3/4” wide. Casing is installed with minimum 4d finish nails spaced maximum 4” from each end and 16” on center and staggered. Casing must cover shim space.

**Lite stops:** Minimum 3/4” thick x 1-5/8” wide. Lite stops installed with “6d finish nails or No 6 x 1-5/8” trim screws spaced maximum 4” from each end and 8” on center. Glazing clips installed maximum 10” from each corner and maximum 24” on center. Clips installed with No 6 x 1-1/4 hi/lo drywall screws or 4d common nails using 4 fasteners per glazing clip. Nails are provided with the glazing clips.

**Panel Stops:** Minimum 3/4” thick x 1-1/8” wide. Panel stops are installed with #6 finish nails or # 6 x 1-5/8” trim screws spaced minimum 4” from each end and 8” on center. Maximum panel opening is 48”x116”.

**Glass:** Maximum glass opening size is 36” x 96” or 96” x 36”. May be Firelite plus manufactured by Technical Glass or 1/4” diamond wire glass manufactured by Asahi or Pilkington. Glass must be cut 7/32” smaller than the opening size in width and height. Cutting tolerance is +/- 1/32”.
**Panels:** Maximum panel opening is 48” x 116”. Panels must be wood covered composite core fire doors with minimum 45-minute rating. Panels may be installed with springbolts or countersunk No 8 x 2-1/2” long hi/lo deck screws on the vertical edges spaced maximum 10” from each end and 32” on center. Intumescent caulk or HSS2000 intumescent seal material is to be applied around the perimeter of the panel along the centerline, refer to details. Secure panel in place with wood stops on both sides. *Intumescent caulk or HSS2000 is required only for positive pressure and smoke control openings (UL 10C, U.B.C. 7-2 1997).

**Failure to install the frame in accordance with these installation instructions voids the label.**

*** Door opening perimeter hot and cold smoke seals are determined by opening category type and supplied by door manufacturer or contractor.
FIREGUARD 45 MINUTE HEADER/JAMB
IN WOOD STUD WALL

WOOD STUD WALL
- FRAME FASTENED TO WOOD STUD WITH NO 8 X 2-1/2" HIGH/LO DECKSCREWS OR 10D NAILS @ 4" FROM ENDS AND 32" OC AND STAGGERED

ALTERNATE:
PEMKO HSS2000 HOT SMOKE SEAL

STANDARD:
INTUMESCENT CAULK MIN 3/8" DEEP BOTH SIDES

5/8" DRYWALL

CASING

SHIM SPACE

3/4" MDF FILLER

3/4" FRAME

1-3/4" THICK 45-MINUTE DOOR

.500

1.500

1.750

.375
**Installation Instructions**

**UL 45-Min. Frame & Sidelite or Borrowed Lite**

**Fireguard 45 Minute Header/Jamb in Metal Stud Wall**

Steel Stud Wall:
- Frame fastened to steel stud with
- No 8 x 2-1/2" High/Low Deck Screws
- 4" from ends and 32" OC and staggered

---

**Diagram:**
- 5/8" Drywall
- Metal Stud
- Casing
- Shim Space
- 3/4" MDF Filler
- 3/4" Frame
- T-Stop
- 1 - 3/4" 45-Minute Door

Alternate:
- PEMKO HSS2000 Hot Smoke Seal

Standard:
- 375 INTUMESCENT CAULK
  - Min 3/8" deep
  - Both sides

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FIREGUARD 45 MINUTE HEADER/JAMB IN METAL STUD WALL WITH WOOD LINER

STEEL STUD WALL WITH LUMBER LINER
- WOOD LINER FASTENED TO STEEL STUD WITH NO 8 X 2-1/2" HIGH/LO DECK SCREWS @ 32" OC.
- FRAME FASTENED TO WOOD LINER WITH NO 8 X 2-1/2" HIGH/LO DECK SCREWS OR 10D NAILS @ 4" FROM ENDS AND 32" OC AND STAGGERED

METAL STUD

5/8" DRYWALL

CASING

WOOD STUD

SHIM SPACE

3/4" MDF FILLER

3/4" FRAME

1-STOP

1-3/4" THICK 45-MINUTE DOOR

ALTERNATE: PEMKO HSS2000 HOT SMOKE SEAL

STANDARD: INTUMESCENT CAULK MIN 3/8" DEEP BOTH SIDES
UL 45-MIN. FRAME & SIDELITE OR BORROWED LITE

INSTALLATION INSTRUCTIONS

FIREGUARD 45 MINUTE COMMON MEMBER
(SIDE LITE AND FIXED PANEL SHOWN)

UL APPROVED LABELED GLASS

GLAZING CLIP

FGL4000 INTUMESCENT
APERATURE LINER
1 @ 2-1/2" X .080"

FG1000 INTUMESCENT
1 @ .725" X .080"

FGS4000 INTUMESCENT
1 @ .600" X .080"

SQUARE OR SHAPED LITE STOPS

1/4" BEAD INTUMESCENT
CAULK OR PEMKO
HSS2000 HOT SMOKE SEAL

SIDE PANEL INSTALLED WITH
STANLEY #1697 SPRINGBOLTS ON
THE VERTICAL EDGES AT 18" OC,
OR COUNTERSUNK NO 8 X 2-1/2"
HI/LO DECK SCREWS MAXIMUM 10"
FROM ENDS AND 32" OC

VTDOORS.COM
UL 45-MIN. FRAME & SIDELITE OR BORROWED LITE/SILL
(METAL STUD WALL & FIXED PANEL SHOWN)

STEEL STUD WALL WITH LUMBER LINER
- Wood liner fastened to steel stud with
  NO 8 x 2-1/2" HIGH/LO DECK SCREWS @ 32" OC.
- Frame fastened to wood liner with NO 8 x 2-1/2" HIGH/LO DECK SCREWS OR 100 NAILS @ 4" FROM ENDS AND 32" OC AND STAGGERED

WOOD STUD WALL
- Frame fastened to wood stud with NO 8 x 2-1/2" HIGH/LO DECK SCREWS OR 100 NAILS @ 4" FROM ENDS AND 32" OC AND STAGGERED

STEEL STUD WALL
- Frame fastened to steel stud with NO 8 x 2-1/2" HIGH/LO DECK SCREWS @ 4" FROM ENDS AND 32" OC AND STAGGERED

MASONRY WALL OR FLOOR
- Frame fastened to masonry wall with 1/4" x 2-1/4" MASONRY ANCHORS @ 4" FROM ENDS AND 32" OC AND STAGGERED

SIDE PANEL INSTALLED WITH
STANLEY #1697 SPRINGBOLTS ON
THE VERTICAL EDGES AT 18" OC,
OR COUNTERSUNK NO 8 X 2-1/2"
HI/LO DECK SCREWS MAXIMUM 10" FROM ENDS AND 32" OC

1/4" BEAD INTUMESCENT CAULK

ALTERNATE:
PEMKO HSS2000
HOTSMOKE SEAL

STANDARD:
INTUMESCENT CAULK
MIN 3/8" DEEP
BOTH SIDES

5/8" TYPE X DRYWALL
SIDE PANEL INSTALLED WITH STANLEY #1697 SPRINGBOLTS ON THE VERTICAL EDGES AT 18" OC, OR COUNTERSUNK NO 8 X 2-1/2" HI/LO DECK SCREWS MAXIMUM 10" FROM ENDS AND 32" OC
FIREGUARD 45 MINUTE SILL
(SILL ON FLOOR & FIXED PANEL SHOWN)

SIDE PANEL INSTALLED WITH
STANLEY #1697 SPRINGBOLTS ON
THE VERTICAL EDGES AT 18" OC,
OR COUNTERSUNK NO 8 X 2-1/2"
HI/LO DECK SCREWS MAXIMUM 10"
FROM ENDS AND 32" OC

1/4" BEAD INTUMESCENT CAULK
OR PEMKO HSS2000 HOT SMOKE
SEAL.

3D FINISH NAILS AT
SILL ON FLOOR

1-3/4" THICK
45-MINUTE DOOR AS PANEL

FRAME
INSTALLATION INSTRUCTIONS

WHI 20-MIN. FIREGUARD PLUS FGH WRAP AROUND JAMB

Maximum overall opening: Single 4’-0” X 9’-0” / Pair 8’-0” X 9’-0”

Maximum door opening: Max door opening plus thickness of jamb equals jamb buck opening

Wall depth: 3-3/4” (2-1/2” stud plus 5/8” drywall both sides)

Wall type: Metal or wood stud

- Jambs are installed with 1-1/8” long drywall screws thru metal stud in pairs into the back of the jamb member or nailed thru the wood stud in pairs into the back of the jamb member with 8d nails. Nails must penetrate the jamb 1” deep. Fasteners are to be a maximum of 4” from each end and spaced a maximum of 12” O.C.

- Jambs may also be nailed thru the face with 10d finish nails staggered and spaced a maximum 4” from each end and 12” O.C.

- Jamb must overlap drywall by ½” minimum on both sides of the wall.

- Jambs are intended to be installed without shim space before or after drywall is installed, studs should be plumb and squared before jamb installation.

OPTIONAL SHIMMING: Maximum shim space is ¼”. Shims are required are at each hinge and strike location. If jambs require shimming, back plow on the jamb member is required to be ¾” deep and jamb thickness can be no less than ¾”. This can be performed by a WHI machinist licensed to machine Eggers WHI jambs. See attached drawings.

T-STOP: Minimum 1/2” thick X 1-1/2” wide (5/8” overall thickness.) T-stops are installed with 6d finish nails spaced maximum 2” from each end and 12” on center.

CORNER JOINT: Jambs can be machined for dowels or biscuits and glued at the corner joint.

*Pemko HSS2000 intumescent and Pemko S88 smoke seals are required only for positive pressure and smoke control openings. (UL 10C, U.B.C. 7-2 1997)

**Failure to install the jamb in accordance with these installation instructions voids the label.
WHI 20-MIN. FIREGUARD PLUS FGH WRAP AROUND JAMB

- FRAME WITHOUT SHIM SPACE
- ALL DIMENSIONS SHOWN ARE MINIMUMS
- WOOD OR METAL STUD, WOOD STUD SHOWN

[Diagram of WHI 20-Min. Fireguard Plus FGH Wrap Around Jamb]

- MDF
- 20 MIN DOOR OFFSET TO GIVE APPEARANCE OF CASING
- 5.000
- 1.500
- 0.500
- 0.563
- 0.500
WHI 20-MINUTE FIREGUARD PLUS FGH HEADER/JAMB

- Frame with shim space (1/4" max)
- All dimensions shown are minimums
- Wood or metal studs, metal stud shown

--Diagram--

- Frame with shim space (1/4" max)
- All dimensions shown are minimums
- Wood or metal studs, metal stud shown
WHI 20 MINUTE FIREGUARD PLUS FGH HEADER/JAMB

- Frame with shim space (1/4" max)
- All dimensions shown are minimums
- Wood or metal studs, metal stud shown
DOOR REQUIREMENTS:
Consult the door manufacturer to make sure that the doors are qualified for the hardware to be installed, and particularly if for use in door pairs.

POSITIVE PRESSURE REQUIREMENTS:
Positive pressure openings require the use of a Category G edge sealing system as specified by the wood door manufacturer. To meet smoke control requirements of UBC 7-2-2 (1997), Category H smoke and draft control gasketing must be used as specified by the wood door manufacturer. Edge seal and smoke control gasketing are furnished by the door supplier.

WALL REQUIREMENTS:
- Two-hour rated, wood or steel framed wall or masonry wall
- Minimum thickness: 5 inches
- Framing: 2” X 4” nominal dimension lumber or 2-1/2” X 0.019” (25 gauge) minimum steel framing
- Rough opening size for 1” thick frames:
  (3 1/2”) wider than net opening width for door
  (1-1/2 ½”) higher than net opening height for door

Note:
1. Dimensions are based on those to webs of buck framing members.
2. For masonry, a 2” X 3” nominal dimension lumber buck frame shall be attached to masonry with 3/8” expansion masonry anchors, spaced 26” on centers maximum.

ROUGH OPENING PREPARATION: (See Figure 1)
Two inch wide by 12” long by 0.036” (20 gauge) steel plates shall be supplied with the frame. These plates are for supplementary anchoring at each door hinge and strike plate, along the header or jambs of the frame. Plates shall be approximately centered at each hinge or strike plate elevation with approximately 1” lap over the web of the buck framing on the side of the wall that hinges are to be installed. Secure each plate to the buck framing with three suitable fasteners about 5” apart. Use 3/8” long, #6 pan head framing screws for steel buck framing. Use 1” long type ‘S’ or ‘W’ drywall screws for wood buck framing. Alternatively, 3-penny box nails may be used through predrilled holes in the steel plate for wood buck framing.

FRAME DESIGN LIMITATIONS:
- Minimum jamb depth: 5”
- Minimum rabbet for door: 1-7/8”
- Minimum stop height: 5/8”
- Minimum soffit: 1”
- Maximum sizes: (inches)
Hinges: Size and spacing to be in accordance with Table 2-8(a) of NFPA 80, mortise type only.

Strikes: Per templates for labeled latch sets, (including cylindrical, mortise or unit type), rim exit device, vertical rod fire exit device, flush bolts and/or dead bolts.

**FRAME INSTALLATION: (See Figures 2 through 5)**
Remove the frame from the carton and become familiar with the components by checking each component versus the shipping list. Obtain any hardware item not supplied with your purchase (but required by these instructions) at your local door/frame hardware or building materials dealer.

In the event your frame was supplied without casing trim, you may install any wood, plastic or metal casing trim obtained from your local dealer.

In the event your frame was supplied without the required screws, they may be obtained from your local hardware dealer.

To reduce soiling and staining of the frame finish and for ease of installation, it is recommended that all holes for fasteners through the frame be predrilled before the fasteners are installed. Use 5/32” drill bits for #10 screws or 3/32” drill bits for #6 screws. Pilot holes from 65-70% of the fastener shank diameter are best.

If needed, up to ¾” may be sawed from the bottom of each jamb to fit the rough opening. Use caution to make sure that this does not require trimming the bottom of the door. Some doors may not be trimmed at the bottom.

Align the header section to the top of each jamb section. Drive the 2-1/4” long, #6 screws through predrilled holes at each end of the header to the top of each jamb.

Orient, position, align and square the assembled frame within the rough opening in the wall. See Figure 2. Position wood shims at about 2” from the top and bottom to fill the opening between the hinge jamb and wall buck framing. Drive a 2-1/4” long, #6, trim head screw immediately above or below each set of wood shims through the door rabbet of the frame.
Do not completely tighten these screws until you are sure the wood shims have been adjusted to have the head within the width of the rough opening and with the hinge jamb in plumb. Tighten the two screws, then drive additional 2-1/4”, #6 trim screws through the frame on the opposite side of the stop to the buck farming at the same elevation.

Install the door to the frame at top and bottom hinges only. Close the door to check and adjust for alignment of the door from the frame stops and for 1/8” maximum clearance for wood doors or 3/16” maximum clearance for steel doors from the header and both jambs. In the case of door pairs, both doors should be similarly installed to adjust for 1/8” clearance for wood doors or 3/16” clearance for steel doors between the meeting edges and for 1/8” maximum offset along the meeting edges. When alignment is satisfactory, install wood shims, 26” on center maximum, between buck framing and along both jamb and header sections. Drive and tighten 2-1/4” long #6, trim head screws through the frame on each side of the stop soffit to the buck framing, adjoining each set of wood shims. Recheck clearances and readjust if necessary. Install the remaining hinges with the hinge screws provided, except replace one screw at each hinge with a 2-1/4” long #10 screw, driving this screw through the 2” X 12” X 20 gauge steel plates, previously attached to the buck framing. See Figure 4.

If stops were supplied loose, they should be attached with spiral nails or trim head screws, spaced 12” on center, through the predrilled holes at this time. Preposition the stops on the frame to allow for any required labeled gasketing with the doors in the closed position.

For flushbolt or latchset strikes, cut to length and insert 1/8” inside diameter steel screw sleeves through the 7/16” diameter predrilled holes in the frame. The screw sleeves span the distance between the strike and the buck framing or the 2” X 12” X 20 gauge steel plate previously installed to the buck framing. Install the strikes with #10 screws, 2- 1/4” long minimum through the steel sleeves.

Surface strikes used for rim exit devices and vertical rod fire exit devices are sometimes installed to the soffit. These strikes require that 7/16” diameter holes be predrilled through both the stop and the frame. Steel screw sleeves and 3” long, #10 screws are used to install strikes to the soffit.

Dead bolt strikes (mortise type) closer and surface brackets for closer arms do not require the 7/16” diameter holes nor the steel screw sleeves. It is recommended that holes for the screws be predrilled. If mounted to the soffit, screws should extend through the stop and penetrate the frame by ½” minimum. If mounted to the face of the frame, a 16-gauge steel mounting plate may be cut up to 2” high by the width of the bracket or closer body. The steel mounting plate may be surface attached to the face of the frame with not less than two, #8, ¾” long screws through predrilled holes in the plate. The closer or closer arm bracket may then be screw attached to the mounting plate, using self-tapping screws provided with the closer.
Check and adjust hardware to make sure door(s) are self-closing and self-latching.

Break or saw off any wood shims that extend beyond the frame or wall on each side of the assembly. Mix a setting type joint compound according to the directions on each bag. Fill the area between sets of wood shims, frame and buck framing on each side of the wall to a minimum depth of 1”. See Figure 3. This may be accomplished with joint finishing tools. A caulking tube and gun may simplify this installation. For installation in masonry, extend the joint compound over the buck framing to bridge the frame to the masonry. See Figure 5. After the joint compound has hardened, install the casing trim on each side of the wall to the buck framing and to the frame with suitable fasteners, spaced 24” on center maximum. Use 1-5/8” or 2-1/4” long, #6 trim head screws for installation of casing trim to wood or steel buck framing of the frame. As an alternate 6 penny finishing nails may be used for installation of casing trim to wood buck framing. Casing trim fastener length should be selected to penetrate the frame or wood buck by ½” minimum. If desired, the screw and nail heads may be covered using a veneer color matched caulking or putty stick. If the frame has a natural wood veneer, it may be stained and finished with a clear varnish or drying oil.

**CONGRATULATIONS!** You may now enjoy the safety and appearance of a 90 minute rated frame.
WHI 90-MIN. RATED VENEERED DOOR FRAME

FIGURE 1
INSTALL 20GA. METAL PLATES TO METAL STUD

20GA. STEEL

DPT. FASTENERS 3/4" DC.

#8 FRAMING SCREWS
4 PER PLATE & 1 PLATE PER HINGE OR STRIKE LOCATION

2" X 12" STEEL PLATES

5/8" GYPSUM WALLBOARD

FIGURE 2
INSTALL SHIMS AND SCREW ATTACH FRAME TO STUD

VENEERED FRAME

SHIM WEDGES AT EACH HINGE ELEVATION ON BOTH JAMBS

TREM SCREWS OR 15" SPIRAL
SHANK, 1/8" HEAD NAILS 3/4" DC.

25#6 TREM HEAD SCREWS
1" ABOVE EACH HINGE ON BOTH JAMBS AND 24" DC. ON HEADER
FIGURE 3

ONE INCH DEEP SETTING TYPE JOINT CAULKING CONTINUOUS BETWEEN SHIMS

VENEERED FRAME

SHIM WEDGES AT EACH HINGE ELEVATION ON BOTH JAMBS

Trim screws or 15° spiral shank, 1/8" head nails 12" O.C.

FIGURE 4

ONE INCH DEEP SETTING TYPE JOINT CAULKING CONTINUOUS BETWEEN SHIMS

VENEERED FRAME

SHIM WEDGES AT EACH HINGE ELEVATION ON BOTH JAMBS

Casing trim

Trim screws or 15° spiral shank, 1/8" head nails 12" O.C.

90 MINUTE WOOD FACED FIRE DOOR

4 X 45 X .134 STEEL HINGES
INSTALLATION INSTRUCTIONS

WHI 20-MIN. FIREGUARD FRAME

**Maximum overall opening:** 98.5" wide x 109.25" high (Frame buck opening)

**Maximum door opening:** Single 4'-0" x 9'-0" / Pair 8'-0" x 9'-0"

**Wall depth:** Minimum 3-3/4"

**Wall type (rough opening):** Metal stud, wood stud or masonry. Metal stud or masonry openings must be lined with a 2" nominal wood stud minimum.

- Preassembled frame legs to header with minimum (3) 1-5/8" long, #6 screws, 10d nails or 15-gauge finish nails at each joint.
- Install frames with 2-1/2" long screws, or 10d finishing nails in pairs. Masonry walls require mechanical attachment of wood liner maximum 24" O.C.
- Shim space is maximum 1/2". A shim space greater than 1/4" must be tightly filled with fiberglass insulation.
- Shimming is required at every hinge and strike.
- (1) 2-1/2" long screw is required at each hinge and (2) 2-1/2" screws are required at each stike.
- Assemblies must be plumb and square.

**T-STOP:** Minimum ½" x 1-1/2" (5/8" overall thickness.) T-stops are installed with 16 gauge staples or 4d finish nails spaced maximum 2" from each end and 12" in center.

**CASING:** Minimum 3/8" thick x 1-3/4" wide. Casing is installed with minimum #4 finish nails spaced maximum 4" from each end and 16" on center and staggered.

*Note:

*Pemko HSS2000 intumescent and Pemko S88 smoke seals are required only for positive pressure and smoke control openings. (UL 10C, U.B.C. 7-2-1997)*

**Failure to install the frame in accordance with these installation instructions voids the label**
**WHI 20-MIN. FIREGUARD HEADER/JAMB**

- All dimensions shown are minimums
- Single or double rabbet frame optional
- 2” nominal wood liner required for metal stud or masonry