

# PEMKO

## PEMKOHINGE®

### HALF SURFACE HINGE

Experience a safer  
and more open world

#### Applies to the following product:

**HS\_** – Heavy Duty Half Surface -  
Continuous Geared Hinge

#### Attributes:

##### PemkoHinge® Attributes:

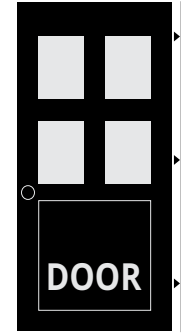
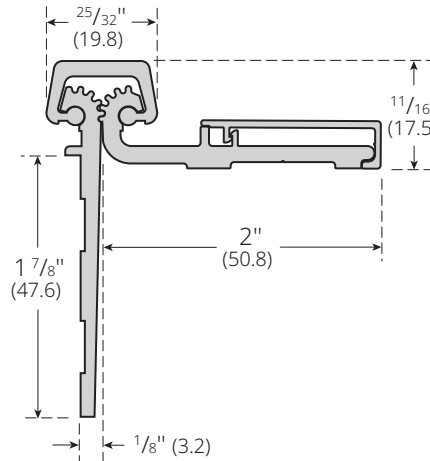
- With a continuous hinge, typical alignment problems, such as door sag and binding, are eliminated. Unlike conventional hinges, the continuous hinge distributes load stress uniformly along the full length of the door and frame.
- The gear design of the continuous hinge ensures identical operation of each leaf; therefore, very little effort is required to open heavy commercial doors.
- Continuous hinge installation screws are located along the full length of the hinge, thereby preventing warping of the door along the hinge jamb.
- The continuous hinge acts as reinforcement for both door and frame.
- A high degree of security can be achieved for exterior openings or restricted spaces by using a continuous hinge. With the geared construction and the full-length channel cap, the common gap between the door and frame is sealed, which provides security against prying.
- In addition, the closing of this gap protects against pinching fingers in doors in public areas, particularly those where children are present.
- Sightproof design of the continuous hinge provides privacy for lavatories, executive offices, or file rooms.
- PemkoHinge® products are GUARANTEED FOR THE LIFE OF THE OPENING against defects in material or workmanship with the exception of residential and Standard duty aluminum hinges which carry a 10 year warranty.

#### Half Surface:

- Designed mainly for retrofit doors and frames.
- HD1 Hinges conform to Grade 2-150 and Grade 1-300.
- Applied to conceal frame leaves.

#### Why PemkoHinge®?

- Tested and certified with the best warranty in the industry.
- No restrictions on frame gauge and wall conditions.
- No restriction on cutting hinges in field.
- No special cutting instructions or voided warranties.
- No special door and frame preps up to and including 90 minute doors.



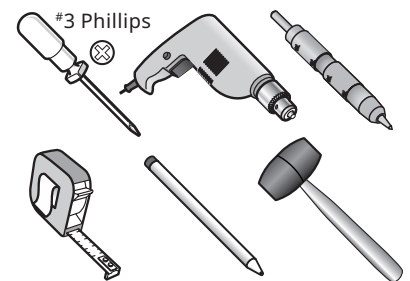
Attaches Door  
to Door Frame

#### Testing/Ratings:

Aluminum continuous hinge for use on swinging type fire doors of the hollow metal, tin-clad, sheet metal and steel covered composite type rated up to 3 hours, wood covered composite type rated up to and including 1 1/2 hours. Also wood core rated up to and including 20 minutes without hose stream. Meet criteria of UBC 7.2 for positive pressure.



#### Tools Required:



#### Product/Available Finishes:

**BSPHS** Black Suede Powder Coat  
**WSPHS** White Suede Powder Coat  
**10BEHS** Satin Bronze Powder Coat

**CHS** Clear Anodized Aluminum  
**SNHS** Satin Nickel Powder Coat

**DHS** Dark Bronze Anodized Aluminum  
**GHS** Gold Powder Coat

Installation Instructions:

Half Surface units are designed mainly for retrofit work, and are applied to the exposed surface of the door and edge of the frame, with clearances as shown in **Figures A & B**.

1. Open the PemkoHinge® leafs and position the frame leaf portion against the frame rabbet. Be sure the leaf alignment flange is tight against the face of the frame. Allow 1/8" between the frame header and the top of the hinge leaf, for door clearance.
2. Mark and center punch each hole on frame with hinge held firmly in place. Remove hinge. (A center punch can help center hole, so that fasteners will enter straight.)
3. Drill for #12-24 x 7/16" thread forming screws, per **Drill Size Chart** (below), and attach frame leaf to frame with #3 Phillips drive. (Use wax or soap on screws to aid installation.)
4. Position the door in the opening; shim to adjust for proper clearance (See **Figures A & B**).
5. Install the six (6) #12-24 x 3/4" self drill/tapping screws in the six (6) 7/32" holes located in the door leaf portion of the hinge.
6. Remove shims and open the door. Check for proper swing and clearances. Adjust if required.
7. Close the door. Mark the centers of the remaining holes. Drill holes all the way through the door using a 1/4" diameter drill.
8. Open the door. Enlarge the 1/4" holes on the inside face of the door using a 3/8" dia. drill. Finish attaching door leaf portion of PemkoHinge® to the face of the door using the four (4) thru-bolts and shoulder bolts. Thru-bolts attach from inside face; shoulder bolts attach from the outside of face.
9. To complete the installation, secure the cover by hooking the edge away from hinge gears under the door leaf and then snap the other edge over using a rubber mallet on far side, working from top to bottom. Adjust so top of cover is flush with top of hinge (See **Figure 1**).
10. Special **FirePins** are required on 3 hour (A-Label) assemblies. (See page 3 for instructions).

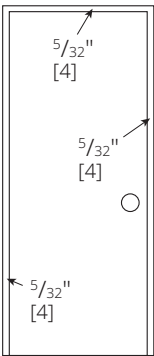


FIGURE A

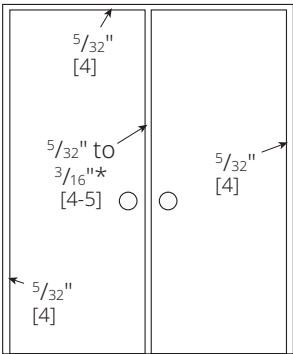


FIGURE B

\*Allow extra clearance as required per astragal manufacturer. Certain door and frame conditions may require an extra 1/32"-1/16" clearance. Excessive clearance on fire rated assemblies may violate the requirements of NFPA 80.

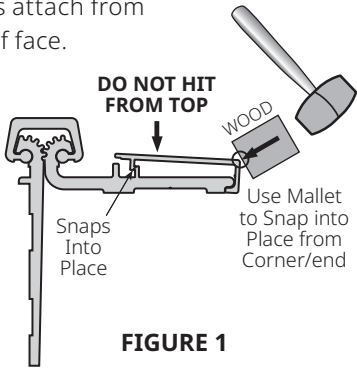


FIGURE 1

Shortening the Hinge

If the PemkoHinge® must be shortened, cut the bottom only using a chop saw. This will allow metal chips to work out after the installation. Although the PemkoHinge® is not handed, the hinge becomes handed after cutting and the cut edge must be installed at the bottom of the opening.



Drill Size Chart:

| MATERIAL | THICKNESS   | DRILL SIZE |
|----------|-------------|------------|
| ALUMINUM | .090 - .140 | 13         |
| METAL    | 20 GAUGE    | 17         |
| METAL    | 16-18 GAUGE | 15         |
| METAL    | 12-14 GAUGE | 13         |
| WOOD     | N/A         | 5/32"      |

**PEMKO**  
**ASSA ABLOY**

## FIREPINS:

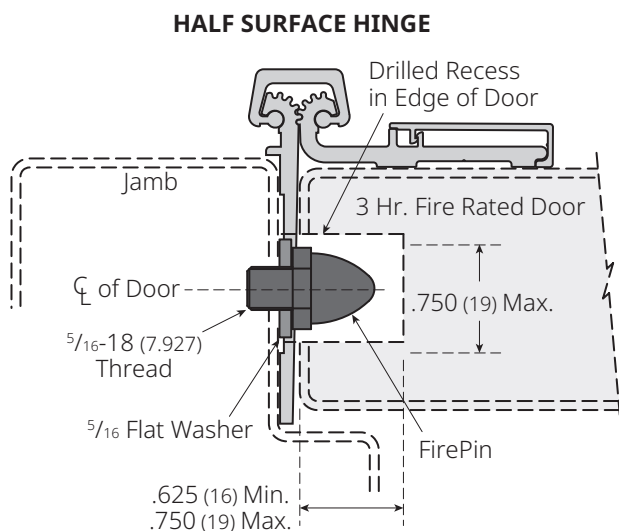
**FIREPINS ARE REQUIRED ON 3 HOUR RATED DOORS ONLY.**

### Pin Installation:

Half Surface Hinge:

Install PemkoHinge® on door and frame prior to locating pins.

1. Drill and tap for  $\frac{5}{16}$ -18 threads in frame as indicated on the template or the drilled frame leaf of the PemkoHinge®.
2. Insert **FirePin** in threaded hole.
3. Drill  $\frac{3}{4}$ " hole  $\frac{1}{2}$ " deep in edge of door where indicated on the template.



NOTE: **FirePin** must be ordered with hinge, as hinge prep & UL180 stamp is required.

