

PEMKO

PEMKOHINGE®

FULL MORTISE RAISED GEAR HINGE

Experience a safer
and more open world

Applies to the following product:

FM_RG - Heavy Duty, Full Mortise Raised Gear 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.

Full Mortise Raised Gear:

- Designed mainly for new doors and frames.
- HD1 Hinges conform to Grade 2-150 and Grade 1-300.
- Applied to conceal both 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.

Product/Available Finishes:

CFMRG Clear Anodized Aluminum

BSPFMRG Black Suede Powder Coat

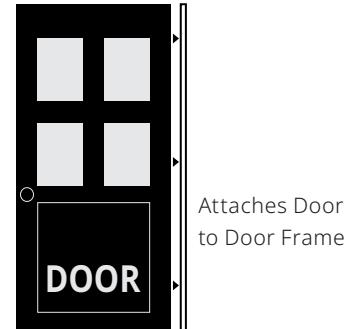
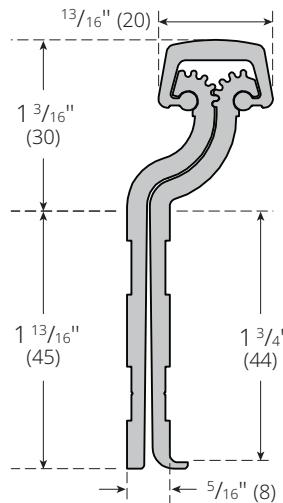
SNFMRG Satin Nickel Powder Coat

10BEFMRG Satin Bronze Powder Coat

DFMFRG Dark Bronze Anodized Aluminum

WSPFMRG White Suede Powder Coat

GFMRG Gold Powder Coat

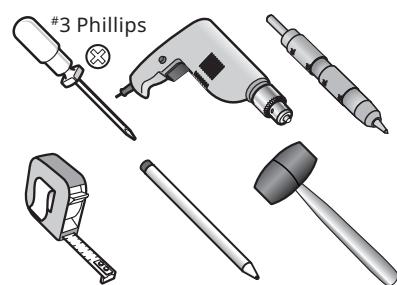


Testing/Ratings:

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:



Installation Instructions:

Full Mortise Raised Gear units are designed mainly for new doors and frames with casing or cased open frames, and are applied so as to conceal both leaves.

NOTE: In retrofit applications, the door width must be reduced for proper clearance as shown in **Figures A & B**.

1. With the hinge leaves open, position the hinge against the frame rabbet.
 - a) The leaf alignment flange should be tight against the face of the frame.
 - b) 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 the top two holes per **Drill Size Chart** (below). (**Do not install**).
4. Position the door leaf of the hinge on the door.
 - a) The door leaf alignment flange should be seated along the full length of the door edge.
 - b) The top edge of the door leaf should be flush with the top edge of the door.
5. Mark and drill all holes per **Drill Size Chart**. Thread tapping not required.
6. Screw the door leaf portion of the hinge to the door using the #12-24 x $7/16"$ thread forming screws with #3 Phillips drive. (Use wax or soap on screws to aid installation.)
7. Position the door at 90° to the frame. Install the top two screws in the frame leaf.
8. Close door and inspect for proper clearance and fit. Make adjustments as required to ensure proper operation of the complete assembly.
9. Mark and drill remaining frame leaf holes per **Drill Size Chart**.
10. **FirePins** are required on 3 hour (A-Label) assemblies. (See page 3 for instructions).

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.

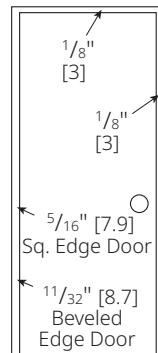


FIGURE A

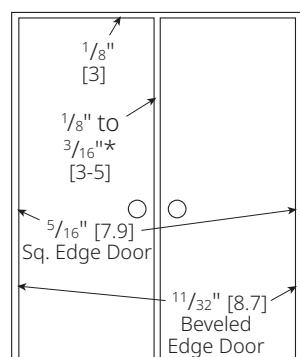


FIGURE B

*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.

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	$5/32"$

The ASSA ABLOY Group is the global leader in access solutions.
Every day, we help billions of people experience a more open world.

ASSA ABLOY Opening Solutions leads the development within door openings and products for access solutions in homes, businesses and institutions. Our offering includes doors, frames, door and window hardware, mechanical and smart locks, access control and service.

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FIREPINS:

FIREPINS ARE REQUIRED ON 3 HOUR RATED DOORS ONLY.

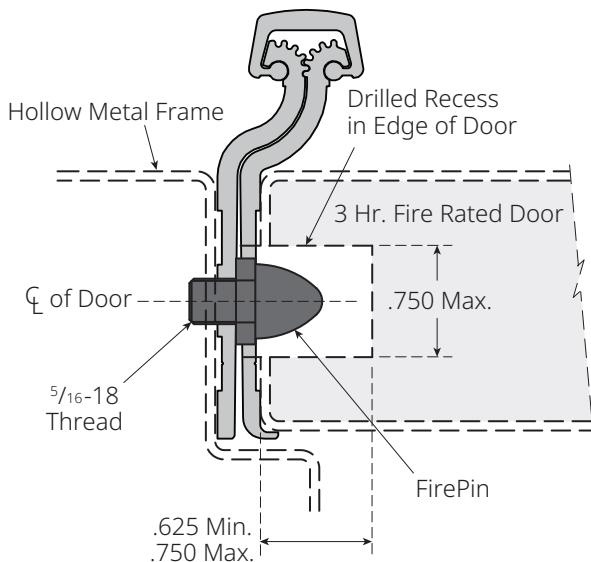
Pin Installation:

Full Mortise Hinge:

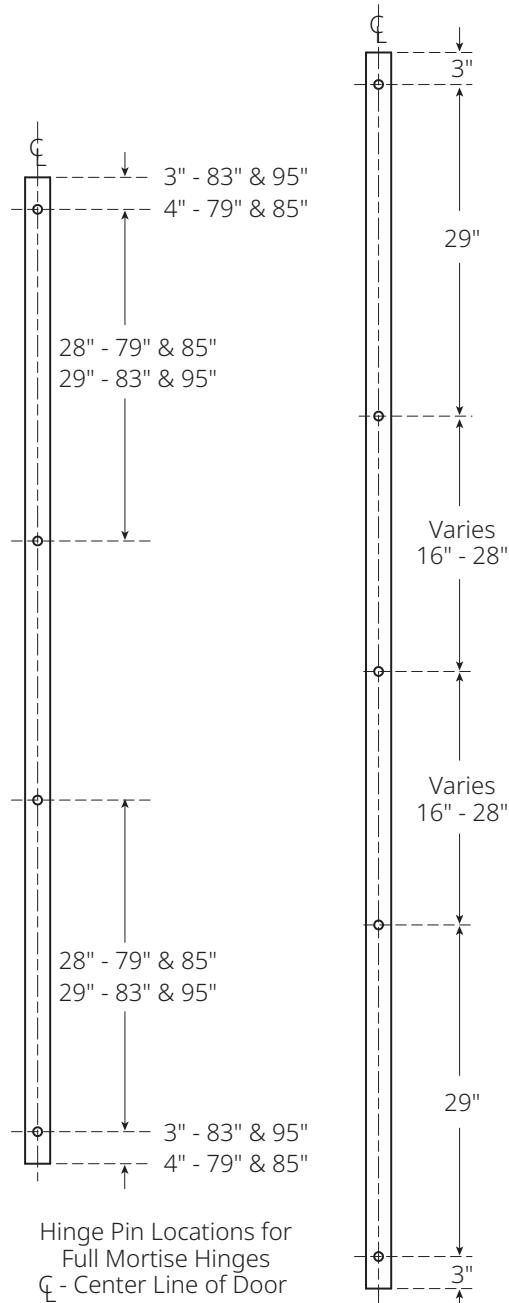
Install PemkoHinge® on door and frame prior to locating pins.

1. Drill and tap for $5/16$ -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 $3/4$ " hole $1/2$ " deep in edge of door where indicated on the template or the drilled door leaf of the PemkoHinge®.

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



Pemko
5535 Distribution Dr.
Memphis, TN 38141
www.pemko.com

Memphis, TN USA
P: 800 824 3018
F: 800 243 3656

Ventura, CA USA
P: 800 283 9988
F: 800 283 4050

Vaughan, ON CA
P: 800 461 3007
F: 800 461 8989