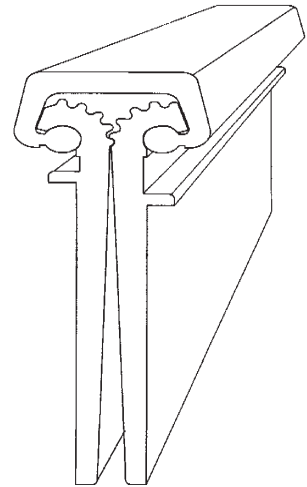
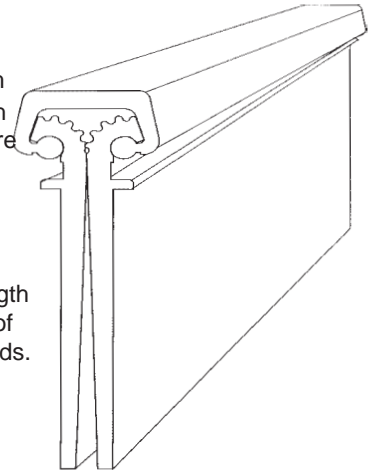
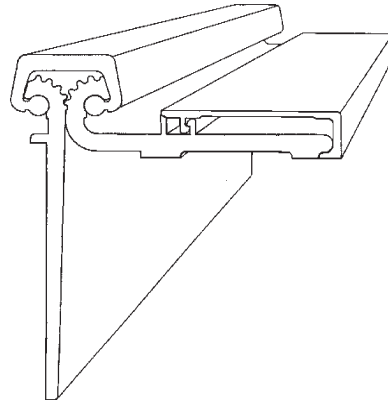
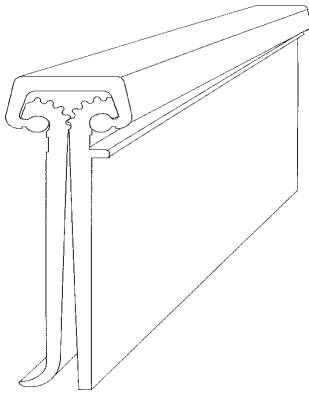




# Continuous Geared Aluminum Hinge

## What Is a Continuous Geared Aluminum Hinge

- Unlike a conventional hinge, a Continuous Geared Aluminum Hinge has no pin. Also it is not like a piano hinge either, which has 50% of each knuckle cut away, and depends on a thin wire to hold each leaf together.
- A Continuous Geared Aluminum Hinge consists of two full-height, paired and geared leaves. Each geared leaf rotates evenly from top to bottom, riding on Delrin® -Teflon® bearings. The geared leaves and bearings are held together by a full-length channel cap. This assembly retains the smooth, clean lines of the door and frame, while easily supporting heavy vertical loads.

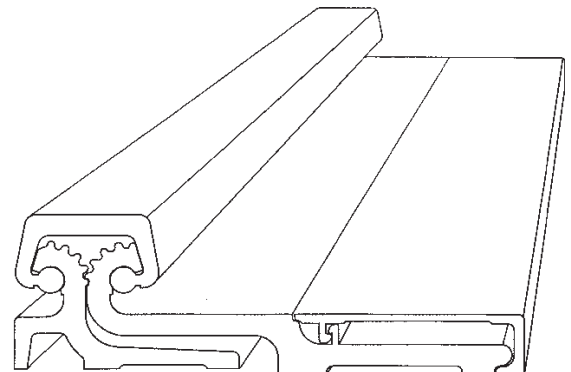


## Security, Safety, Privacy, Low Wear & Tear

- Unlike conventional hinges, Continuous Geared Aluminum Hinges distribute load stress uniformly along the full length of the door and frame, diffusing wear and tear from closer kickback shock and eliminating door sag and binding.
- The gear design ensures identical operation of each leaf, therefore very little effort is required to open heavy commercial doors.
- The attaching screws for all hinges are located along the full length of each hinge. This prevents warpage of the door along the jamb.
- Continuous Geared Aluminum Hinges creates a high degree of security for any opening or restricted area. The geared construction and the full length channel cap seal the common gap between the door and frame provides security against prying.
- Also, closing the common gap between the door and frame provides safety against pinched fingers for doors in public areas, particularly those areas where children are present.
- The sightproof design of the Continuous Geared Aluminum Hinge provides privacy in lavatories, executives offices, exam rooms, and file rooms.
- Bommer Continuous Geared Aluminum Hinge products are **GUARANTEED FOR THE LIFE OF THE OPENING** against defects in material or workmanship.

## Cycle Tested

- Bommer's full line of Continuous Geared Aluminum Hinges has completed testing using a standard duty hinge and a 150 lb. door, and are now certified fully functional after 1.5 million cycles. Some other manufacturers have tested using a "heavy duty" hinge and a 75 lb. door for certification of only 350,000 cycles.



## UL-Fire Labeled 3 Hour A-Label

- Bommer's full line of Continuous Geared Aluminum Hinges are certified by Underwriters Laboratories Inc.® (U.S.A. and Canada) for up to a 3 Hour Fire Listing for all 4'-0" x 10'-0" and 8'-0" x 10'-0" door and frame assemblies.
- Special FirePins™ may be required for some rated assemblies. Please refer to page 60,61 for illustrations and information regarding the application of FirePins™.

**"Over 125 Years of Quality"**

**GH-1**



# Continuous Geared Aluminum Hinge

## Weight Bearing

- Heaver weight can be carried, please contact Bommer's sales department for applications other than listed in the chart.

	Hinge Size	Number of Bearings	Heavy Door Weight
Standard Duty ( none ) Hinges	83" & 85"	14	280 lbs.
	95"	16	320 lbs.
	120"	20	400 lbs.
Heavy Duty ( HD ) Hinges	83" & 85"	27	540 lbs.
	95"	31	620 lbs.
	120"	39	780 lbs.

## Full-Mortise Hinge

- The full-mortise hinge is designed mainly for new door application, and is applied so as to conceal both leaves.

## The Full-Mortise Applications

New Construction: New door and frame

Renovations: (all full-mortise hinges will cover existing standard hinge preps)

- New door and frame
- New door with existing frame
- Existing door with new frame

## The Full Mortise Fasteners

All fasteners are #12-24 x 7/16 Type C, FHUC screws (phillips, flat head, undercut screw, 7/16" long, that forms its own 12-24 thread).

- standard duty hinges - 16 required each leaf
- heavy duty hinges 20 required each leaf
- WOOD SCREWS on request only (specify on order)

## Hinge Part Designations

FM95SLI-HD-628

### HINGE TYPES

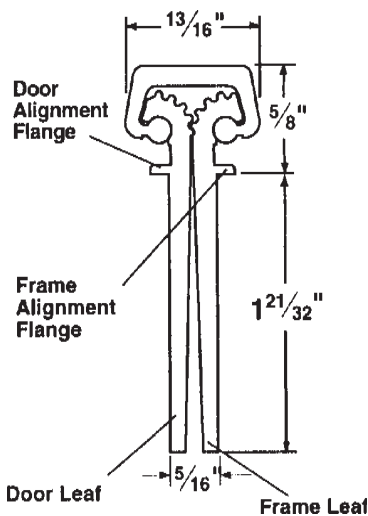
FM full-mortise  
FS full-surface  
HS half-surface

### LENGTHS

83  
85  
95  
120

### "FM" HINGE OPTION!

SLF short leaf flush  
SLI short leaf inset  
( none ) standard

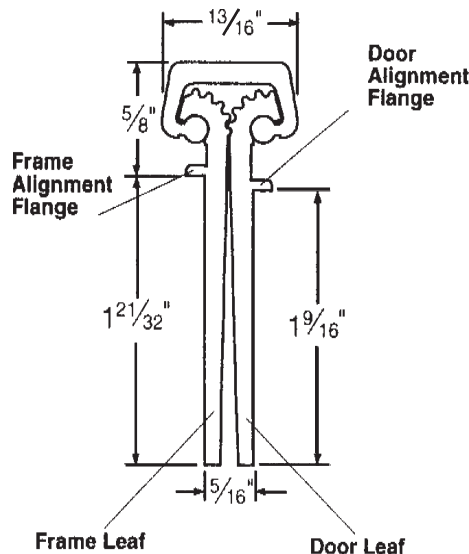


### SHORT LEAF FLUSH

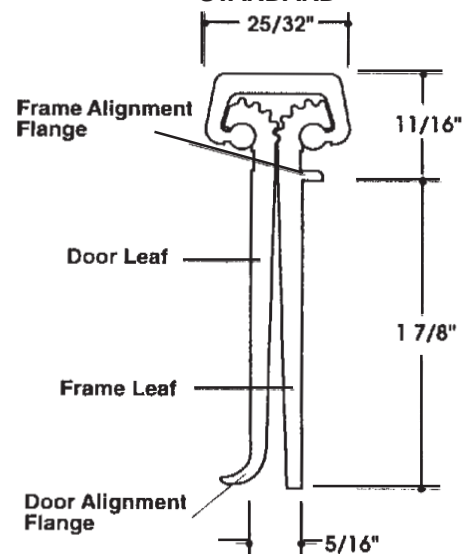
- |                |                 |
|----------------|-----------------|
| FM83SLF-628    | FM95SLF-628     |
| FM83SLF-HD-628 | FM95SLF-HD-628  |
| FM83SLF-393    | FM95SLF-393     |
| FM83SLF-HD-393 | FM95SLF-HD-393  |
| FM85SLF-628    | FM120SLF-628    |
| FM85SLF-HD-628 | FM120SLF-HD-628 |
| FM85SLF-393    | FM120SLF-393    |
| FM85SLF-HD-393 | FM120SLF-HD-393 |

### SHORT LEAF INSET

- |                |                 |
|----------------|-----------------|
| FM83SLI-628    | FM95SLI-628     |
| FM83SLI-HD-628 | FM95SLI-HD-628  |
| FM83SLI-393    | FM95SLI-393     |
| FM83SLI-HD-393 | FM95SLI-HD-393  |
| FM85SLI-628    | FM120SLI-628    |
| FM85SLI-HD-628 | FM120SLI-HD-628 |
| FM85SLI-393    | FM120SLI-393    |
| FM85SLI-HD-393 | FM120SLI-HD-393 |



### STANDARD



- |            |             |
|------------|-------------|
| FM83-628   | FM95-628    |
| FM83HD-628 | FM95HD-628  |
| FM83-393   | FM95-393    |
| FM83HD-393 | FM95HD-393  |
| FM85-628   | FM120-628   |
| FM85HD-628 | FM120HD-628 |
| FM85-393   | FM120-393   |
| FM85HD-393 | FM120HD-393 |

GH-2

**"Over 125 Years of Quality"**



# Continuous Geared Aluminum Hinge

## Full Surface Hinge

- The full surface hinge is designed mainly for retrofitting, and is applied to the exposed surface of the door and frame.

### The Full Surface Applications

New Construction: New door and frame  
 Renovations / Retrofit:

- New door and frame
- New door with existing frame
- Existing door with new frame
- Existing door with existing frame

### The Full Surface Fasteners

#### Frame Portion

All fasteners are #12-24 x 7/16 Type C, FHUC screws (Phillips, flat head, undercut screw, 7/16" long, that forms its own 12-24 thread).

- standard duty hinges - 10 required
- heavy duty hinges - 12 required
- WOOD SCREWS on request only (specify on order)

#### Door Portion

Thru-Bolts are 1/4 - 20 thread x 1 5/8" long, with a low profile head.

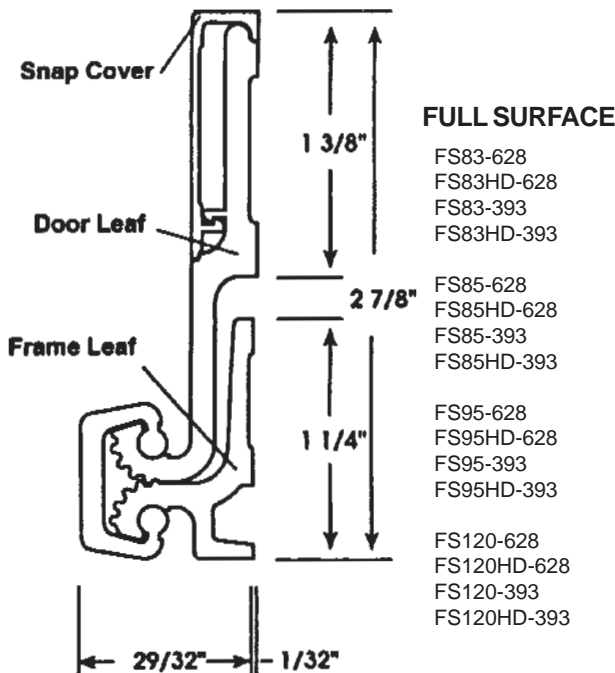
- standard duty hinges - 6 required
- heavy duty hinges - 8 required

Shoulder Bolts, used in conjunction with the Thru-Bolts, are pancake head hex socket, 1/4 - 20 thread, 1" long. The hex socket allows for a certain degree of security.

- standard duty hinges - 6 required
- heavy duty hinges - 8 required

Pan Head Self Drilling Screws are # 12 x 3/4" long, and tap their own threads into the metal. The installation instructions fully describe their use for initially attaching the hinge to the door for clearance and alignment adjustments.

- standard duty hinges - 4 required
- heavy duty hinges - 4 required



## Half-Surface Hinge

- The half surface hinge is designed mainly for retrofitting, the door leaf is applied to the exposed surface of the door, and the frame leaf is applied to the concealed surface of the frame rabbet.

### The Half-Surface Applications

New Construction: New door and frame  
 Renovations / Retrofit: (all half surface hinges will cover existing standard hinge preps.)

- New door and frame
- New door with existing frame
- Existing door with new frame
- Existing door with existing frame

### The Half-Surface Fasteners

#### Frame Portion

All fasteners are #12-24 x 7/16 Type C, FHUC screws (Phillips, flat head, undercut screw, 7/16" long, that forms its own 12-24 thread).

- standard duty hinges - 16 required
- heavy duty hinges - 20 required
- WOOD SCREWS on request only (specify on order)

#### Door Portion

Thru-Bolts are 1/4 - 20 thread x 1 5/8" long, with a very shallow head.

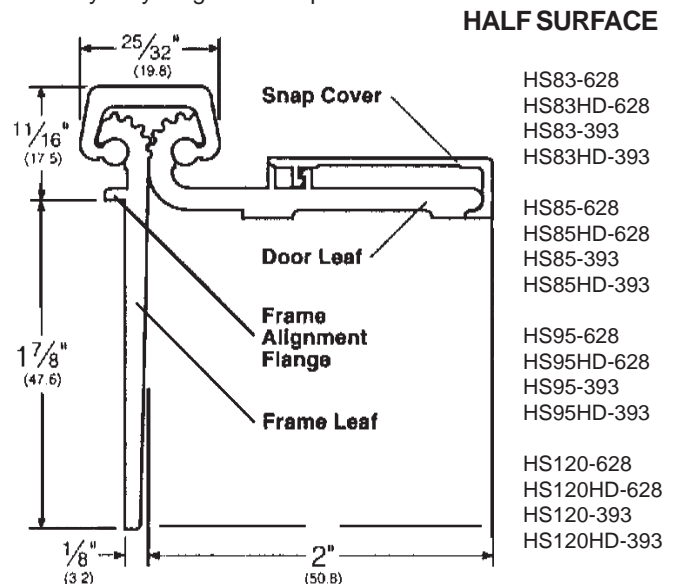
- standard duty hinges - 6 required
- heavy duty hinges - 8 required

Shoulder Bolts, used in conjunction with the Thru-Bolts, are pancake head hex socket, 1/4 - 20 thread, 1" long. The hex socket allows for a certain degree of security.

- standard duty hinges - 6 required
- heavy duty hinges - 8 required

Pan Head Self Drilling Screws are #12 x 3/4" long, and tap their own threads into the metal. The installation instructions fully describe their use for initially attaching the hinge to the door for clearance and alignment adjustments.

- standard duty hinges - 4 required
- heavy duty hinges - 4 required

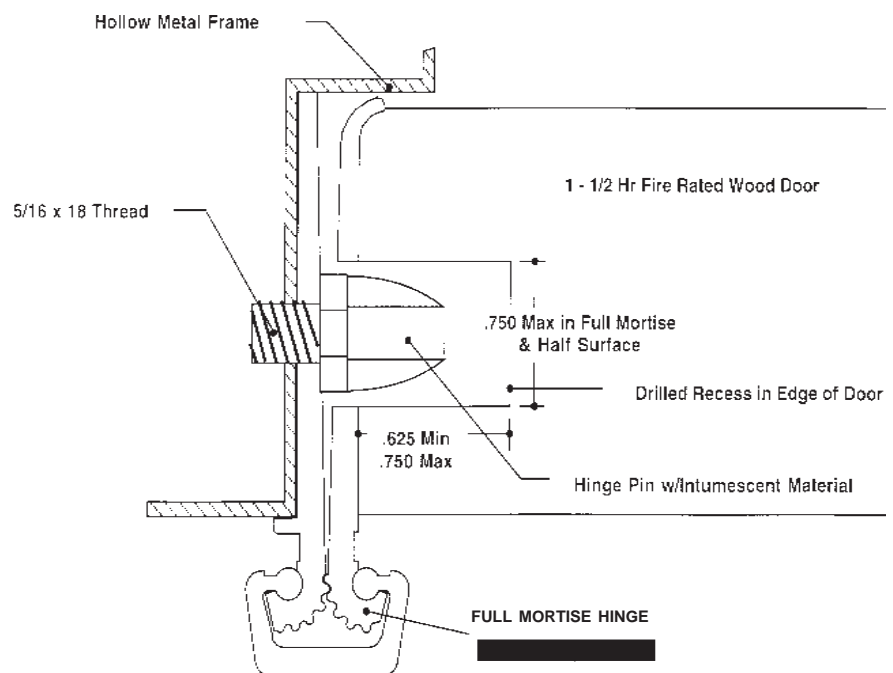
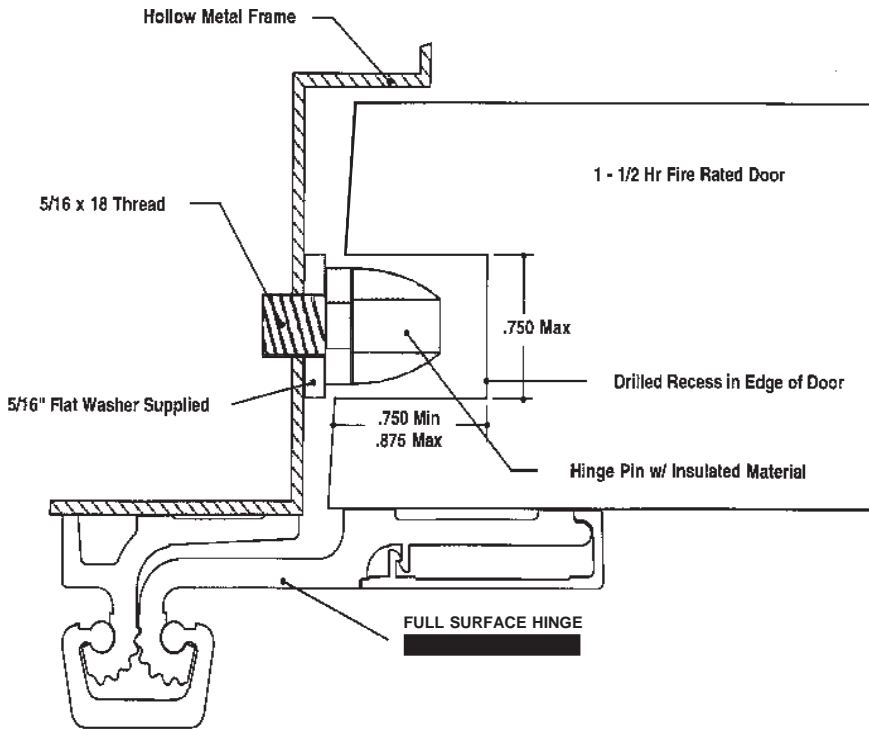




# Continuous Geared Aluminum Hinge

## FirePins™ for use with Fire Rated Assemblies

- Although Bommer Continuous Geared Aluminum Hinges carry the UL Fire Rating, the highest in the industry, some applications may require the use of FirePins™
- FirePin™ applications fall within the UL guidelines for retrofitting assemblies in the field. Expensive shop modifications and door/frame reinforcements are not required.
- Intumescent material is encased in each FirePin™ for wood door applications to insulate against charring the door edge via heat transfer from the frame. FirePins™ also add extra security to a door assembly.

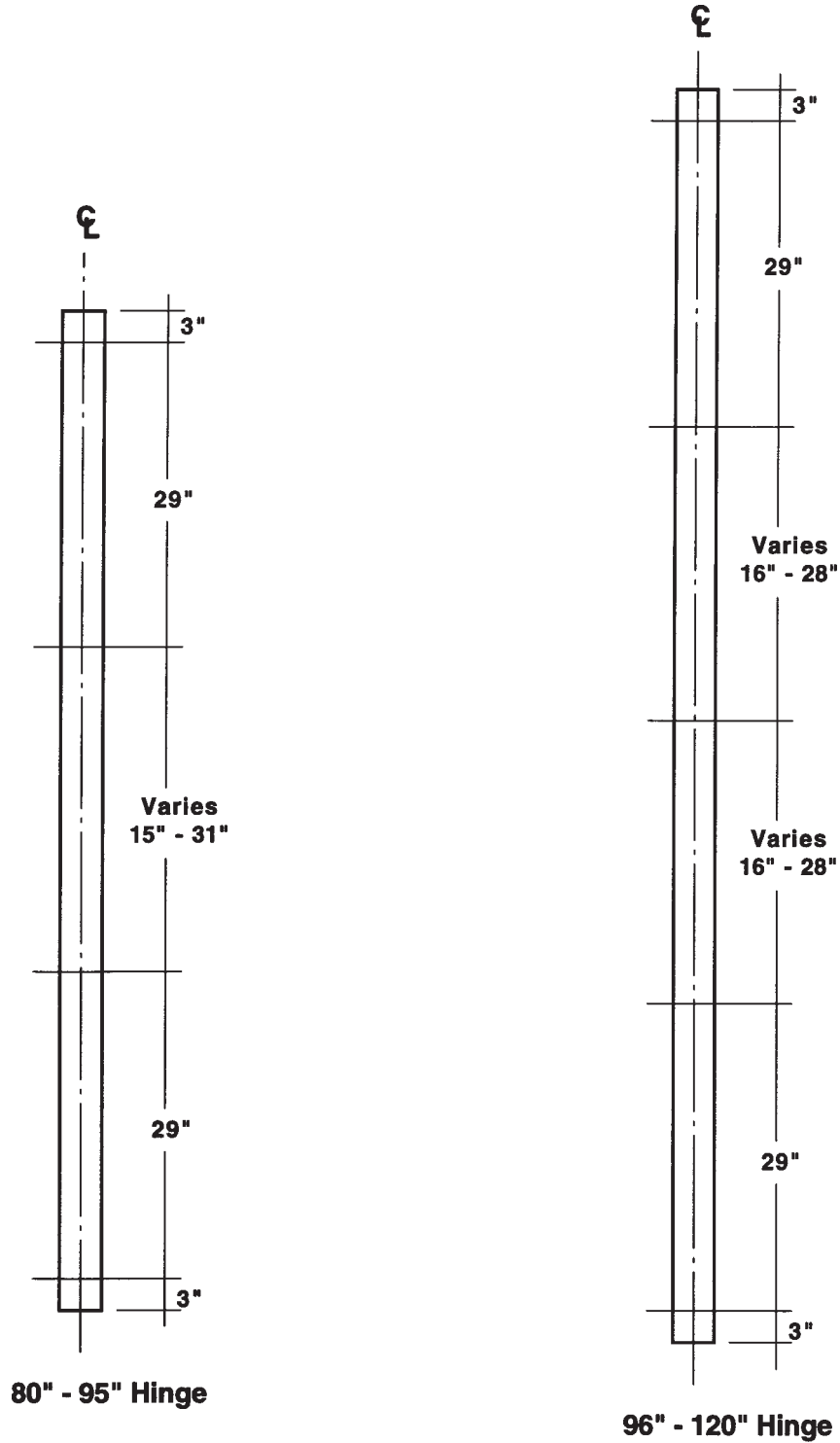




# Continuous Geared Aluminum Hinge

## FirePins™ Locations

- The locations illustrated below indicate where holes should be drilled on the hinge edge of the door.
- These locations are appropriate for all hinge models ( full-mortise, full-surface, and half-surface ).





# Continuous Geared Aluminum Hinge

## Product Cross Reference Chart

### Full Mortise Hinges

BOMMER	Roton	Select	Markar	Stanley	Zero
FM83-628	780-224, 83" CL	SL24A-83	FM-611A, 83"	521	
FM83-393	780-224, 83" BRZ	SL24D-83	FM-611D, 83"	527	
FM83HD-628	780-224HD, 83"CL	SL24A-HD-83	FM-611A, HD-83"	521	
FM83HD-393	780-224HD, 83"BRZ	SL24D-HD-83	FM-611D, HD-83"	527	
FM85-628	780-224, 85" CL	SL24A-85	FM-611A, 85"		
FM85-393	780-224, 85" BRZ	SL24D-85	FM-611D, 85"		
FM85HD-628	780-224HD, 85" CL	SL24A-HD-85	FM-611A, HD-85"		
FM85HD-393	780-224HD,85" BRZ	SL24D-HD-85	FM-611D, HD-85"		
FM95-628	780-224, 95" CL	SL24A-95	FM-611A, 95"	523	
FM95-393	780-224, 95" BRZ	SL24D-95	FM-611D, 95"	528	
FM95HD-628	780-224HD, 95"CL	SL24A-HD-95	FM-611A, HD-95"	523	
FM95HD-393	780-224HD, 95"BRZ	SL24D-HD-95	FM-611D, HD-95"	528	
FM120-628	780-224, 120" CL	SL24A-120	FM-611A, 120"	525	
FM120-393	780-224, 120" BRZ	SL24D-120	FM-611D, 120"	529	
FM120HD-628	780-224HD, 120"CL	SL24A-HD-120	FM-611A, HD-120"	525	
FM120HD-393	780-224HD, 120"BRZ	SL24D-HD-120	FM-611D, HD-120"	529	

### Full Mortise Hinges Short Leaf Flush

BOMMER	Roton	Select	Markar	Stanley	Zero
FM83-SLF-628	780-112, 83" CL	SL11A-83	FM-600A, 83"	501	910A-83
FM83-SLF-393	780-112, 83" BRZ	SL11D-83	FM-600D, 83"	507	910D-83
FM83HD-SLF-628	780-112HD, 83"CL	SL11A-HD-83	FM-600A, HD-83"	501	910A-DB-83
FM83HD-SLF-393	780-112HD, 83"BRZ	SL11D-HD-83	FM-600D, HD-83"	507	910D-DB-83
FM85-SLF-628	780-112, 85" CL	SL11A-85	FM-600A, 85"		910A-85
FM85-SLF-393	780-112, 85" BRZ	SL11D-85	FM-600D, 85"		910D-85
FM85HD-SLF-628	780-112HD, 85" CL	SL11A-HD-85	FM-600A, HD-85"		910A-DB-85
FM85HD-SLF-393	780-112HD,85" BRZ	SL11D-HD-85	FM-600D, HD-85"		910D-DB-85
FM95-SLF-628	780-112, 95" CL	SL11A-95	FM-600A, 95"	503	910A-95
FM95-SLF-393	780-112, 95" BRZ	SL11D-95	FM-600D, 95"	508	910D-95
FM95HD-SLF-628	780-112HD, 95"CL	SL11A-HD-95	FM-600A, HD-95"	503	910A-DB-95
FM95HD-SLF-393	780-112HD, 95"BRZ	SL11D-HD-95	FM-600D, HD-95"	508	910D-DB-95
FM120-SLF-628	780-112, 120" CL	SL11A-120	FM-600A, 120"	505	910A-120
FM120-SLF-393	780-112, 120" BRZ	SL11D-120	FM-600D, 120"	509	910D-120
FM120HD-SLF-628	780-112HD, 120"CL	SL11A-HD-120	FM-600A, HD-120"	505	910A-DB-120
FM120HD-SLF-393	780-112HD, 120"BRZ	SL11D-HD-120	FM-600D, HD-120"	509	910D-DB-120



# Continuous Geared Aluminum Hinge

## Product Cross Reference Chart

### Full Surface Hinges

BOMMER	Roton	Select	Markar	Stanley	Zero
FS83-628	780-210, 83" CL	SL21A-83	FS/SC-609A, 83"	511	930A-83
FS83-393	780-210, 83" BRZ	SL21D-83	FS/SC-609D, 83"	517	930D-83
FS83HD-628	780-210HD, 83" CL	SL21A-HD-83	FS/SC-609A, HD-83"	511	930A-DB-83
FS83HD-393	780-210HD, 83" BRZ	SL21D-HD-83	FS/SC-609D, HD-83"	517	930D-DB-83
FS85-628	780-210, 85" CL	SL21A-85	FS/SC-609A, 85"		930A-85
FS85-393	780-210, 85" BRZ	SL21D-85	FS/SC-609D, 85"		930D-85
FS85HD-628	780-210HD, 85" CL	SL21A-HD-85	FS/SC-609A, HD-85"		930A-DB-85
FS85HD-393	780-210HD,85" BRZ	SL21D-HD-85	FS/SC-609D, HD-85"		930D-DB-85
FS95-628	780-210, 95" CL	SL21A-95	FS/SC-609A, 95"	513	930A-95
FS95-393	780-210, 9" BRZ	SL21D-95	FS/SC-609D, 95"	518	930D-95
FS95HD-628	780-210HD, 95" CL	SL21A-HD-95	FS/SC-609A, HD-95"	513	930A-DB-95
FS95HD-393	780-210HD, 95" BRZ	SL21D-HD-95	FS/SC-609D, HD-95"	518	930D-DB-95
FS120-628	780-210, 120" CL	SL21A-120	FS/SC-609A, 120"	515	930A-120
FS120-393	780-210, 120" BRZ	SL21D-120	FS/SC-609D, 120"	519	930D-120
FS120HD-628	780-210HD, 120" CL	SL21A-HD-120	FS/SC-609A, HD-120"	515	930A-DB-120
FS120HD-393	780-210HD, 120" BRZ	SL21D-HD-120	FS/SC-609D, HD-120"	519	930D-DB-120

### Half Surface Hinges

BOMMER	Roton	Select	Markar	Stanley	Zero
HS83-628	780-054, 83" CL	SL54A-83	HS-603A, 83"	551	920A-83
HS83-393	780-054, 83" BRZ	SL54D-83	HS-603D, 83"	557	920D-83
HS83HD-628	780-054HD, 83" CL	SL54A-HD-83	HS-603A, HD-83"	551	920A-DB-83
HS83HD-393	780-054HD, 83" BRZ	SL54D-HD-83	HS-603D, HD-83"	557	920D-DB-83
HS85-628	780-054, 85" CL	SL54A-85	HS-603A, 85"		920A-85
HS85-393	780-054, 85" BRZ	SL54D-85	HS-603D, 85"		920D-85
HS85HD-628	780-054HD, 85" CL	SL54A-HD-85	HS-603A, HD-85"		920A-DB-85
HS85HD-393	780-054HD,85" BRZ	SL54D-HD-85	HS-603D, HD-85"		920D-DB-85
HS95-628	780-054, 95" CL	SL54A-95	HS-603A, 95"	553	920A-95
HS95-393	780-054, 9" BRZ	SL54D-95	HS-603D, 95"	558	920D-95
HS95HD-628	780-054HD, 95" CL	SL54A-HD-95	HS-603A, HD-95"	553	920A-DB-95
HS95HD-393	780-054HD, 95" BRZ	SL54D-HD-95	HS-603D, HD-95"	558	920D-DB-95
HS120-628	780-054, 120" CL	SL54A-120	HS-603A, 120"	555	920A-120
HS120-393	780-054, 120" BRZ	SL54D-120	HS-603D, 120"	559	920D-120
HS120HD-628	780-054HD, 120 "CL	SL54A-HD-120	HS-603A, HD-120"	555	920A-DB-120
HS120HD-393	780-054HD, 120" BRZ	SL54D-HD-120	HS-603D, HD-120"	559	920D-DB-120

"Over 125 Years of Quality"

**GH-7**