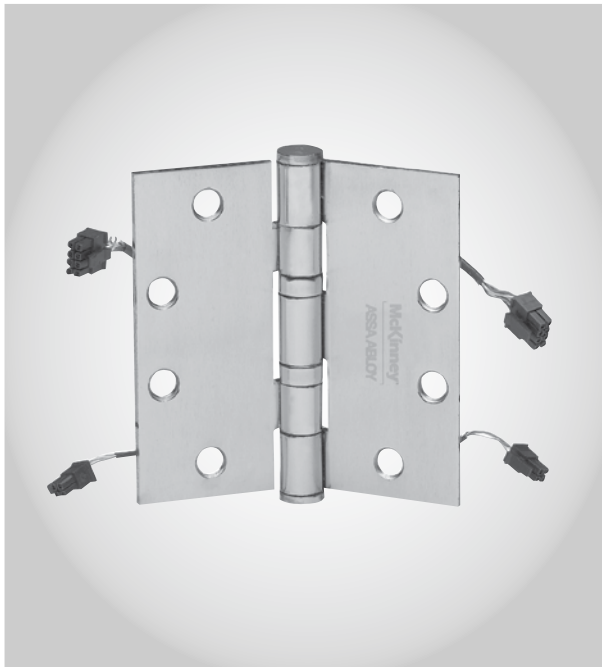
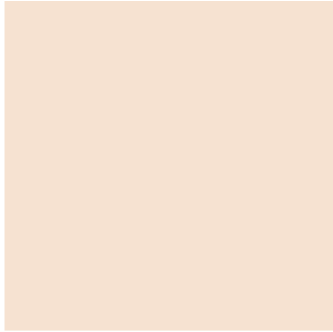


# McKinney Hinge Catalog



## McKinney Hinges:

- Standard
- Decorative
- Custom
- Specialty
- Electrified
- Continuous

© 2006-2012 McKinney Products Company

**McKinney**  
**ASSA ABLOY**

ASSA ABLOY, the global leader  
in door opening solutions

## Table of Contents

Page #

<b>Numerical Index</b>	<b>4</b>
<b>General Information</b>	<b>5-29</b>
Hinge types	7-8
Bearings	9
Knuckle Features	10
Tips	11
Pins	12
Applications / Hinge Selection	13-18
Reference Charts	19-24
Hand of Doors and Hinges	25
Hinge Swaging	26
Screws and Fasteners	27-28
Finishes	29
<b>Full Mortise Hinges</b>	<b>FM-1 - FM-17</b>
Full Mortise Plain Bearing Hinges - Two Knuckle Standard Weight Series	FM-1
Full Mortise Bearing Hinges - Two Knuckle Standard Weight Series	FM-2
Full Mortise Bearing Hinges - Two Knuckle Heavy Weight Series	FM-3
Full Mortise Plain Bearing Hinges - Three Knuckle Standard Weight Series	FM-4
Full Mortise Bearing Hinges - Three Knuckle Standard Weight Series	FM-5
Full Mortise Bearing Hinges - Three Knuckle Heavy Weight Series	FM-6
Full Mortise Institutional Hinges - Three Knuckle Heavy Weight Series	FM-7
Swing Clear Full Mortise Bearing Hinges - Three Knuckle Heavy Weight Series (Reversible)	FM-8
Full Mortise Plain Bearing Hinges - Five Knuckle Standard Weight Series	FM-19
Full Mortise Bearing Hinges - Five Knuckle Standard Weight Series	FM-10
Wide Throw Full Mortise Bearing Hinges - Five Knuckle Standard Weight Series	FM-11
Full Mortise Bearing Hinges - Five Knuckle Heavy Weight Series	FM-12
Wide Throw Full Mortise Bearing Hinges - Five Knuckle Heavy Weight Series	FM-13
Swing Clear Full Mortise Bearing Hinges - Five Knuckle Standard Weight Series (Reversible)	FM-14
Swing Clear Full Mortise Bearing Hinges - Five Knuckle Heavy Weight Series (Reversible)	FM-15
MacPro Full Mortise Hinge Standard Weight	FM-16
MacPro Full Mortise Hinge Heavy Weight	FM-17
<b>Full Mortise Anchor Hinge Sets</b>	<b>AH-1 - AH-4</b>
<b>Half Mortise Hinges</b>	<b>HM-1 - HM-7</b>
Half Mortise Plain Bearing Hinges - Five Knuckle Standard Weight Series (Reversible)	HM-1
Half Mortise Bearing Hinges - Three Knuckle Standard Weight Series (Reversible)	HM-2
Half Mortise Bearing Hinges - Five Knuckle Standard Weight Series (Reversible)	HM-3
Half Mortise Bearing Hinges - Three Knuckle Heavy Weight Series (Reversible)	HM-4
Half Mortise Bearing Hinges - Five Knuckle Heavy Weight Series (Reversible)	HM-5
Swing Clear Half Mortise Bearing Hinges - Three Knuckle Heavy Weight Series (Reversible)	HM-6
Swing Clear Half Mortise Bearing Hinges - Five Knuckle Heavy Weight Series (Reversible)	HM-7
<b>Half Surface Hinges</b>	<b>HS-1 - HS-8</b>
Half Surface Bearing Hinges - Three Knuckle Standard Weight Series (Reversible)	HS-1
Half Surface Bearing Hinges - Three Knuckle Standard Weight Series (Reversible)	HS-2
Half Surface Bearing Hinges - Five Knuckle Standard Weight Series (Reversible)	HS-3
Half Surface Bearing Hinges - Five Knuckle Standard Weight Series (Reversible)	HS-4
Half Surface Bearing Hinges - Five Knuckle Heavy Weight Series (Reversible)	HS-5
Swing Clear Half Surface Bearing Hinges - Three Knuckle Heavy Weight Series (Reversible)	HS-6
Swing Clear Half Surface Bearing Hinges - Five Knuckle Heavy Weight Series (Reversible)	HS-7
Hinge Back Plates	HS-8
<b>Full Surface Hinges</b>	<b>FS-1 - FS-5</b>
Full Surface Bearing Hinges - Three Knuckle Heavy Weight Series	FS-1
Full Surface Bearing Hinges - three Knuckle Heavy Weight Series	FS-2
Full Surface Bearing Hinges - Three Knuckle Standard Weight Series	FS-3
Full Surface Bearing Hinges - Five Knuckle Standard Weight Series	FS-4
Full Surface Swing Clear Bearing Hinges - Three Knuckle Heavy Weight Series	FS-5

<b>Spring Hinges &amp; Pivots</b>	<b>SH-1 - SH-14</b>
Full Mortise Single Acting Standard Weight Spring Hinge	SH-1
Full Mortise Single Acting Standard Weight Spring Hinge Set	SH-2
Half Surface Single Acting Standard Weight Spring Hinge	SH-3
MacPro Adjustable Spring Hinge	SH-4
Heavy Duty Double Acting Spring Butt Hinge	SH-5
Double Acting Door Spring	SH-6
Non-Template Double Acting Spring Hinge	SH-7 - SH-9
Template Double Acting Clamp Flange Spring Hinge	SH-10
Half Surface Double Acting Spring Butt Hinge	SH-11
Ajax Double Acting Horizontal Spring Pivot Hinge	SH-12
Sagless Double Acting Gate Spring Pivot Hinge	SH-13
Lightweight Double Acting Gravity Pivot Hinge	SH-14
<b>Rescue Hardware</b>	<b>RH-1 - RH-4</b>
Jamb Mount Pivot Set	RH-1
Combination Strike and Stop	RH-2
Emergency Door Stop	RH-3
Double Lipped Strike	RH-4
<b>Electrified Hinges</b>	<b>EH-1 - EH-10</b>
Electrolynx® Hinge (QC Option)	EH-1
Electrolynx® Retrofit Cables	EH-2
Concealed Circuit Electric Hinge (CC option)	EH-3
Electrolynx® Power over Ethernet	EH-4
Magnetic Monitoring Hinge (MM Option)	EH-5
Aluminum Continuous Electric Hinges (SER & ACC Option)	EH-6
Stainless Steel Pin & Barrel Continuous Electrified Hinges	EH-7
Electrical Power Transfer	EH-8
Electrified Hinge Service Kit	EH-9
Junction Box for Electric Hinges	EH-10
<b>Specialty Hinges</b>	<b>SP-1 - SP-6</b>
StormPro® Tornado Resistant Hinges	SP-1
Pocket Pivot Hinges	SP-2
Raised Barrel Full Mortise Standard and Heavy Weight Hinges	SP-3
Slip-In Full Mortise Type I and Type II Standard Weight Bearing Hinges	SP-4
Full Mortise Interim Hinge	SP-5
Residential Hinges	SP-6
<b>Aluminum Continuous Geared Hinges</b>	<b>CG-1 - CG-16</b>
Continuous Geared Hinge Guide	CG-1 - CG-4
Aluminum Continuous Hinge Clearance Dimensions	CG-5
Continuous Geared Hinge Fire Pins	CG-6
Full Mortise Edge Hung Flush Door Continuous Geared Hinges	CG-7 - CG-8
Full Mortise Edge Hung Inset Door Continuous Geared Hinges	CG-9
Full Surface Continuous Geared Hinges	CG-10
Full Mortise Edge Hung Continuous Geared Hinges	CG-11
Full Mortise Raised Gear Continuous Geared Hinges	CG-12
Half Surface Continuous Geared Hinges	CG-13
Full Surface Center Pivot Continuous Geared Hinges	CG-14
Wide Throw Full Mortise Continuous Geared Hinges	CG-15
Full Mortise Continuous Geared Safety Hinges	CG-16
<b>Pin and Barrel Hinges</b>	<b>CH-1 - CH-34</b>
Continuous Pin and Barrel Hinge Guide	CH-1 - CH-4
Continuous Pin and Barrel Hinges	CH-5 - CH-26
Edge Guards	CH-27 CH-30
Door Clearance Dimensions	CH-31 - CH-34
<b>Cross Reference</b>	<b>CR-1 - CR-10</b>
<b>QuickShip Program</b>	<b>QS-1 - QS-6</b>

## Numerical Index

451, 452, 453	SH-6	MCK-HG315	CH-15	TA2314	FM-10
1001	SH-7	MCK-HG322	CH-17	TA2371	FS-4
1400, 1414, 1458	SP-6	MCK-HG323	CH-18	TA2372	HS-4
1502, 1552	SH-1	MCK-HG326	CH-19	TA2374	HM-3
1522	SH-2	MCK-HG3505	CH-25	TA2395	FM-14
1572	SH-3	MCK-HM304	CH-9	TA2398	FM-11
3001	SH-12	MCK-HS303	CH-8	TA2714	FM-10
4007MRB, 4007RB	SH-13	MCK-HS3703	CH-8	TA2731	FM-2
8007	SH-14	MCK-WTFMHD	CG-15	TA2771	FS-4
9001	SH-9	MG-16	EH-10	TA2772	HS-4
19001	SH-10	MM Option	EH-5	TA2774	HM-3
Adjust-A-Screw™	CH-6	MP79, MPB79, MPB91	FM-16	TA2798	FM-11
ACC Option	EH-6	MPB68, MPB99	FM-17	TA2895	FM-14
BP-10, BP-11, BP-12	HS-8	MPS60, MPS679	SH-4	TA3331	FM-2
CC Option	EH-3	MTSP100	CH-30	TA3350	FM-3
CS1	SH-5	PH-4	SP-2	TA3374	HM-3
CSS-9	RH-2	QC Option	EH-1, EH-2	TA3750	FM-3
DLS-8	RH-4	QC-R002	EH-10	TA5391	AH-1
DS-6	RH-3	RB-TA2314, RB-TA2714	SP-3	TA5392	AH-2
EP-5J	RH-1	RB-T4A3386, RB-T4A3786	SP-3	TA5393	AH-3
FirePins	CG-6	SER Option	EH-6	TA5394	AH-4
H8007	SH-14	Slip-In Hinge	SP-4	TA5791	AH-1
HS1001	SH-11	SP3386	SP-1	TA5792	AH-2
HTA386-MSP	FM-7	SP3786	SP-1	TA5793	AH-3
HTB386	FM-7	T714	FM-4	TA5794	AH-4
HTB786	FM-7	T2314, T2714	FM-9	TCA2314, TCA2714	FM-10
Interim Hinge	SP-5	T2731	FM-1	TCA2771	FS-4
J3001	SH-12	T2772	HS-3	TCA2772	HS-4
K-MCK-12HD	CG-8	T2774	HM-1	TCA2774	HM-3
MCK-12HD	CG-7	TA314	FM-5	TCA3374	HM-3
MCK-14HD	CG-9	TA371	FS-3	TCA3381	FS-2
MCK-22HD	CG-10	TA372	HS-1	TCA3382	HS-5
MCK-25HD	CG-11	TA374	HM-2	TCA3384	HM-5
MCK-28HD	CG-12	TA381	FS-1	TCA3386	FM-12
MCK-35HD	CG-16	TA382	HS-2	TCA3781	FS-2
MCK-38HD	CG-16	TA384	HM-4	TCA3782	HS-5
MCK-54HD	CG-13	TA386	FM-6	TCA3784	HM-5
MCK-58HD	CG-14	TA391	AH-1	TCA3786	FM-12
MCK-EG308	CH-27	TA392	AH-2	T4A3381	FS-2
MCK-EGC308	CH-28	TA393	AH-3	T4A3382	HS-5
MCK-EGT308	CH-29	TA394	AH-4	T4A3384	HM-5
MCK-FM327	CH-20	TA714	FM-5	T4A3386	FM-12
MCK-FM3500	CH-21	TA771	FS-3	T4A3395	FM-15
MCK-FM3700	CH-5	TA772	HS-1	T4A3781	FS-2
MCK-FM300	CH-5	TA774	HM-2	T4A3782	HS-5
MCK-FS301	CH-6	TA781	FS-1	T4A3784	HM-5
MCK-FS302	CH-7	TA782	HS-2	T4A3786	FM-12
MCK-FS309	CH-12	TA784	HM-4	T4A3789	HM-7
MCK-FS321	CH-16	TA786	FM-6	T4A3795	FM-15
MCK-FS3501	CH-23	TA789	HM-6	T4A3796	HS-7
MCK-FS3502	CH-24	TA791	AH-1	T4A4795	FM-15
MCK-FS3701	CH-6	TA792	AH-2	TA4895	FM-14
MCK-FS3702	CH-7	TA793	AH-3	T6A3386, T6A3786	FM-12
MCK-HG305	CH-11	TA794	AH-4	TCA2371	FS-4
MCK-HG306	CH-11	TA795	FM-8	TCA2372	HS-4
MCK-HG310	CH-13	TA796	HS-6		
MCK-HG311	CH-14	TA797	FS-5		

McKinney Products Company designs and manufactures high quality architectural hinges for commercial use. With roots in Cincinnati OH, McKinney manufactured in the heart of the Pennsylvania steel industry for many years.

McKinney became an ASSA ABLOY Group company in 1996. With the resources of ASSA ABLOY, McKinney greatly expanded the research and development, and manufacturing capabilities. These capabilities have had the greatest impact on improving custom hinge manufacturing.

### Custom Manufacturing

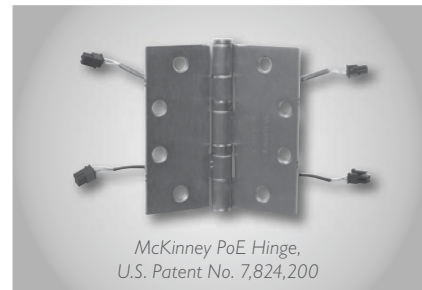
A variety of materials and hinge types can be custom manufactured in the Berlin, CT plant, including the ElectroLynx® hinges and Power over Ethernet hinges. For more information on custom manufactured hinges, call McKinney 1-800-346-7707.

### Innovation

To support today's need for electronic security applications, McKinney has developed a variety of electric hinges used in remote door monitoring and access control systems, and received a patent on the Power over Ethernet (PoE) hinge. In addition McKinney has teamed up with other ASSA ABLOY companies to offer StormPro tornado resistant solutions.

### Decorative Hinges


McKinney offers decorative architectural hinges with special tips and finishes. Designed to suite with hardware from ASSA ABLOY Group brands, these commercial decorative hinges open up a whole new world of design options for your door openings. See the McKinney Architectural Hinge Brochure for the complete offering.




McKinney PoE Hinge,  
U.S. Patent No. 7,824,200

**the good design studio**

The Good Design Studio - your resource for beautiful doors, frames and hardware from ASSA ABLOY Group brands. Visit [www.thegooddesignstudio.com](http://www.thegooddesignstudio.com) to learn more.



CORBIN RUSSWIN 107  
and SARGENT ME lever



McKINNEY 2 knuckle hinge  
with square end tips



ROCKWOOD  
small door pull

## LEED Certification Contribution

McKinney can help to achieve prerequisites and accumulate points in several categories and credit areas of LEED. For further information, please call 1-800-346-7707 or refer to our website [www.mckinneyhinge.com](http://www.mckinneyhinge.com).



ASSA ABLOY is a member of the USGBC and CaGBC  
U.S. Green Building Council logo is a trademark owned by the  
U.S. Green Building Council and is used with permission.



## Sales & Support



McKinney is represented by the ASSA ABLOY Door Security Solutions team.

Phone: 1-800-DSS-EZ4U (800-377-3948)  
 Address: 110 Sargent Drive, New Haven, CT 06511  
 Web site: [www.assaabloydss.com](http://www.assaabloydss.com)  
 Email: Contact your local ASSA ABLOY Door Security Solution Representative via e-mail by going to [www.assaabloydss.com](http://www.assaabloydss.com) and clicking on "Sales Support".

Customer Service Representatives are available during regular business hours at 1-800-346-7707 or email [customerservice@McKinneyhinge.com](mailto:customerservice@McKinneyhinge.com). The website is available 24/7 with the current catalogs, sell sheets and the most up-to-date templates.

McKinney has improved lead times through partnerships with other ASSA ABLOY facilities. A number of popular items are stocked and ready to ship from warehouses in Ventura CA, Pomona CA, Mason City IA, Memphis TN and Berlin CT. In addition, over 400 stock items are included in a 3-day QuickShip Program from the Berlin, CT plant. Details on the QuickShip program are available behind the QuickShip tab.

**Director of Operations:**  
 Tom Naples, 860-828-7215  
[tnaples@McKinneyhinge.com](mailto:tnaples@McKinneyhinge.com)

**Technical Product Support:**  
 Ed Soloski, 860-828-7221  
[esosloski@McKinneyhinge.com](mailto:esosloski@McKinneyhinge.com)

Visit [www.McKinneyhinge.com](http://www.McKinneyhinge.com)

## Terms & Conditions

Orders based on quotations for specific jobs will be invoiced at prices in effect on the date such orders are accepted. Other orders will be invoiced at prices in effect on the date of shipment. Errors and omissions are subject to correction on acknowledgement which in all circumstances supercedes all pricing shown herein. Accounts are net cash 30 days or with 2% discount for cash if paid on or before the 10th of the month following the date of invoice. No invoice will be rendered for less than \$50.00 net. On non-standard items a 5% over or under run constitutes a complete order.

### Terms

It is understood that McKinney may impose and charge a finance charge which is the lesser or one and one-half percent (1½) per month of the highest rate allowed by law on any amount which becomes past due and delinquent. Additionally the Customer shall be responsible for all collection costs, court costs and reasonable attorney's fees (where allowed by law) in connection with the recovery of any delinquent amount.

### Credit

Acceptance of orders and deliveries thereof shall at all times be subject to our approval of credit.

### Shipments

Once in the hands of the transportation company, the Purchaser assumes the risk of loss or damage in transit.

All goods are F.O.B. shipping point via the most economical routing, with carrier chosen by us. Full freight prepaid on shipments within Continental United States having a net value of \$1,000 or more. Spring Hinges and Contract Hinges may be combined with Continuous Gear Hinges.

### Returned Goods

No credit will be issued for returned goods unless such return is authorized. If such authorization is given by us, there will be a minimum handling charge of 45% or \$50.00 which ever is greater, for stock items shipped within a 90 day period from the date of the request. Non stock material (s/o) will be subjected to a minimum of 50% based upon select approval by the factory on an individual basis.

### Cancellations

We are unable to accept cancellations or changes on non-stock and special ordered (s/o) items once processing begins. A charge will be assessed based on manufacturing expense incurred.



## McKinney Warranty

McKinney products are guaranteed to be free of defects in both workmanship and materials for a period of one year. Any bending, defacing or modification of our product after leaving the factory will void the warranty. Liability shall be limited to the replacement of product or component determined to be defective and shall not include costs arising from removal or reinstallation of product. Cost of replacement shall not exceed original purchase price.

Written notice of damages must occur within the warranty period. A factory generated Return Goods Authorization will be provided as no goods will be accepted without prior approval. These defective goods must be returned to our factory in Berlin, CT, unless specified otherwise. Freight charges must be pre-paid unless noted otherwise.

This guarantee is only valid if the products are specified, applied and adjusted in accordance with the instructions contained in the General Information Section of the McKinney catalog and on frames and doors that are plumb and square.

## Hinge Types

McKinney offers the broadest range of full mortise hinges in a variety of metals, finishes, sizes, and weights to meet all your load bearing and security applications. They include two, three, and five knuckle styles, swing clear hinges, wide throw hinges, anchor hinges, electric hinges, institutional hinges, and pivots.

McKinney hinges conform to Government standards CS9-65 and SDI as well as the following standards approved by the Builders hardware Manufacturers / American National Standards Institute:

### **ANSI/BHMA Standard 156.1 -**

The American National Standard for Butts and Hinges

### **ANSI/BHMA Standard 156.7 -**

The American National Standard for Template Hinge Dimensions

### **ANSI/BHMA Standard 156.17 -**

The American National Standard for Self-Closing Hinges & Pivots

### **ANSI/BHMA Standard 156.18 -**

The American National Standard for Material and Finishes

## Full Mortise Hinges

McKinney offers the broadest range of full mortise hinges in a variety of metals, finishes, sizes, and weights to meet all your load bearing and security applications. They include two, three, and five knuckle styles, swing clear hinges, wide throw hinges, anchor hinges, electric hinges, institutional hinges, and pivots.

## Full Surface Hinges

Choose from regular and swing clear models for heavy weight bearing or standard weight bearing applications in a choice of metals, gauges, and sizes. Two knuckle, three knuckle, and five knuckle styles are available.

## Half Mortise Hinges

Available in a choice of metals, gauges, and sizes for a wide range of door thicknesses. You may specify plain bearing, standard weight bearing, or heavy weight bearing models. Regular and swing clear applications. Three knuckle, as well as five knuckle styles are available.

## Half Surface Hinges

Heavy weight bearing, standard weight bearing, and plain bearing hinges in a range of metals, gauges, and sizes. Regular and swing clear applications. Three knuckle, and five knuckle styles.

## Security Hinges

McKinney produces an assortment of electrical security hinges for a wide variety of control functions. Included are full mortise bearing hinges with either concealed circuitry or concealed switch. In addition, a unique, field-replaceable magnet monitoring hinge, featuring a magnetic reed concealed switch, is available. McKinney also produces full mortise institutional hinges for maximum security installations, and our full mortise single acting spring hinge is available with a Tamper Resistant Screw (TRS Option) which is screwed into the tension ratchet after proper tension has been set.

## Spring & Specialty Hinges

A full range of spring hinges are available for all types of door sizes, weights, and applications. Included are full mortise single acting hinges, single acting reverse spring hinges, full mortise double acting hinges, and half surface double acting hinges, plus our heavy duty spring butt hinge that permits doors to open 90° in either direction. In addition, McKinney produces a variety of hinges for special applications including anchor hinges, wide throw hinges, swing clear hinges, and pocket hinges.

## Electric Hinges

To meet today's need for greater security applications, McKinney developed a variety of electric hinges used in remote door monitoring and access control systems. These ElectroLynx® Hinges use convenient Molex connectors to make installation quick and simple.

Traditional wired connection electric hinges are available with 28 gauge and 18 gauge wires.

## Continuous Hinges

McKinney self-aligning continuous hinges extend the full height of the door. These hinges bond the door and frame into an integrated unit and present a streamlined, no-gap surface, affording privacy, safety, and outstanding performance. The high load capacity of these hinges makes them ideal for use in high-frequency areas where hinges are subject to abuse. The hinge design affords resistance to vandalism. McKinney aluminum continuous geared hinges are warranted for the life of the building. UL listed in both the USA and Canada up to 3 hour (A label) application. Pin and Barrel continuous hinges are available in stainless and steel.

## Miscellaneous

McKinney provides a standard duty center hung jamb mount pivot set.

Additionally, we provide emergency door stops, strikes, and stainless steel edge guards.

The most up to date templates are available on the website at [www.mckinneyhinge.com](http://www.mckinneyhinge.com)



## Hinge Bearings

McKinney offers a number of bearing choices. Door weight, height, width, thickness and frequency of operation are all factors in determining the proper hinge.

### Oil Impregnated Bearing (TA)

One piece, non-ferrous, and self-lubricating bearings ensure even longer-lasting wear and resistance to clogging, corrosion, and hinge failure. This feature is standard and supplied on all five knuckle bearing hinges.



### Ball Bearing (TB)

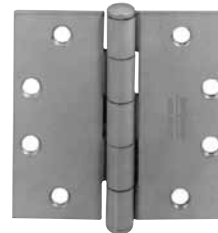
Ball bearings are available on all five knuckle bearing hinges.



### Concealed Bearing (TCA)

Concealed, anti-friction type bearings are available on all five knuckle bearing hinges, which provide long-lasting wear and consistency of hinge barrel design.

**Note:** All three and two knuckle bearing hinges are provided with concealed, anti-friction type bearings (designated TA).



### Plain Bearing

This is the designation for non-bearing hinges. Knuckles are machined with bearing-like surfaces to move against one another. These are not recommended for high frequency doors or doors with closing devices. These hinges are not approved for use in labeled openings.



## Number of Bearings

Standard gauge McKinney three knuckle and five knuckle bearing hinges (.123 - .160) are supplied with two bearings. These hinges are intended for use on doors subjected to average traffic in residential and light commercial construction. Four bearings can be specified (T4A2714/ T4A2314) on some five knuckle hinges.

Heavy gauge McKinney hinges (.180 - .203) are regularly furnished with four bearings. 8" five knuckle hinges supplied with six bearings. These hinges are intended for use on heavy doors and high frequency doors for all types of construction.

**Note:** One bearing carries the vertical load on two bearing hinges. On four bearing hinges, two bearings carry the load.

Door weight, height, width, thickness and frequency of operation are all factors in determining the proper hinge. Four bearing hinges should be specified whenever there is any question.

McKinney steel or stainless steel based Bearing Hinges are approved for use on Labeled Applications based upon Table 1 Reference NFPA-80 Table 6.4.3.1 Builders Hardware. See catalog page 24 for additional information.

## Hinge Knuckles

McKinney offers two, three and five knuckle hinges.

### Moderne Two Knuckle

This model offers the most security in a standard hinge. The bearing hinges have a concealed stainless steel oil-impregnated bearing. Also, an anti-friction bushing in the door leaf provides additional protection against vertical and lateral wear.

- Plain bearing hinges have an anti-friction component inserted between the two knuckles
- The Moderne two knuckle hinge is available in stainless steel
- Standard and heavy weight
- Pins in all bearing hinges are stainless steel
- Pins in plain bearing hinges are steel Stainless steel pins are available.
- Standard hinges are packed with all machine and all wood screws

- By design, pins are non-rising, non-removable and tamper protected by a flush, non-removable cap at the end of the barrel. A door can not be removed when in the closed position, thus affording maximum security. Intermediate hinges can be ordered opposite hand and installed upside down, to inhibit removal of the door in an open position
- Available non-removable door (NRD) hinges have a dowel in the barrel. One NRD hinge can be ordered per set
- Two knuckle hinges are handed
- Template hinges are made to conform to U.S. Government standards\*

### Three Knuckle

Bearing hinges have concealed vertical and lateral thrust twin anti-friction type bearings at both joints.

- Pins in all non-ferrous bearing hinges are stainless steel
- Pins in all ferrous hinges are steel
- Pins in all hinges are non-rising type
- Standard hinges are packed with all machine and all wood screws
- Hinges are reversible for right or left hand except anchor hinges and certain electric hinges
- Template hinges are made to conform to U.S. Government standards\*

### Five Knuckle

Bearing hinges are furnished with either an oil-impregnated bearing (TA)\*\* or ball bearing (TB). (TA is standard unless TB is specified.) Concealed bearings (TCA) are available.

- Pin stems in all non-ferrous bearing hinges are stainless steel
- Pins in all ferrous hinges are steel
- Pins in all hinges are non-rising type
- Template hinges are made to conform to U.S. Government standards\*

\*\*Refer to our website at [www.mckinneyhinge.com](http://www.mckinneyhinge.com) for additional information regarding McKinney bearings.

\*Template hinges are made in sizes, gauges, and with screw holes located to conform to ANSI/BHMA A156.7 and U.S. Government standards CS9-65 and SDI. Templates are available on request.

### PSF - Prison Safety Feature

A 7/8" diameter stud projects from the back of each leaf which slips into a hole in the hinge reinforcing plates in both the door and the frame. This prevents the hinge from being removed even if the screws have been sheared off. This option is available on the HTB786 steel and HTB386 stainless prison hinge only.



### SSF - Safety Stud Feature

A stud attached to the face of one leaf rotates into a cavity in the opposite leaf when the door is closed. This option interlocks the two leaves together, preventing the removal of the door even if the pin is removed.



## Hinge Tips

Select tips for additional functionality or to add to the decor.

### Button Tips (Standard)

Button Tips and plugs are standard on McKinney five knuckle hinges and can be furnished on three knuckle hinges as an option. These tips can be specified on three knuckle hinges by adding the suffix "ET" (exposed tip).



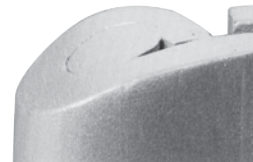
### Flush Pins (Standard)

Flush pins and plugs are furnished on our two and three knuckle hinges.



### Hospital Tips

Hospital tips which feature a one-piece non-removable pin with tapered tips. To order this option prefix our hinge number by "HT". The hospital tip feature by design makes the pin virtually non-removable.



### Decorative Tips

Decorative tips enhance your design by dressing up your hinges. Available for the two or three knuckle hinge in flat tip or round tip styles. These hinges are designed to suite with doors and hardware from the ASSA ABLOY Group Brands.



### Ball Tips

Ball Tips, made of solid brass, are available on three and five knuckle hinges for a more decorative hinge appearance. To order this option add the suffix "BT" to the hinge number.



### Steeple Tips

Steeple Tips, made of solid brass, are available on three and five knuckle hinges for a more decorative hinge appearance. To order this hinge option, add the suffix "ST" to the hinge number.



## Hinge Pins

Pins, by design, are non-rising.



### Two Knuckle

Plain Bearing pins are furnished in steel and can be ordered with stainless steel pins as an option. To order this option, add the suffix "SSP" to the hinge number. Pins on bearing hinges are furnished in stainless steel.

### Three Knuckle

Pin stems in all non-ferrous bearing hinges are stainless steel. Pins in all ferrous hinges are steel.

### Five Knuckle

Pins on all non-ferrous bearing hinges are stainless steel with button tips.

Pins on all ferrous hinges are steel. These hinges are available with optional stainless steel pins. To order these options, add the suffix "SSP"

## Non-Removable Pins

### NRP

A set screw is driven into the barrel of the hinge that is inaccessible when the door is in the closed position. To order, add the suffix "NRP" to the hinge number.

### NRD

Two knuckle hinges are available with a non-removable pin which features a dowel which is force fitted into the jamb leaf. When the door is hung, the pin is completely concealed and impossible to remove. One doweled hinge is usually furnished per set of three. To order, add the suffix "NRD" to the hinge number.

## Options

### Round Corner Option

Furnished as  $\frac{1}{4}$ " radius unless specified otherwise.  $\frac{5}{32}$ " or  $\frac{5}{8}$ " may be specified on full mortise hinges. Specify option "RC".

RCT2714



## Applications

This section will seek to address different variations of door, frame and wall conditions which you might encounter in hanging the door and the product solutions offered by McKinney.

Included are some of the more common conditions and some of the not-so-common conditions. The focus here will

be on the type of hinge to use within a given door/frame/wall condition. The following examples are not intended to cover every possible situation in which a particular type hinge might be used, but only a representative sampling. Consult the factory for any unusual installation requirements not shown here.

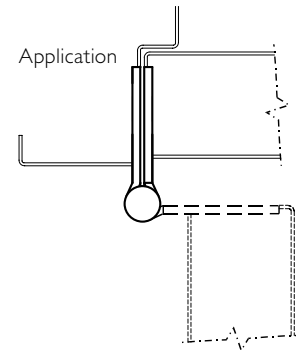
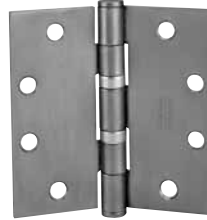
## Common Applications

### Full Mortise Hinge

The most common application is a flush door/frame/wall condition using a hollow metal frame with a standard hollow metal or wood door which is flush or  $\frac{1}{16}$ " inset from the face of the frame, with a wall which is either flush (or inset from the face of the frame). Recommended to hang door for 180° swing: Full Mortise Hinge. The same hinge could be used with a wood or aluminum frame provided the door/frame/wall conditions are flush.

**Note:** A fire labeled wood door requires sufficient hinge reinforcement to use this type hinge.

TA2714

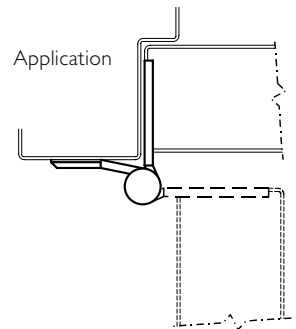


## Less Common flush door/frame/wall application

### Half Mortise Hinge

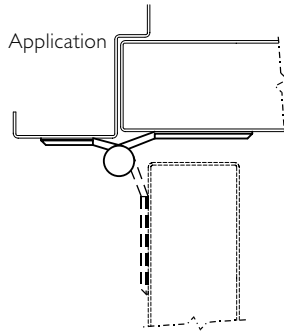
A hollow metal or wood door with channel iron frame. Recommended to hang door for 180° swing: Half Mortise Hinge.

TA2774



Less Common flush door/frame/wall application

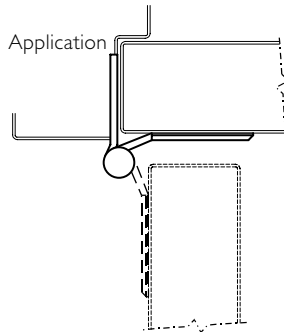
TA2771



Full Surface Hinge

A fire labeled wood door (without sufficient hinge reinforcement) or a kalamein (metal-clad wood door) with channel iron frame. Recommended to hang door for 80° swing: Full Surface Hinge. On fire labeled wood doors, the door leaf is hung using a back plate with grommet nuts and bolts. Another popular application for this type hinge is a tubular steel gate hung on a channel iron frame.

TA2772

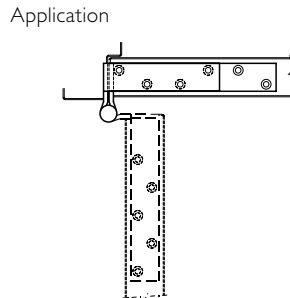


Half Surface Hinge

A fire labeled wood door (without sufficient hinge reinforcement) or a kalamein (metal-clad wood door) with channel iron frame. Recommended to hang door for 180° swing: Half Surface Hinge. On fire labeled wood doors, the door leaf is hung using a back plate with grommet nuts and bolts.

Special Applications

TA792



Anchor Hinge

On high frequency and/or heavy wood or metal doors, additional anchoring of the hinges into the door and jamb may be necessary. This is a common application in schools, hospitals or any other buildings where heavy traffic and unusual strain on the doors, jamb and hinges is experienced. Recommended to hang door for 80° swing: **Full Mortise Anchor Hinge**. Sold in sets of one full mortise anchor hinge and two heavy weight full mortise hinges.

**Note:** Anchor hinges are handed and self for either square edge doors on hinge side or beveled ( $\frac{1}{8}$ " in 2") edge doors on hinge side. Hand and bevel (McKinney uses a "5" in front of the item number to indicate  $\frac{1}{8}$ " in 2" bevel. Example: TA5792 should be specified.

## Special Applications

### Spring Hinge

Some door/frame/wall and even ceiling conditions make door closers impractical. An alternative closing device is the Spring Hinge. Generally, at least two hinges on a door must be spring hinges to provide adequate closing force.

**Note:** NFPA requires a minimum of two (2) spring hinges on fire labeled doors. With adjustable spring tension on the hinge, the closing speed of the door is determined by the amount of closing force set on the hinge. Spring hinges may not be suitable for applications requiring a closing device with non-critical closing and latching speed adjustments. With respect to meeting ADA requirements for closing devices, carpeting and/or gasketing can interfere with latching. McKinney offers both **Full Mortise** and **Half Surface Spring Hinges**. McKinney now offers a Reverse Action, 1502R, (by special request) which allows the door to remain in the open position. In addition, for high security applications, we offer the TRS option. This Tamper Resistant Screw is screwed into the tension ratchet after the proper tension has been set.

**1502**  
(Full Mortise Type)



**1572**  
(Half Surface Type)

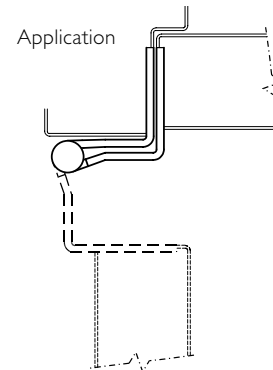


### Swing Clear Hinge

A condition which is common in barrier free openings, and especially in hospitals, is how to remove the door edge from the opening at 90° of swing with flush door/wall/ frame conditions. Recommended to hang door with swing to 80°: Full Mortise Swing Clear Hinge. The solution offered by this hinge is the offset of the hinge barrel to a location along the face of the hinge jamb, thereby removing the door edge and the barrel of the hinge as obstacles in the opening at 90° or more of swing. If the door is beveled on the hinge side, specify the appropriate beveled hinge and handing for your application\*.

\* Consult individual Swing Clear catalog pages for beveled hinge product numbers.

**TA2895**

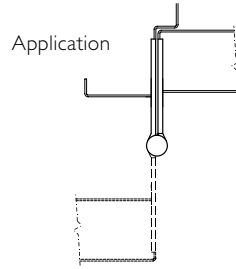


Meets or exceeds  
ANSI A117.1 - 1986  
*Providing Accessibility  
and Usability for Physically  
Handicapped People*



## Non-Flush Door/Wall/Frame Applications

### TA2798



### Wide Throw Hinge

If the door is not flush with the frame, is sitting back in a deep reveal from the face of the frame with or without additional obstacles created by applied trim on the face of the frame or a deeper reveal caused by a projecting wall, and the door is to swing 180°, then a **Full Mortise Wide Throw Hinge** may be used in hanging the door.

Important in this regard is how to calculate the proper width of a wide throw hinge (rounded to the next higher whole number if result is not a whole number: e.g., 6", 7", 8", etc.)

## How To Calculate The Proper Wide Throw Hinge Width

1. If the door is sitting inside a deep frame reveal with no other obstacles (i.e., projecting trim or wall), add the depth of the reveal (distance from the face of the frame to the face of the door) to the recommended width of hinge used under flush conditions.

Example: A 6" wide (wide throw) hinge would replace a 4½" wide regular mortise hinge (used under flush conditions) if the depth of the reveal is 1½".

2. If the door is to clear projecting trim or wall and the barrel of the hinge is not obstructed, then calculate as follows:
  - (a) double the size of the door
  - (b) subtract ½" if the door thickness is less than or equal to 2¼" or subtract ¾" if the door thickness is greater than 2¼"
  - (c) add for the additional depth from the face of the obstruction to the face of the door
  - (d) add for clearance between the door and the face of the obstruction at 180° of swing (generally 1" or more).

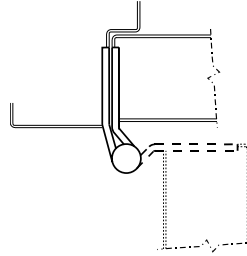
If, for instance, you have a 1¾" thick door:

- (a) 1¾" door thickness × 2 = 3½"
- (b) less ½" equals 3"
- (c) plus 3" for the additional depth from the face of the wall to the face of the door equals 6"
- (d) plus 1" for the clearance between the door and the face of the obstruction at 180° of swing equals 7" overall hinge width.

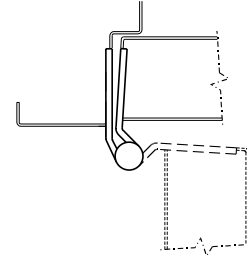
## Raised Barrel Hinge

If the door is not flush with the frame but rather is sitting back in a deep reveal from the face of the frame a **Full Mortise Raised Barrel Hinge** may be used in hanging the door. The solution offered by this hinge is the offset of the hinge barrel away from the hinge jamb. Bevel of door edge should be specified.

Raised Barrel  
Square Edge Door



Raised Barrel  
Beveled Edge Door



## Pocket Hinge

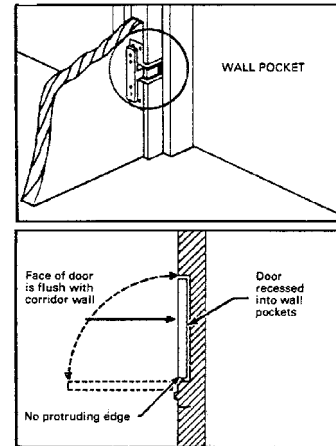
An increasingly popular door, frame and wall condition in corridors is cross-corridor or double egress pairs of doors standing in wall pockets at 90° of swing, so as to be clear of the initial opening and out of the corridor altogether. Solution: **Pocket Hinge**.

As corridor doors are often fire labeled, the hardware must be approved for use in fire labeled openings. Solution: the **McKinney PH-4 Pocket Hinge**. U.L. approved for use on both hollow metal and steel covered composite fire doors rated up to 3 hours and on wood core type fire doors rated 20 minutes.

PH-4



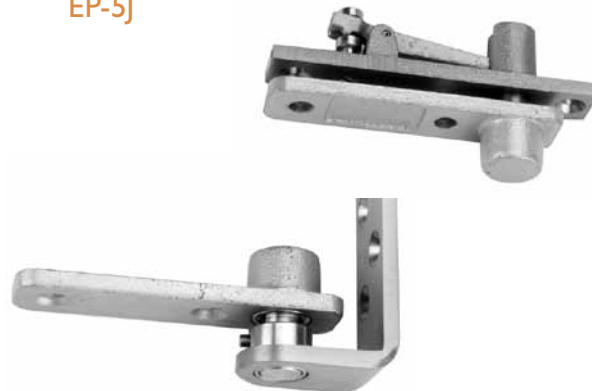
Application



## Pivots

Recommended for use on average frequency double acting doors in schools, hospitals, institutions and other public buildings. Not for use on labeled doors and frames.

EP-5j



### Full Mortise

Edge Hung Flush Door  
MCK-12HD Series



### Full Surface

Swing Clear  
MCK-22HD Series



### Full Mortise

Edge Hung Inset Door  
MCK-14HD Series



### Full Mortise

Edge Hung  
MCK-25HD Series



Hardwiring Made Easy™



## Aluminum Continuous Geared Hinges

McKinney provides aluminum continuous geared hinges for application on wood, aluminum, and hollow metal doors and frames. Mortising is not necessary as all leaves fit on the edge or the face of the door.

The continuous geared hinge has no pin; instead it uses two geared sections with a continuous cap concealing the gears and the wear surfaces.

This design minimizes lateral wear and virtually eliminates door sag. The gear design keeps each leaf in perfect alignment for the full length of the hinge, causing the door to swing evenly from top to bottom.

McKinney Continuous Geared Hinges can be electrically modified in three ways:

- SER- Serviceable/Removable hinges are provided in three sections allowing the current carrying cable to be serviced or replaced without removing the door from the frame
- ACC- Accessible feature is provided in a single section with leaves modified to pivot at the location of the current carrying cable to allow access to the cables and connected wiring
- QC- Quick Connect hinges are provided in a single section with the wires already run through the hinge

### MCK-FM300

Stainless Edge Mounted  
Application  
MCK-FM3700 Series Steel



### Stainless Steel

MCK-FS302 or  
MCK-FS3702  
Steel Surface Applied



## Steel and Stainless Steel Continuous Hinges

McKinney steel and stainless continuous hinges are the clear choice for institutional, industrial or any other high frequency applications where maximum door support is required. Consistent high quality manufacturing and performance levels make door aligning easy for maintenance free, long lasting results. A full complement of electrical options is available. Many models are windstorm rated.

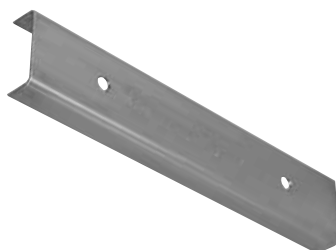
### MCK-HM304 or MCK-FS3702

Steel Half Mortise  
Stainless Application



### Edge Guards

Stainless Steel



**Note:** Not all products shown. Refer to pages CG-1 thru CH-36 for additional information on our Continuous Hinges

**Quick Reference Chart**

Door, Frame Wall Conditions	Frame Type	Door Type	Hinge Type	Variation of Basic Hinge Type Shown Below (See Note 2)	McKinney Example (See Note 3)
Flush*	Wood or Metal	Wood or Metal	Full Mortise	(not applicable)	TA2714
Flush*	Channel Iron	Wood or Metal	Half Mortise	(not applicable)	TA2774
Flush*	Channel Iron	Kalamein or Fire Labeled Wood Door (See Note 1)	Full Surface	(not applicable)	TA2771
Flush*	Metal	Kalamein or Fire Labeled Wood Door (See Note 1)	Half Surface	(not applicable)	TA2772
Flush*	Metal	Heavy and/or High Frequency Wood or Metal	Anchor	Full Mortise	TA792
Flush*	Wood or Metal	Wood or Metal Requiring Alternative Closing Device	Spring	Full Mortise Half Surface	1502, 1572
Flush*	Wood or Metal	Wood or Metal Required to Clear Opening at 90° of Swing	Swing Clear	Full Mortise	TA2895
Deep Frame Reveal	Wood or Metal	Wood or Metal with Maximum Swing of 90° to 110°	Raised Barrel	Full Mortise	RBTA2714
Deep Frame Reveal with or without Trim on the Face of the Frame or a Projecting Wall	Wood or Metal	Wood or Metal with swing to 180°	Wide Throw	Full Mortise	TA2798
Wall Pocket at 90° of swing	Metal	Wood or Metal	Pocket Hinge	(not applicable)	PH-4

\* Includes door and frame conditions of up to 1/8" inset

**Notes:**

1. Fire labeled wood door without sufficient hinge reinforcement. Door leaf is hung using back plate with grommet nuts and bolts.
2. The four basic hinge types are full mortise, half mortise, full surface and half surface. Variations (i.e. anchor, swing clear, raised barrel, wide throw) are available in the basic types shown above but may not be available in all basic hinge types. Consult individual catalog pages for availability.
3. Consult individual catalog pages for available sizes, weights, materials, versions, bearings and finishes. Hinges for doors beveled (1/8" in 2") on hinge side use 5000 series for 3K hinges (e.g. TA5792); use 4000 series for 5K hinges (e.g. TA4895).

## Door Weights

The following wood and metal door weights are provided as a convenience to catalog users. They are approximate and will vary slightly among door manufacturers. The weight of the door hardware should be added to the weights listed below. For any thickness not shown, the individual manufacturer's catalog should be consulted.

### Door Weights\* (Based upon 3' 0" x 7' 0" Door Size)

Hollow Metal Door Weights by Gauge		Wood Door Weights by Door Thickness		
Door Gauge —	# Per Square Foot			# Per Square Foot
20 Gauge Door	4	Door Thickness	1 $\frac{3}{8}$ "	1 $\frac{3}{4}$ "
18 Gauge Door	5	Particle/Mineral Core	4.75	5.25
16 Gauge Door	6	Stave Core Wood	3.75	4.25
14 Gauge Door	7	Hollow Core Wood	1.3	1.5

\* Weights do not include hardware.

## How to Determine the Proper Hinge Width

Knowing the door thickness and trim projection, use the following formula for determining minimum hinge width for all full mortise hinges:

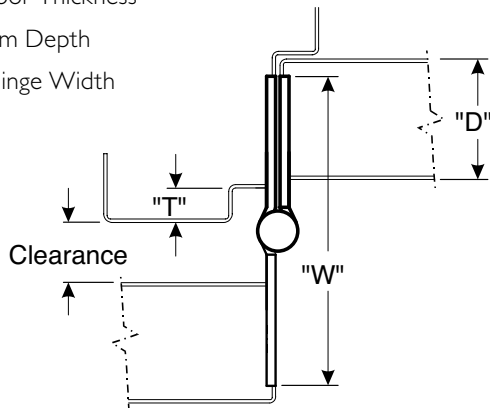
1. Door thickness
2. Backset
3. Required Clearance
4. Inset

**Door thickness - Backset x 2 + Required Clearance + Inset (if applicable) = the proper hinge width**

D = Door Thickness

T = Trim Depth

W = Hinge Width



For doors up to 2 $\frac{1}{2}$ " thick:  $W = (2 \times D) + T$

For doors 2 $\frac{1}{2}$ " to 3" thick:  $W = (2 \times D) + (2 \times T) + \frac{1}{4}$ "

The table below indicates the trim clearance provided by hinges of specified widths on flush doors, not inset, of standard thickness. For doors of other thicknesses, apply the proper formula.

#### Trim Clearance

Door Thickness	Hinge Width	Max Clearance Provided
3/8"	3 1/2"	1 1/4"
	4"	1 3/4"
3/4"	4"	1"
	4 1/2"	1 1/2"
	5"	2"
	6"	3"
2"	4 1/2"	1"
	5"	1 1/2"
	6"	2 1/2"
2 1/4"	5"	1"
	6"	2"

The hinge widths of half mortise, half surface and full surface hinges are standard, depending on the hinge length. Note that in these hinge types, the amount of clearance available is determined by the amount of offset and not by the hinge width.

#### Recommended Size of Hinges per Door (Wood or Metal)

Door Thickness in Inches (mm)	Door Width in Inches (mm)	Hinge Height in Inches (mm)	Hinge Gauge
1 3/8" (35)	Up to 36" (914)	3 1/2" (89)	.123
1 3/8" (35)	Over 36" (914)	4" (102)	.130
13/16" (44)	Up to 36" (914)	4 1/2" (114)	.134
1 3/4" (44)	36" – 48" (914 – 1219)	5" (127)	.134
1 3/4" (44)	Over 48" (1219)	6" (152)	.160
2" – 2 1/2" (51 – 64)	Up to 42" (1067)	5" (127) HW*	.190
2" – 2 1/2" (51 – 64)	Over 42" (1067)	6" (152) HW*	.203

\* Heavy Weight hinges should be used on all extra heavy doors or those exposed to high frequency use. Consult the factory for doors wider than 3'0". Five knuckle heavy weight hinges are four bearing.

The following gauges of metal may apply:

Heavy weight 4 1/2" (114) high = .180 gauge

Heavy weight 5" (127) high = .190 gauge

Heavy weight 6" (152) high = .203 gauge

**Note:** Five knuckle 8" (203) high hinges have six bearings.

**Note:** On hinge size the dimension shown is the hinge height. Where full mortise or other hinges with two dimensions are used, the first dimension given is always the height. The second dimension is the hinge width when open.

**Expected Frequency of Door Operations**

Installation Type	Expected Frequency*		
	Daily	Yearly	
<b>Commercial</b>			
Commercial Store Entrance	5,000	1,500,000	High
Office Building Entrance	4,000	1,200,000	
Theater Entrance	1,000	450,000	
School Entrance	1,250	225,000	
School Restroom Door	1,250	225,000	
Store or Bank Entrance	500	150,000	
Office Building Restroom Door	400	118,000	Average
School Corridor Door	80	15,000	
Office Building Corridor Door	75	22,000	
Store Restroom Door	60	18,000	
<b>Residential</b>			
Entrance	40	15,000	Low
Restroom Door	25	9,000	
Corridor Door	10	3,600	
Closet Door	6	2,200	

\* One cycle = one complete opening and closing.

**Note:** We recommend that bearing hinges be used on all above categories other than "Residential".

**Recommended Number of Hinges per Door 3'0" Wide (Wood or Metal)**

Door Height in Inches (mm)	# of Hinges Per Door
Up to 60 (1524)	2
60 – 90 (1524 – 2286)	3
90 – 120 (2286 – 3048)	4

**Note:** An additional hinge is required for each additional 30".



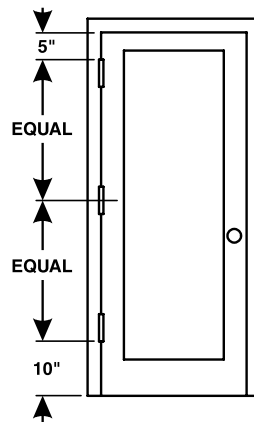
## Underwriters' Laboratories Requirements

The requirements of the Underwriters' Laboratories, Inc., for fire door hardware are determined by door label, which in turn is established by the location of the opening. The following are the classifications of Underwriter's Laboratories, Inc.

Door Situation	Location
Class A	Fire Walls
Class B	Vertical Shafts
Class C	Corridor & Room Partitions
Class D	Exterior Walls (severe fire exposure)
Class D	Exterior Fire Escapes (severe fire exposure)
Class E	Exterior Wall (moderate fire exposure)
Class E	Exterior Fire Escapes (moderate fire exposure)

On all public and some private heavy construction three hinges are required for each door. This practice is standard under U.S. Government specifications and is required under most building codes and Fire Underwriters' specifications.

Three hinges assure proper door alignment and enable other hardware to function properly. There is less door warping and less hinge wear. On light wood doors the alignment problem is as great as on heavy doors so less than three hinges should never be considered.



The top of the top hinge should be 5" from the jamb header.

**EXCEPTION:**

The bottom of the bottom hinge should be 10" from the finished floor.

The McKinney Anchor Hinge mounts at the very top of the door. On doors over 7'6" high, four hinges are required.

The center of the center hinge should be equidistant from the other two hinges.

**Table 1 Reference NFPA-80**  
**Table 6.4.3.1 2010 Builders Hardware Mortise, Surface, and Full-Length Hinges, Pivots or Spring Hinges for Swinging Doors**

Mortise and Surface Hinges, Pivots or Spring Hinges for Swinging Doors. Doors up to 60" (1.52 m) in height shall be provided with two hinges and an additional hinge for each additional 30" (0.76 m) of door height or fraction thereof. The distance between hinges shall be permitted to exceed 30" (0.76 m). Where spring hinges are used, at least two shall be provided.

Maximum Door Rating Hr.	Maximum Door Size		Minimum Hinge Size		Type Hinge
	Width ft. (m)	Height ft. (m)	Height in. (mm)	Thickness in. (mm)	
<b>For 1¾" (44.5mm) or Thicker Doors</b>					
3" or less	4 (1.22)	10 (3.05)	4½" (114.3)	0.180 (4.57)	Steel, Mortise or Surface
3" or less	4 (1.22)	8 (2.44)	4½" (114.3)	0.134 (3.40)	Steel, Mortise or Surface
1½" or less	3½ (0.96)	8 (2.44)	6" (152.4)	0.225 (5.72)	Steel-Olive Knuckle or Paumelle
3" or less	4 (1.22)	10 (3.05)	4" (101.6)	0.225 (5.72)	Steel Pivots (including top, bottom and intermediate)
1½" or less	3 (0.91)	5 (1.52)	4" (101.6)	0.130 (3.30)	Steel, Mortise or Surface
1½" or less	2 (0.61)	3 (0.91)	3" (76.2)	0.092 (2.34)	Steel, Mortise or Surface
3" or less	3 (0.91)	7 (2.13)	4½" (114.3)	0.134 (3.40)	Steel, Mortise or Surface (labeled self closing spring type)
3" or less	3 (0.91)	7 (2.13)	4" (101.6)	0.105 (2.67)	Steel, Mortise or Surface (labeled self closing spring type)
<b>For 1⅝" (34.93mm) Doors</b>					
3" or less	3 (0.91)	7 (2.13)	3½" (88.9)	0.123 (3.12)	Steel, Mortise or Surface
3" or less	2⅝" (0.81)	7 (2.13)	3½" (88.9)	0.105 (2.67)	Steel, Mortise (spring closing)

**6.4.3\* Builders Hardware.**

**6.4.3.1 Hinges.** Hinges shall be as specified in individual door manufacturer's published listings or Table 6.4.3.1.

**6.4.3.1.1 Doors up to 60 in. (1.52 m) in height** shall be provided with two hinges and an additional hinge for each additional 30 in. (0.76 m) of door height or fraction thereof.

**6.4.3.1.1.1** The distance between hinges shall be permitted to exceed 30 in. (0.76 m).

**6.4.3.1.1.2** Where spring hinges are used, at least two shall be provided.

**6.4.3.1.2** All hinges or pivots, except spring hinges, shall be of the ball bearing type.

**6.4.3.1.2.1** Hinges or pivots employing other antifriction bearing surfaces shall be permitted if they meet the requirements of ANSI/ BHMA A156.1, Standard for Butts and Hinges.

**6.4.3.1.2.2** Spring hinges shall be labeled and shall meet the requirements of ANSI/BHMA A156.17, Standard for Self Closing Hinges & Pivots, Grade 1.

**6.4.3.1.3** Hinges 4½ in. (114 mm) high and 0.180 in. (4.57 mm) thick shall be permitted for use on wide and heavy doors or doors that are subjected to heavy use or unusual stress.

**6.4.3.1.4** Fire doors with hinges of lighter weight that are not of the ball bearing type shall be permitted under the following conditions:

- (1) They are part of a listed assembly.
- (2) They meet the test requirements of ANSI/BHMA A156.1, Standard for Butts and Hinges.
- (3) They have been tested to a minimum of 350,000 cycles.

**6.4.3.1.5** Pivot sets made up of components that are smaller or of a lighter gauge than that shown in Table 6.4.3.1 shall be permitted to be used, provided they meet the requirements of ANSI/BHMA A156.4, Standard for Door Control (Closers), and are in accordance with the manufacturer's label service procedures.

Reproduced with permission from NFPA 80-2010, Fire Doors and Other Opening Protectives, Copyright 2009, National Fire Protection Association. This reprinted material is not the complete and official position of the NFPA on the referenced subject, which is represented only by the standard in its entirety.

## Hand of Doors

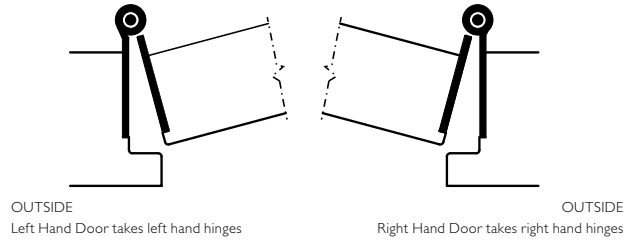
All doors are handed - right or left. The following illustrations indicate clearly this "handing" as it is understood within the hardware industry.

Hand of door is determined from the outside.

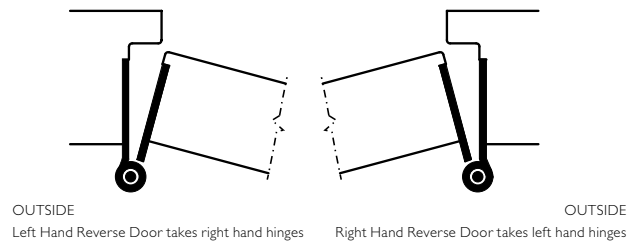
When standing on outside of door and hinges are on the right, it is right hand. When hinges are on the left, it is left hand.

A double acting door opens from you and toward you, therefore it is not called reverse like a single acting door.

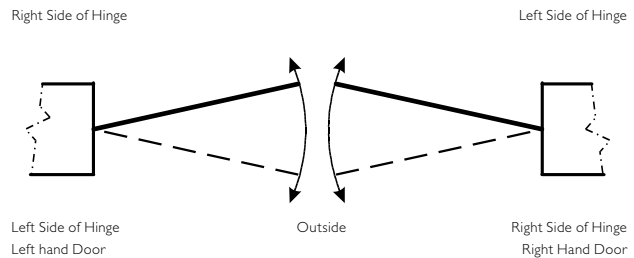
### Regular Doors Opening In



### Reverse Doors Opening Out



### Double Acting Doors

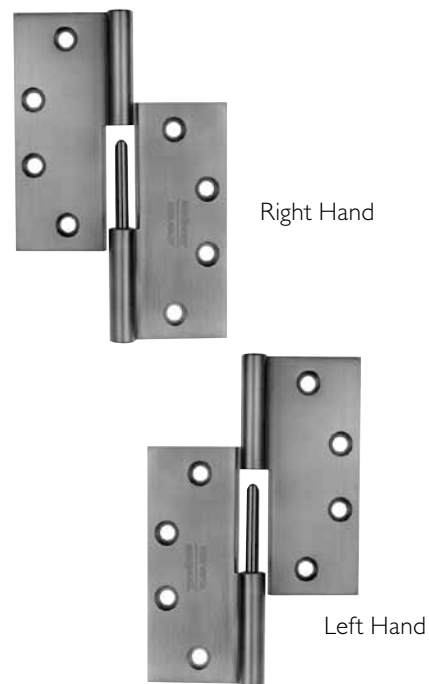


## Hand of Hinges

All doors are handed - right or left. The following illustrations indicate clearly this "handing" as it is understood within the hardware industry.

A simple method of determining the hand of all loose joint hinges is to open the hinge full with the countersunk screw holes in view. If the hinge can be held by the right hand leaf and it does not fall apart, it is a right hand (RH) hinge. If the hinge must be held by the left hand leaf to keep it from falling apart, it is a left hand (LH) hinge.

The hand of hinges may be specified by suffixing the symbols RH or LH to the catalog number.



## Hinges Swaging

Swaging is the slight offset in the hinge leaves which permits them to close to a parallel position as the door closes.

Hinge Opened



Hinge Closed



## Full Mortise

All hinges for full mortise applications are swaged. Normal swaging on standard and heavy gauge hinges provides a clearance of  $\frac{1}{16}$ " when the leaves are parallel.

Hinge Opened



Hinge Closed



## Full Surface

Hinges for full surface applications are not swaged. Blank hinges are for full surface welded application and are always furnished "flat back" unless specified otherwise when ordered.

Hinge Opened



Hinge Closed



## Beveled Door

Hinges for beveled door applications have one leaf swaged at an angle of  $3\frac{1}{2}$ " ( $\frac{1}{8}$ " in 2") to maintain proper door and frame clearance when doors are beveled on the hinge side. Specify handing on these hinges.

Hinge with One Leaf Swaged



## One Leaf Swaged

When only one leaf is swaged, the non-swaged leaf is approximately  $\frac{1}{16}$ " shorter as a standard. For all hollow metal door and frame applications, both leaves must be the same width. On your order, specify "**Leaves must be equal**".

Hinge with One Leaf Swaged Flat



## One Leaf Swaged Flat

When only one leaf is swaged flat, the non-swaged leaf is approximately  $\frac{3}{32}$ " shorter as a standard. For all hollow metal door and frame applications, both leaves must be the same width. On your order, specify "**Leaves must be equal**".

## Screws and Fasteners

### Templated Screw Holes

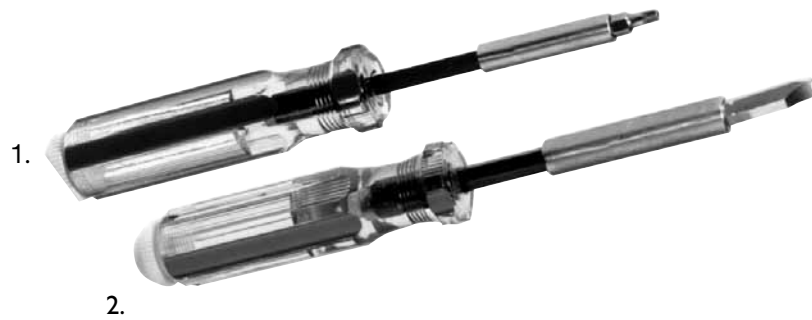
McKinney hinges are manufactured with templated screw hole locations and tolerances which conform to the American National Standards Institute (ANSI/BHMA A-156.7). McKinney publishes a complete listing of templates which list the overall hinge size, material gauge and exact screw hole location. The most current templates are found on our website [www.mckinneyhinge.com](http://www.mckinneyhinge.com). These templates should be consulted prior to any door or frame preparation.



### Torx Driver & Spanner Driver

**Shown:**

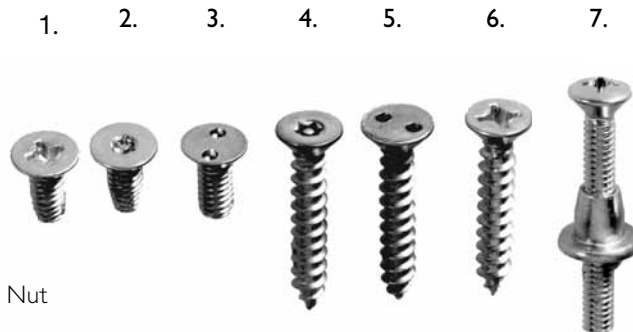
1. Torx Bit and Driver
2. Spanner Bit and Driver



### Machine and Wood Screws

**Shown:**

1. Phillips Head Machine Screw
2. Torx Head Machine Screw
3. Spanner Head Machine Screw
4. Torx Head Wood Screw
5. Spanner Head Wood Screw
6. Phillips Head Wood Screw
7. Oval Phillips Head Machine Screw with Grommet Nut



**Full Mortise Hinges**

Size of Hinge	Machine Screws	Wood Screws
3½" x 3½"*	½" x 10-24	1 x 10
3½" x 5"	½" x 10-24	1 x 10
4" x 4"*	½" x 12-24	1¼ x 12
4½" x 4"	½" x 12-24	1¼ x 12
4½" x 4½"	½" x 12-24	1¼ x 12
4" x 6"	½" x 12-24	1¼ x 12
4" x 7"	½" x 12-24	1¼ x 12
4½" x 6"	½" x 12-24	1¼ x 12
4½" x 7"	½" x 12-24	1¼ x 12
4½" x 8"	½" x 12-24	1¼ x 12
5" x 4"	½" x 12-24	1¼ x 12
5" x 4½"	½" x 12-24	1¼ x 12
5" x 5"	½" x 12-24	1¼ x 12
5" x 7"	½" x 12-24	1¼ x 12
5" x 8"	½" x 12-24	1½ x 14
6" x 5"	½" x ¼"-20	1½ x 14
6" x 6"	½" x ¼"-20	1½ x 14
8" x 6"	½" x ¼"-20	1½ x 14
8" x 8"	½" x ¼"-20	1½ x 14

**\*1400-1414-1458 Residential Guide**

Size of Hinge	Wood Screws
3½" x 3½"	¾ x 9
4" x 4"	1 x 9

**Packing:**

All full mortise hinges are packed all machine x all wood screws.

**Half Mortise Hinges**

Size of Hinge	Machine Screws
4½"	½" x 12-24
5"	½" x 12-24
6"	½" x ¼-20

**Swing Clear Hinges**

Size of Hinge	Machine Screws	Wood Screws
4½"	½ x 12-24	1¼ x 12
5"	½ x 12-24	1¼ x 12

**Full Surface Hinges**

Size of Hinge	Machine Screws	Thru Bolts & Grommet Nut
4½"	½ x 12-24	2 x ¼-20
5"	½ x 12-24	2 x ¼-20
6"	½ x ¼-20	2 x ¼-20

**Half Surface Hinges**

Size of Hinge	Machine Screws	Thru Bolts & Grommet Nut
4½"	½ x 12-24	2 x ¼-20
5"	½ x 12-24	2 x ¼-20
6"	½ x ¼-20	2 x ¼-20

McKinney hinge finishes meet or exceed the American National Standards for materials and finishes (ANSI/BHMA - A156.18 and BHMA 1301).

### McKinney and B.H.M.A. Finish Symbols

B.H.M.A. Code	Finish Description	Base Material	McKinney Equivalent
600	Primed for Painting	Steel	USP
602	Zinc Plated, Commercial	Steel	US2C
603	Zinc Plated, Governmental	Steel	US2G
605	Bright Brass	Brass	US3
606	Dull Brass	Brass	US4
609	Dull Brass, Oxidized	Brass	US5
610	Brass, Nickel Oxidized, Bright Relieved	Brass	US7
611	Bright Bronze	Bronze	US9
612	Dull Bronze	Bronze	US10
613	Antiqued Bronze, Oiled	Bronze	US10B
616	Dull Bronze, Oxidized	Bronze	US11
618	Bright Nickel Plated	Brass, Bronze	US14
619	Dull Nickel Plated	Brass, Bronze	US15
620	Nickel Oxidized Relieved	Brass, Bronze	US15A
621	Half Polished Iron, Smooth	Brass, Bronze	US17A
623	Statuary Bronze, Light	Bronze	US20
624	Statuary Bronze, Dark	Bronze	US20A
625	Bright Chromium	Brass, Bronze	US26
626	Dull Chromium	Brass, Bronze	US26D
629	Polished Stainless Steel	Stainless Steel 300 Series	US32
630	Dull Stainless Steel	Stainless Steel 300 Series	US32D
632	Bright Brass	Steel	US3
633	Dull Brass	Steel	US4
636	Dull Brass, Oxidized	Steel	US7
637	Bright Bronze	Steel	US9
639	Dull Bronze	Steel	US10
640	Antique Bronze, Oiled	Steel	US10B
643	Dull Bronze, Oxidized	Steel	US11
645	Bright Nickel Plated	Steel	US14
646	Dull Nickel Plated	Steel	US15
647	Nickel Oxidized Relieved	Steel	US15A
648	Half Polished Iron, Smooth	Steel	US17A
649	Statuary Bronze, Light	Steel	US20
650	Statuary Bronze, Dark	Steel	US20A
651	Bright Chromium	Steel	US26
652	Dull Chromium	Steel	US26D

Every effort is made by McKinney to furnish finishes which do comply with the U.S. Standard. However, we cannot guarantee that our finish will match other manufacturers' finish. Where a special finish or a matched finish is required, a sample must be submitted with the order.



As part of their promise to provide innovative solutions to their customers, certain ASSA ABLOY Group brands offer the MicroShield® technology, a silver-based antimicrobial coating designed to inhibit the growth of bacteria.

- Suppresses microbes
- Long lasting
- Non-toxic
- Available on McKinney stainless hinges
- Lasts for the life of the hardware
- Specify MicroShield®



Agion's silver antimicrobial has been certified for its material content, recyclability, and manufacturing characteristics, Cradle To Cradle Certified<sup>CM</sup> products meet established standards for human health, environmental health and recyclability.

Cradle To Cradle Certified<sup>CM</sup> is a certification mark of MBDC.

### McKinney Custom Finishes

Description	Symbol
Aluminum	AP
White	PW
Bright Brass w/ Clear Powder Coat	3-C
Dull Brass w/ Clear Powder Coat	4-C
Dull Nickel w/ Clear Powder Coat	15-C
Dark Brown	D-3
Black	D-4
Custom Powder Coat	*
Prime Coat	P
Stainless Steel with Clear Powder	CPC
Antique Bronze, Over Stainless	32D x 10B
MicroShield®	32DBIO

\* Consult the factory for availability of these finishes.

MicroShield® is a registered trademark of Yale Security Inc., an ASSA ABLOY Group company.



