Index

1. Hollow Metal
2. Wood Doors
3. Hinges
4. Locksets
5. Exit Devices
6. Door Closers
7. Power Operators
8. Door Controls/Door Protection
9. Thresholds/Weatherstrip
10. Electronic Hardware
11. Specification Assistance
Hollow Metal

Requirements

Exterior Frames
- 14 Gage Galvanized Steel
- Heavy Weight Hinge Reinforcement

Interior Frames
- 16 Gage Steel
- Heavy Weight Hinge Reinforcements

Exterior Doors
- 16 Gage Galvanized Steel
- Heavy Weight Hinge Reinforcement
- Must have Flush Top Cap
- Must Have 14 Gage Closer Reinforcement

Interior Doors
- 18 Gage Steel
- Must Have Heavy Weight Hinge Reinforcements
- Must Have 14 Gage Closer Reinforcement

Note: - All Doors/Frames Must Be Properly Reinforced For Surface Mounted Hardware
- All Doors/Frames Must Be From The Same Manufacturer
- All Frames To Be Welded Construction

Approved Manufacturers

Steelcraft, Curries
CONSTRUCTION NOTES:

1. Door opening size maximum:
   - Single door opening size 5'0" x 11'0" (1524mm x 3353mm)
   - Double door opening size 10'0" x 11'0" (3048mm x 3353mm)

2. Jamb depths (profile) availability:
   - Single rabbit:
     minimum = 3" (76mm)
     maximum = 123/8" (324mm)
   - Double rabbit:
     minimum = 43/8" (121mm)
     maximum = 143/8" (375mm)

3. Standard profile dimensions (variations available):
   - Face = 2" (50mm)
   - Top = 9/8" (16mm)
   - Returns = 3/8" (13mm) all frames except 5/8" (16mm) which is 3/4" (11mm)

4. Standard die-mitered corners:
   Four (4) concealed tabs interlocking head and jambs
GENERAL NOTES:

1. Frame profile: variations in jamb depths available in 1/4" (6mm) increments:
   - Single rabbet: typically for walls less than 3 3/4" (95mm) thick (2" min, 50mm max).
   - Double rabbet: typically for walls 3 3/4" (95mm) thick and over.

2. Corner connections:
   - KD (knock-down): Factory die-mitered
     - Double rabbet frames: 4 tabs per miter
     - Single rabbet frames: 3 tabs per miter
   - Corner Connections - SUA (set-up and welded)
     - Available when specified, and in accordance with ANSI A250.3-1996.

3. 4" (102mm) head: die mitered for use with 2" (50mm) face double rabbet jambs. Available when specified for KD or SUA applications.

4. Standard hardware preparations:
   - Standard mortised and reinforced with mortar guards for:
     - Universal hinge prep: 4 1/4" (114mm) patented preparation which allows easy and quick conversion from standard to heavy weight hinges.
     - Strikes: 4 1/4" (124mm) conforming to ANSI A115.1 and ANSI A115.2.

5. Rubber silencers: All frames are supplied with factory installed silencers to cushion the closing of the door and to eliminate the field problems related to installing the silencers after the frames are installed and grouted. Three (3) silencers per strike jamb and two (2) per double door head.
CONSTRUCTION NOTES:
1. Doors are 1 3/8" (45mm) thick.
2. Door opening size maximum:
   Single door opening size 4'0" x 10'0" (1219mm x 3048mm)
   Double door opening size 8'0" x 10'0" (2438mm x 3048mm)
3. Standard operating clearances (installed in frame):
   Head = 3 3/8" (89mm) to bottom of head or transom panel
   Hinge and lock side = 3 3/8" (94mm) to rabbet on jamb
4. Standard core system:
   1" (25mm) cell Kraft honeycomb core is laminated to both face sheets with contact adhesive. The honeycomb is phenolic resin impregnated and sanded to insure ultimate lamination and performance. To further enhance the structural stability of the door the honeycomb core material is subjected to several unique operations prior to assembly. If any of these operations are eliminated, the strength and durability of the door is compromised.
5. Hardware preparations: to meet specifications, doors can be prepared for all commercial mortised hardware, and can be factory reinforced for surface applied hardware applications.
   - Lock prep – details and dimensions shown are for cylindrical ANSI 115.2 type locks. For mortise ANSI A15.1 locks, the centerline of the lock is located 5 3/4" (146mm) lower.
6. Glass lites with Deiziner trim and louvers: doors with glazed cutouts and doors with louvers are available (see Lites and Louvers section of Spec Manual).
Wood Doors

Requirements

- All Wood Doors To Be Plain Sliced Red Oak
- All Wood Doors To Have Matching Edges
- All Wood Doors To Have 5 Ply Construction

Note: Verify Face Veneer With Owner

Approved Manufacturers

Marshfield, Algoma
## Particleboard Core Doors

**Neutral Pressure - NON-RATED (DPC-1) and 20-MINUTE (DFP-20)**

<table>
<thead>
<tr>
<th>Product Features and Specifications</th>
<th>Interior Only (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Thickness</strong></td>
<td>1-1/4&quot; or 1-3/8&quot;</td>
</tr>
<tr>
<td><strong>Maximum Size</strong></td>
<td></td>
</tr>
<tr>
<td><strong>DPC-1:</strong></td>
<td>Single: 4/0 x 10/0</td>
</tr>
<tr>
<td><strong>DFP-20:</strong></td>
<td>Pair: 8/0 x 10/0</td>
</tr>
<tr>
<td><strong>Minimum Size</strong></td>
<td>0/8 x 1/10 (3)</td>
</tr>
<tr>
<td><strong>Faces</strong></td>
<td>Wood Veneer (5-Ply)</td>
</tr>
<tr>
<td><strong>Crossbands</strong></td>
<td>Medium Density Overlay (MDO)</td>
</tr>
<tr>
<td><strong>Stiles</strong></td>
<td>1-3/8&quot; LSL with veneer band or decorative laminate to match face (2) (4)</td>
</tr>
<tr>
<td><strong>Top and Bottom Rails</strong></td>
<td>1-1/8&quot;, mill option (5) (6) (7)</td>
</tr>
<tr>
<td><strong>Face Assembly Adhesive</strong></td>
<td>Type I (waterproof)</td>
</tr>
<tr>
<td><strong>Core Assembly Adhesive</strong></td>
<td>Type II (water-resistant)</td>
</tr>
<tr>
<td><strong>Maximum Size of Lite Openings (8)</strong></td>
<td>Particulateboard which complies with ANSI A208.1-LD-2</td>
</tr>
</tbody>
</table>

### METAL VISION FRAMES OR WOOD MOLDING:

| **DPC-1:**                          | (9) (10) |
| **Total area of openings not to exceed 1,296 sq. in. of visible glass or one continuous dimension of 36" W or 54" H** |

| **DFP-20:**                         | (12) 1-3/4" thickness: 1/4" wired glass only |
| **Total area of openings not to exceed 1,296 sq. in. of visible glass or one continuous dimension of 36" W or 54" H** |

| **DFP-20:**                         | (12) 1-3/8" thickness: 1/4" wired glass only |
| **Total area of openings not to exceed 100 sq. in. of visible glass or one continuous dimension of 12" W or 33" H** |

| **Other Detail Work (15)**          | Filling  |
| **Factory Finish (16)**            | Machining  |
| **Warranty**                       | Standard Louvers  |
| **Security Rating**                 | Applied Molding  |
| **Acoustic Rating**                 | Glazing  |
| **Prime only**                      | Environized UV-F finish  |
| **Opaque with flat glass topcoat**  | Full; life of original installation (1) |

1. Use of Marshfield Door Systems, Inc. doors in exterior applications is not recommended and not warranted.
2. Fire retardant stiles eliminate the need for metal edge and astragal.
3. Either the width or length dimension must be at least 22".
4. 2 ply full outer stile available.
5. Laminated Strand Lumber (LSL) or hardwood at mill option.
6. Wider rails available.
7. Bottom rails are a minimum 2-1/2" in doors requiring deep mortise machining for closers, holders, pivots, battom seals, etc.
9. Lites will be allowed up to 110" in length on DPC-1 doors but will not be covered by the Marshfield Door Systems, Inc. warranty.
10. Minimum 5" from lite to any edge and adjacent openings, including hardware cutouts.
11. If 1/4" wired glass is used in doors that are shipping to Canada or anywhere that requires hose stream testing, Trim-Lite™ moulding is required.
12. Minimum 5-1/2" from lite to any edge and adjacent openings, including hardware cutouts.
13. All Fire-rated doors must be machined by Marshfield Door Systems, Inc. or other approved fire door machinists.
14. Metal vision frame is All Metal stamping 115-1 for ITS-WH and a 117 or 118M for UL.
15. All Fire-rated doors must be machined by Marshfield Door Systems, Inc. or other approved fire door machinists.
16. Factory machining of surface mounted exit devices with face holes 1" and larger is available.
17. All colors may not be available.
18. Per URC standard 41-1 and ASTM F-476.
Particleboard Core Doors
Positive Pressure with Concealed Intumescents (1) (2) - 20-MINUTE (DFP-20PP)

<table>
<thead>
<tr>
<th>Product Features and Specifications</th>
<th>Interior Only (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>1-3/4&quot;</td>
</tr>
<tr>
<td>Maximum Size</td>
<td>1-3/4&quot;: Single: 40 x 10/0  Pair: 80 x 9/0 (4) Double Egress Pair: 80 x 9/0 (4)</td>
</tr>
<tr>
<td>Minimum Size</td>
<td>0 x 10/0 (5)</td>
</tr>
<tr>
<td>Faces</td>
<td>Wood Veneer (5-Ply)  Decorative Laminate  Medium-Density Overlay (MDO)  Studded Door Face</td>
</tr>
<tr>
<td>Crossbands</td>
<td>Engineered fiber  On decorative laminate doors, standard construction is edgeband after decorative laminate face; no crossband is used (3-ply). If doors require edgeband before decorative laminate face, the crossband is used (5-ply).</td>
</tr>
<tr>
<td>Stiles</td>
<td>1-1/8&quot; concealed intumescent positive pressure stiles with veneer band or decorative laminate to match face</td>
</tr>
<tr>
<td>Top and Bottom Rails</td>
<td>1-1/8&quot; Mill Option (6) (7) (8)</td>
</tr>
<tr>
<td>Face Assembly Adhesive</td>
<td>Type I (waterproof)</td>
</tr>
<tr>
<td>Core Assembly Adhesive</td>
<td>Type II (water-resistant)</td>
</tr>
<tr>
<td>Core</td>
<td>Particleboard  (which complies with ANSI A208.1-1996)</td>
</tr>
<tr>
<td>Maximum Size of Lite Openings (9)</td>
<td>1-20</td>
</tr>
<tr>
<td>METAL VISION FRAMES or WOOD MOULDING (11):</td>
<td></td>
</tr>
<tr>
<td>DFP-20PP: 1/4&quot; wired glass only:</td>
<td>Total area of openings not to exceed 1,296 sq. in. of visible glass or one continuous dimension of 36&quot; W or 54&quot; H</td>
</tr>
<tr>
<td>FIRE-TRIM (12) MOULDING:</td>
<td></td>
</tr>
<tr>
<td>DFP-20PP: 5/16&quot; Firelite® Plus glass only:</td>
<td>Total area of openings not to exceed 1,296 sq. in. of visible glass or one continuous dimension of 36&quot; W or 54&quot; H</td>
</tr>
<tr>
<td>METAL VISION FRAMES:</td>
<td></td>
</tr>
<tr>
<td>DFP-20PP: 3/16&quot; Firelite® NT glass only (13):</td>
<td>Total area of openings not to exceed 1,296 sq. in. of visible glass or one continuous dimension of 36&quot; W or 54&quot; H</td>
</tr>
<tr>
<td>Other Details/Work (14)</td>
<td>- Finishing  - Machining  - Applied Finishes  - Glazing  - Clear or satin finish with satin finish  - Environ UV finish  - Prime only  - Opaque with flat gloss topcoat</td>
</tr>
<tr>
<td>Factory Finish (15)</td>
<td>Fully life of original installation (3)</td>
</tr>
<tr>
<td>Warranty</td>
<td>Class 40 (16), highest security rating possible</td>
</tr>
<tr>
<td>Security Rating</td>
<td>STC 31 (Inadequate)</td>
</tr>
<tr>
<td>Acoustic Rating</td>
<td></td>
</tr>
</tbody>
</table>

(1) Meets UBC 7.2 (97) Positive Pressure requirements.
(2) Frame mounted listed and approved gasket required for these doors to receive positive pressure S (smoke label).
(3) Use of Marshfield Door Systems, Inc. doors in exterior applications is not recommended and not warranted.
(4) On pairs of doors, Perko S77 gasket used with concealed intumescent stiles eliminates the need for metal edge and astragal (MEA). Perko S77 gasket or MEA is required for pairs of doors to receive the positive-pressure S (smoke) label.
(5) Either the width or length dimension must be at least 22".
(6) Wide rails available.
(7) Bottom rails are a minimum 2-1/2" in doors requiring deep mortise machineries for bottom rails.
(8) Laminated Strand Lumber (LSL) or hardwood at mill option.
(10) Minimum distance requirement is S-1/2" from cutout to any edge and adjacent openings, including hardware cutouts.
(11) If 1/4" wired glass is used in doors that are shipping to Canada or anywhere that requires hose stream testing, Cool-Mate™ moulding is required.
(12) S-16" Firelite® Plus glass required with Fire-Trim wood moulding.
(13) All Metal 115-1 vision frame required.
(14) All fire-rated doors must be machined by Marshfield Door Systems, Inc. or other approved fire door machineries. Factory machining of surface-mounted exit devices with face holes 1" and larger is offered.
(15) All colors may not be available.
(16) Per UBC 41-1 and ASTM C-476.
Standard Lite Mouldings

Appendix A

Lite mouldings are installed on one side and the other side is precut for field installation after glazing. Mouldings are set for 1/4" glass or upon request for different glass thickness. Marshfield DoorSystems will factory glaze upon request.

On doors with cut-out only, Marshfield DoorSystems does not square out the corners of the cut-out.

Wood Lite Kits for Non-Rated and 20-Minute Rated Doors

Glazing compound/caulking must be used when installing glass.

**Not available as 20-Minute Rated**

Canada Trim-Lite™ Moulding for 20-Minute Rated Doors Requiring Hose Stream Testing

Caulking required.

**Not available as 20-Minute Rated**

Canada Trim-Lite™ is only required on doors shipping to Canada or any jurisdiction that requires hose stream testing.

Downset may vary due to allowable tolerance deviations in components.

Wood Fire-Trim System for 20-Minute Rated Doors

Fire-Trim lite mouldings are for use with 20-minute positive pressure doors and structural composite lumber core neutral pressure doors. Fire-Trim lite mouldings are set for 5/16" LiteLITE® Plus glass thickness. Marshfield DoorSystems will factory glaze upon request.

ITS WH and UL approved with 5/16" LiteLITE® Plus glass only.

Downset may vary due to allowable tolerance deviations in components.

Veneer Clad, Wood Wrapped or Metal Lite Kits for 90, 60 and 45-Minute Rated Doors

Metacaulk caulking required for veneer clad lites over 100 sq. in. (Metacaulk supplied by Marshfield DoorSystems)

**Field Glazing Instructions for Non-Labeled and 20-Minute Rated Marshfield DoorSystems Doors**

- Apply a 1/8" to 1/4" bead of DAP Alex Plus Acrylic Latex Caulk Plus Silicone in the corner made by the glass and the door frame. This bead should be applied on both sides.

- Moulding should be installed with 16 gauge #2 finish nails. Nails should be spaced 3" from the end of each moulding piece and at 6" intervals thereafter.

- Factory finished doors with applied mouldings, louver or factory glazed lites will have nail holes filled.

- Doors to be glazed in the field will not have nail holes filled, even if the doors are factory finished.

Note: For more information on lite kits to be used with other glazing materials for rated and non-rated doors, please contact Marshfield DoorSystems Sales & Service Center.

- #117 or #118M Metal Vision Frame available for doors with glass thickness other than 1/4" or doors other than 1-3/4" thick.

- Amerstat LO-FP frames available for circle lites.

Marshfield DoorSystems does not assume responsibility for the choice of glazing materials used. Refer to consumer Product Safety Commission 16 CFR 1201 CAT. II (1-97 Edition) to determine the need for safety-rated glazing.
Information on Fire-Rated Doors

Appendix F

MINERAL CORE

Choosing the Right Fire-Rated Door

The rating of the fire door you need is determined by the local building code and the authority having jurisdiction. Marshfield Door Systems fire-rated doors have successfully completed over 1,000,000 slams without failure tested per WDMA, TM-71.

Basic Requirements for Installing Fire-Rated Doors

1. Do not remove the classified label.
2. Install in accordance with Marshfield Door Systems Care & Handling Instructions and NFPA 80.
3. Install listed glass in approved fire kits and carefully follow directions enclosed.
4. Install steel full-mortised butt hinges by drilling 1/4" pilot holes and use #12 x 1-1/4" threaded self-tapping Type AB screws in accordance with ANSI B16.6A-1993. Install steel half-surface hinges with fireplated, backerplates and through bolts.

Hinges

The National Fire Protection Association Standard specifies that two hinges must be used for doors up to 60" in height. An additional hinge is required for each additional 30" in height or fraction thereof.

Closers

The Underwriters Laboratories Building Materials Directory catalogs a number of surface-type closers that may be used with labeled fire-rated doors. A surface-type closer is one that does not require the removal of wood except for fasteners. Concealed closers may not be used.

Surface-mounted hardware can be used on doors with inner blocking, without through bolts.

Installation Note

Surface mounted hardware, on mineral core doors, must be anchored on an inner blocked door using a No. 12 screw which penetrates the door by a minimum of 1-1/4", 1/4" pilot holes must be drilled the depth of the screws. Do not use combination screws.

No-Bolt Inner Blocking

The purpose of No-Bolt Inner Blocking is to attach surface hardware and exit devices with screws, thus eliminating through bolts on mineral core fire doors. It is not necessary to use No-Bolt inner blocking on Marshfield Door Systems fire doors where doors are matched for standard locks.

- Screw Withdrawal Exceeds 700 lbs. (tested per WDMA, TM-10)
- Options for No-Bolt Blocking:

AT Rails on Mineral Core Doors

"AT" stands for "Advanced Technology". The AT rail is a white, non-combustible material. There is no lumber or wood in an AT rail. Marshfield Door Systems uses AT rails for mineral core doors with the following approvals:

Agency Approvals

InterTek Testing Services – Warrick Hersey and Underwriters Laboratories have authorized usage of:
- Magnetic switches listed for use on wood or composite
- 45-90 minute fire doors with 2-1/4" AT top rail
- Bottom seals listed for use on wood or composite 45-90 minute fire doors that are no longer than 1-15/16" deep and 15/16" wide with 3-1/4" AT bottom rails. Bottom seal must be installed with screws and silicone caulking. Note: AT rails may be used on mineral core doors for other instances by request. They are not necessarily limited to use with magnetic switches and bottom seals. The AT rails can also be combined with No-Bolt inner blocking for doors that require greater than 5" blocking.

Multiple AT rails available in the following sizes: 2-1/4", 3-1/4", 4-7/16", 5"

Kickplates

Kickplates may be attached to the face of the door. The plate used must be an approved material (metal, high pressure laminate, PVC, or acrylic). The surface applied kickplate may be applied with screws or suitable adhesive.

- The height is not to exceed:
  - Up to 48" from the bottom of the door on 20-90 minute doors
  - Anvyn Kickplates and PVC by InterTek can be the “full height” of the door for all ratings 20 thru 90-minute, UL labeled only.

Fire-Rated Lite Systems

Underwriters Laboratories and InterTek Testing Services – Warrick Hersey procedures require that openings be cut at the factory or by a licensed mason with all approved materials so that approved lite systems be used.

Marshfield Door Systems will factory glaze upon request. More than one lite opening per door is permitted. For the allowable combined area of the lite opening and limitations, see Appendix C, H and I. There must be at least 5-1/2 inches from lite to any edge and adjacent openings on any fire-rated door in order to retain a classified fire rating.

Independent Certification

The Marshfield Door Systems fire-rated product line has been tested, and is listed and labeled by InterTek Testing Services – Warrick Hersey (ITS-WH) and Underwriters Laboratories (UL) in accordance with ASTM E-152-73, NFPA 252-73, UBC 43-7/73, UL 10B and CAN4-S104 with hose stream.

For Additional Information on Installation of Fire-Rated Doors

For more information on how to install fire-rated doors, see NFPA 80. For application information, see NFPA 101:

- National Fire Protection Association
  80, Box 9101
  1 Batterymarch Park
  Quincy, MA 02269

or

Installation Guide for Doors and Hardware

For More Information on Fire-Rated Doors

For more information on how to install fire-rated doors, see NFPA 80. For application information, see NFPA 101:

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  Quincy, MA 02269

or

Installation Guide for Doors and Hardware

For More Information on Fire-Rated Doors

Underwriters Laboratories, Inc.
333 Pfingsten Road
Northbrook, IL 60062
708-272-3600
or
InterTek Testing Services – Warrick Hersey
8133 Murphy Drive
Middletown, WI 53562
608-836-4400

Note: Marshfield Door Systems, Inc. doors are manufactured per the standards listed on this page. Specifications are subject to change without notice.
Hinges

Requirements
- Hinges on new projects to be 3 knuckle type
- Use Fasteners Supplied By Manufacturer
- All hinges to be 626/652 dull chrome finish
- All hinges at exterior openings to have non removable pins

Number Of Hinges Per Door

<table>
<thead>
<tr>
<th>Hinges</th>
<th>Doors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Up To 60&quot; In Height</td>
</tr>
<tr>
<td>3</td>
<td>Over 60&quot; Up To 90&quot;</td>
</tr>
<tr>
<td>4</td>
<td>Over 90&quot; Up To 120&quot;</td>
</tr>
</tbody>
</table>

For Doors Over 120" Add 1 Hinge For Each Additional 30" Or Fraction Thereof

Approved Manufacturers

Hager
### Full Mortise Hinges

**Plain Bearing • Standard Weight • Template**

For use on Medium Weight Doors or Doors Requiring Low Frequency Service

**700**
Steel with steel pin ANSI A8133

**800**
Brass with brass pin ANSI A2133

Stainless Steel with stainless steel pin ANSI A5133

Three knuckle non-rising removable pin with concealed pin and plug. Identical in appearance to Tri-Con bearing hinges except “AB” does not appear on leaf under Hager trademark.

Specify screw requirements.

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Number of Holes</th>
<th>Screw Size</th>
<th>Quantity</th>
<th>Avg. Weight per Case (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 x 3½</td>
<td>0.119</td>
<td>8</td>
<td>¼ x 10-24</td>
<td>1 x 9</td>
<td>2 each 100 each 66 72</td>
</tr>
<tr>
<td>3 x 6</td>
<td>0.129</td>
<td>8</td>
<td>¼ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 48 each 43 47</td>
</tr>
<tr>
<td>3½ x 4</td>
<td>0.134</td>
<td>8</td>
<td>½ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 48 each 55 60</td>
</tr>
<tr>
<td>3½ x 4½</td>
<td>0.134</td>
<td>8</td>
<td>½ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 48 each 55 60</td>
</tr>
<tr>
<td>4 x 4</td>
<td>0.145</td>
<td>8</td>
<td>½ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 24 each 37 40</td>
</tr>
<tr>
<td>4½ x 4</td>
<td>0.145</td>
<td>8</td>
<td>½ x 12-24</td>
<td>¼ x 12</td>
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<tr>
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<td>½ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 24 each 37 40</td>
</tr>
</tbody>
</table>

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### Concealed Bearing • Standard Weight • Template

For use on Medium Weight Doors or Doors Requiring Medium Frequency Service

**AB700**
Steel with steel pin ANSI A8112

**AB800**
Brass with brass pin ANSI A2112

Stainless Steel with stainless steel pin ANSI A5112

Three knuckle with concealed hinge bearings, non-rising removable pin, concealed pin head and plug. Specify screw requirements.

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Number of Holes</th>
<th>Screw Size</th>
<th>Quantity</th>
<th>Avg. Weight per Case (lbs)</th>
</tr>
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<tr>
<td>3½ x 3½</td>
<td>0.119</td>
<td>6</td>
<td>¼ x 10-24</td>
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<td>2 each 100 each 66 72</td>
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<tr>
<td>4 x 4</td>
<td>0.129</td>
<td>8</td>
<td>¼ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 48 each 43 47</td>
</tr>
<tr>
<td>4½ x 4</td>
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<td>8</td>
<td>½ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 48 each 55 60</td>
</tr>
<tr>
<td>4½ x 4½</td>
<td>0.134</td>
<td>8</td>
<td>½ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 48 each 55 60</td>
</tr>
<tr>
<td>5 x 5</td>
<td>0.145</td>
<td>8</td>
<td>½ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 24 each 37 40</td>
</tr>
<tr>
<td>5½ x 5</td>
<td>0.145</td>
<td>8</td>
<td>½ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 24 each 37 40</td>
</tr>
</tbody>
</table>

---

### Concealed Bearing • Standard Weight • Template • Wide Throw

For use on Medium Weight Doors or Doors Requiring Medium Frequency Service

**AB700 - Wide Throw**
Steel with steel pin ANSI A8112

**AB800 - Wide Throw**
Brass with brass pin ANSI A2112

Stainless Steel with stainless steel pin ANSI A5112

Three knuckle with concealed hinge bearings, non-rising removable pin, concealed pin head and plug. Specify screw requirements.

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge of Metal</th>
<th>Number of Holes</th>
<th>Screw Size</th>
<th>Quantity</th>
<th>Avg. Weight per Case (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4½ x 5</td>
<td>0.134</td>
<td>8</td>
<td>¼ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 24 each 42 47</td>
</tr>
<tr>
<td>4½ x 6</td>
<td>0.134</td>
<td>8</td>
<td>¼ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 24 each 42 47</td>
</tr>
<tr>
<td>4½ x 7</td>
<td>0.134</td>
<td>8</td>
<td>¼ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 24 each 42 47</td>
</tr>
<tr>
<td>4½ x 8</td>
<td>0.134</td>
<td>8</td>
<td>¼ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 24 each 42 47</td>
</tr>
<tr>
<td>5 x 6</td>
<td>0.145</td>
<td>8</td>
<td>½ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 12 each 27 29</td>
</tr>
<tr>
<td>5 x 7</td>
<td>0.145</td>
<td>8</td>
<td>½ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 12 each 27 29</td>
</tr>
<tr>
<td>5 x 8</td>
<td>0.145</td>
<td>8</td>
<td>½ x 12-24</td>
<td>¼ x 12</td>
<td>3 each 12 each 27 29</td>
</tr>
</tbody>
</table>

---

Hinge testing conforms to ANSI A156.1. Furnished with screw hole locations that conform to standards approved by ANSI A156.7.

**Hager Website: www.hagerhinge.com**

"THE FIRST FAMILY OF SUPERIOR HARDWARE"
# Full Mortise Hinges

**Concealed Bearing • Heavy Weight • Template**

For use on Heavy Weight Door or Doors Requiring High Frequency Service

<table>
<thead>
<tr>
<th><strong>AB750</strong></th>
<th><strong>Steel with steel pin</strong> ANSI A8111</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AB850</strong></td>
<td><strong>Brass with brass pin</strong> ANSI A2111</td>
</tr>
</tbody>
</table>

Stainless Steel with stainless steel pin ANSI A5111

These knuckle with concealed hinge bearings. Non-rising removable pin, concealed pin head and plug.

Specify screw requirements.

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge</th>
<th>Number of holes</th>
<th>Screw Size</th>
<th>Quantity</th>
<th>Avg weight per case (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 3/4 x 4 1/2</td>
<td>0.180</td>
<td>8</td>
<td>⅞ x 12-24</td>
<td>3 each</td>
<td>24 each</td>
</tr>
<tr>
<td>5 x 4 1/2</td>
<td>0.180</td>
<td>8</td>
<td>⅞ x 12-24</td>
<td>3 each</td>
<td>24 each</td>
</tr>
<tr>
<td>5 x 5</td>
<td>0.190</td>
<td>8</td>
<td>⅞ x 12-24</td>
<td>3 each</td>
<td>24 each</td>
</tr>
<tr>
<td>6 x 4 1/2</td>
<td>0.152 x 114</td>
<td>190 SS</td>
<td>⅞ x 12-24</td>
<td>3 each</td>
<td>24 each</td>
</tr>
<tr>
<td>6 x 5</td>
<td>0.190</td>
<td>8</td>
<td>⅞ x 12-24</td>
<td>3 each</td>
<td>24 each</td>
</tr>
<tr>
<td>6 x 6</td>
<td>0.190</td>
<td>8</td>
<td>⅞ x 12-24</td>
<td>3 each</td>
<td>24 each</td>
</tr>
</tbody>
</table>

---

**Concealed Bearing • Heavy Weight • Template • Wide Throw**

For use on Heavy Weight Door or Doors Requiring High Frequency Service

<table>
<thead>
<tr>
<th><strong>AB750 – Wide Throw</strong></th>
<th><strong>Steel with steel pin</strong> ANSI A8111</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AB850 – Wide Swing</strong></td>
<td><strong>Brass with brass pin</strong> ANSI A2111</td>
</tr>
</tbody>
</table>

Stainless Steel with stainless steel pin ANSI A5111

Three knuckle with concealed hinge bearings non-rising removable pin, concealed pin head and plug.

Specify screw requirements.

<table>
<thead>
<tr>
<th>Hinge Size</th>
<th>Gauge</th>
<th>Number of holes</th>
<th>Screw Size</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>6 x 6</td>
<td>0.180</td>
<td>8</td>
<td>⅞ x 12-24</td>
<td>3 each</td>
<td>24 each</td>
</tr>
<tr>
<td>6 1/2 x 6</td>
<td>0.180</td>
<td>8</td>
<td>⅞ x 12-24</td>
<td>3 each</td>
<td>24 each</td>
</tr>
<tr>
<td>6 1/2 x 7</td>
<td>0.180</td>
<td>8</td>
<td>⅞ x 12-24</td>
<td>3 each</td>
<td>24 each</td>
</tr>
<tr>
<td>6 x 8</td>
<td>0.180</td>
<td>8</td>
<td>⅞ x 12-24</td>
<td>3 each</td>
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</tr>
<tr>
<td>5 x 7</td>
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<td>8</td>
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<td>3 each</td>
<td>24 each</td>
</tr>
<tr>
<td>5 x 8</td>
<td>0.180</td>
<td>8</td>
<td>⅞ x 12-24</td>
<td>3 each</td>
<td>24 each</td>
</tr>
</tbody>
</table>

---

Hinge testing conforms to ANSI A156.1. Furnished with screw hole locations that conform to standards approved by ANSI A156.7.

2A Ph. 1-800-325-9995 or 1-314-772-4400 • Fax 1-800-782-0149 or 1-314-772-0744

“THE FIRST FAMILY OF SUPERIOR HARDWARE”
Locksets

Requirements

-All Locksets To Be Grade 1 Series 4000 Cylindrical
-All Locksets To Have ADA Approved Lever Trim
-All Locksets to be Dull Chrome (626) Finish
-All Lock And Cylinders To Be Keyed Into Existing Medeco Key system
-Classroom Locksets To Be Security Type

Approved Manufacturers

Schlage D Series Rho Trim No Substitution
Cylinders Medeco No Substitution
Specifications

Applications: Extra heavy duty residential, commercial, institutional, and industrial applications.


Exposed Trim: Wrought brass, bronze, or stainless steel. Levers are pressure cast zinc, plated to match finish symbols. Decorative designs are cast brass.

Keying: 6 pin tumbler with two nickel silver keys per lock. Stock lockset is layed 5 pin. Other keying options available from the factory include masterkeying, grandmasterkeying, construction keying, and interchangeable core. Also available with Primus™ high security cylinders.

Door Range: Knob and decorative designs 1 3/8" to 2" (35mm–51mm) Standard, 2" to 2 3/4" (51mm–68mm) Regular parts assembled to order. Athens, Rhodes, and Sparta designs 1 3/4" to 2" (44mm–51mm) Standard, 1 3/4" to 1 5/8" (35mm–41mm) Regular parts assembled to order. (Not available for Vanguard™ Functions)

Backset: 2 3/4" (70mm) Standard, 2 9/16" (60mm) and 3 3/4" (95mm) Backset latches available. 5" (127mm) Backset links available.
**D SERIES**

**Cutaway View**

- **Inside lever**
- **Inside spring cage**
  - Provides visible locking status
- **Turn/push button**
- **Long spindle bearing surface**
  - Prevents wobbly lever
- **Mounting posts**
  - For positive mounting to door
- **Key removable lever**
  - For quick rekeying or cylinder replacement
- **Precision solid brass 6-Pin cylinder**
- **Outside rose and spring cage**
  - Adjusts for door thickness
- **Anti-friction latch retractor**
  - Roller bearing and coil compression springs for smooth lever action

**Performance Features**

- Exceeds 800,000 cycle ANSI Grade 1 requirements.
- Exceeds ANSI A156.2, 1996, Series 4000 Grade 1, lock lever torque requirements.
- U.L. Listed for 3-hour doors.
- Precision solid brass 6 pin cylinder with nickel silver pins and keys available in all Schlage keyways.
- Key removable outside lever for quick rekeying and easy cylinder replacement.
- Independent heavy duty spring cages for effective lever support.
- Thru-bolted mechanism for positive interlock to door.
- Non-handed levers.
- Concealed mounting screws.
- Cylindrical housing-heavy gauge cold rolled steel mechanisms are corrosion treated for normal atmosphere conditions.
- Roller bearings and coil compression springs on anti-friction latch retractors ensure smooth lever action.
- Athens, Rhodes, and Sparta available with interchangeable cores.
- Available in tactile warning version for handicapped codes.
- Interchangeable core, Primus, and Primus interchangeable core cylinders available.

**Door Preparation**

- ANSI strike
  - Reversible deadlatch
  - 1/2" Throw

- 1-1/8" dia. 25mm
  - 2-1/4" dia. 57mm
  - 2-1/8" dia. 54mm

- 2-1/4" dia. 57mm
  - 5/5" dia. 8mm
  - 2-1/4" dia. 57mm
## Functions • D Levers

### ANSI A156.2 Series 4000 Grade 1

#### Non-Keyed Locks

<table>
<thead>
<tr>
<th>Schlage</th>
<th>ANSI</th>
<th>Description</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>D10S</td>
<td>F75</td>
<td>Passage Latch</td>
<td>Both levers always unlocked.</td>
</tr>
<tr>
<td>D12D</td>
<td>F89</td>
<td>Exit Lock</td>
<td>Outside lever always fixed. Inside lever always unlocked.</td>
</tr>
<tr>
<td>D12DEL</td>
<td></td>
<td>Electrically Locked (Fail Safe)</td>
<td>Outside lever continuously locked electrically. Unlocked by switch or power failure. Auxiliary latch deadlocks latchbolt when door is closed. Inside lever always free for immediate exit.</td>
</tr>
<tr>
<td>D12DEU</td>
<td></td>
<td>Electrically Unlocked (Fail Secure)</td>
<td>Outside lever continuously locked until unlocked by electric current. Auxiliary latch deadlocks latchbolt when door is closed. Inside lever always free for immediate exit.</td>
</tr>
<tr>
<td>D40S</td>
<td>F76</td>
<td>Bath/Bedroom Privacy Lock</td>
<td>Push-button locking. Can be opened from outside with small screwdriver. Turning inside lever or closing door releases button.</td>
</tr>
<tr>
<td>D44S</td>
<td></td>
<td>Hospital Privacy Lock</td>
<td>Push-button locking. Unlocked from outside by turning emergency turn-button. Turning inside lever or closing door releases button.</td>
</tr>
<tr>
<td>D170</td>
<td></td>
<td>Single Dummy Trim</td>
<td>Dummy trim for one side of door. Used for door pull or as matching inactive trim.</td>
</tr>
</tbody>
</table>

#### Keyed Locks

<table>
<thead>
<tr>
<th>Schlage</th>
<th>ANSI</th>
<th>Description</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>D50PD</td>
<td>F82</td>
<td>Entrance/Office Lock*</td>
<td>Push-button locking. Push-button locks outside lever until unlocked with key or by turning inside lever.</td>
</tr>
<tr>
<td>D53PD</td>
<td>F82</td>
<td>Entrance Lock*</td>
<td>Turn/push-button locking; pushing and turning button locks outside lever, requiring use of key until button is manually unlocked. Push-button locking; pushing button locks outside lever until unlocked by key or by turning inside lever.</td>
</tr>
<tr>
<td>D60PD</td>
<td>F88</td>
<td>Vestibule/Classroom Security Lock*</td>
<td>Latch retracted by key from outside when outside lever is locked by key in inside lever. Inside lever is always unlocked.</td>
</tr>
<tr>
<td>D66PD</td>
<td>F91</td>
<td>Store Lock**</td>
<td>Key in either lever locks or unlocks both levers.</td>
</tr>
<tr>
<td>D70PD</td>
<td>F84</td>
<td>Classroom Lock*</td>
<td>Outside lever locked and unlocked by key. Inside lever always unlocked.</td>
</tr>
<tr>
<td>D73PD</td>
<td>F90</td>
<td>Corridor Lock*</td>
<td>Locked or unlocked by key from outside. Push-button locking from inside. Turning inside lever or closing door releases button.</td>
</tr>
</tbody>
</table>

* Available functions for small format interchangeable core.

** Caution: Double cylinder locks on residences and any door in any structure which is used for egress are a life safety hazard in times of emergency and their use is not recommended. Installation should be in accordance with existing codes only.
## D Levers • Functions

### Keyed Locks

<table>
<thead>
<tr>
<th>Schlage</th>
<th>ANSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>D80PD</td>
<td>F66</td>
</tr>
<tr>
<td><strong>Storestroom Lock</strong>*</td>
<td>Outside lever fixed. Entrance by key only. Inside lever always unlocked.</td>
</tr>
</tbody>
</table>

| D80PDEL | **Electrically Locked (Fail Safe)*** | Outside lever continuously locked electrically. Unlocked by key outside or by switch or power failure. Auxiliary latch deadlocks latchbolt when door is closed. Inside lever always free for immediate exit. |

| D80PDEU | **Electrically Unlocked (Fail Secure)*** | Outside lever continuously locked until unlocked by key or electric current. Auxiliary latch deadlocks latchbolt when door is closed. Inside lever always free for immediate exit. |

| D82PD   | F87  |
| **Institution Lock*** | Both levers fixed. Entrance by key in either lever. |

| D85PD   | F93  |
| **Hotel/Motel Lock** | Outside lever fixed. Entrance by key only. Push-button in inside lever activates visual occupancy indicator, allowing only emergency masterkey to operate. Turning inside lever or closing door releases visual occupancy indicator. Rotation of inside spanner-button provides lock-out feature by keeping indicator thrown. |

### Vandigard Functions

<table>
<thead>
<tr>
<th>Schlage</th>
<th>ANSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>D91PD</td>
<td>F82</td>
</tr>
<tr>
<td><strong>Entrance/Office Lock</strong>*</td>
<td>Push-button locking. Push-button disengages outside lever until unlocked with key or by turning inside lever. Vandigard is designed to disengage outside spindle from latch when in locked condition.</td>
</tr>
</tbody>
</table>

| D92PD   | F82  |
| **Entrance Lock*** | Turn/push-button locking; pushing and turning button disengages outside lever, requiring use of key until button is manually unlocked. Push-button locking; pushing button disengages outside lever until unlocked by key or by turning inside lever. Vandigard is designed to disengage outside spindle from latch when in locked condition. |

| D93PD   | F88  |
| **Classroom Security Lock** | Latch retracted by key from outside when outside lever is disengaged by key in inside lever. Inside lever is always unlocked. Vandigard is designed to disengage outside spindle from latch when in locked position. |

| D94PD   | F84  |
| **Classroom Lock*** | Outside lever disengaged and unlocked by key. Inside lever always unlocked. Vandigard is designed to disengage outside spindle from latch when in locked condition. |

| D96DP   | F86  |
| **Storestroom Lock*** | Outside lever always disengaged. Entrance by key only. Inside lever always unlocked. Vandigard is designed to disengage outside spindle from latch when in locked condition. |

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* Available functions for small format interchangeable core.

** Caution: Double cylinder locks on residences and any door in any structure which is used for egress are a life safety hazard in times of emergency and their use is not recommended. Installation should be in accordance with existing codes only.
D SERIES

Lever Designs & Finishes

ATHENS
Symbol: ATH
Material: Pressure cast zinc lever; wrought brass or bronze rose
Finishes: 605, 606, 612, 613, 625, 626

RHODES
Symbol: RHO
Material: Pressure cast zinc lever; wrought brass or bronze rose
Finishes: 605, 606, 612, 613, 625, 626

SPARTA
Symbol: SPA
Material: Pressure cast zinc lever; wrought brass or bronze rose
Finishes: 605, 606, 612, 613, 625, 626

Vandlgard™ Keyed Lever Locks
Vandlgard™ is designed to disengage the outside spindle from the latch when in the locked condition. The locked outside lever freely rotates up and down while remaining securely locked. The free wheeling lever eliminates the ability to exert excessive force or to stand on the lever, preventing damage to internal lock components. Available in the Entrance/Office, Entrance, Classroom and Storeroom functions in all of the D-Series lever designs and finishes.

Keyed Lever Locks For Small Format Interchangeable Cores
D-Series Keyed Lever Locks are available with levers and internal components to accept 6 or 7 pin small format interchangeable core cylinders, provided by others, that are manufactured by Arrow®, Best®, Falcon®, and KSP®. Available in Rhodes design only in the Entrance/Office, Entrance, Classroom, Corridor, Storeroom, Electrically Locked and Electrically Unlocked functions. Also available in Vandlgard™ functions. To order, substitute suffix letter P with suffix letter B. Example: D53BD

Note: Athens, Rhodes, Sparta designs are available with tactile markings on the inside of the lever handle for handicap applications.