Shanahan’s Manufacturing produces a full line of commercial “knocked down” frames from 16 Ga galvanneal steel. KF-series frames are supplied in three pieces for assembly into wall openings during the framing stages. The frame jambs have corner tabs spot-welded at the mitre that interlock with slots on the frame head, which are then bent over to pull the mitred corners at the head and the jambs to a nice tight joint. The jambs are anchored to the studs using a twist-in, wood stud anchor or a welded-in-place steel stud anchor. Each jamb has a base angle welded in place for fastening to the floor.

Knocked down frames are available as fire rated from 3/4 hour, up to three hours.

**Knocked down/welded**

The following types of frames are available punch mitred for field assembly.

<table>
<thead>
<tr>
<th>KF-SERIES</th>
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<tbody>
<tr>
<td><strong>KF STANDARD PROFILE - SINGLE RETURN</strong></td>
</tr>
<tr>
<td><img src="image" alt="Diagram of KF STANDARD PROFILE - SINGLE RETURN" /></td>
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<table>
<thead>
<tr>
<th>KF-SERIES</th>
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<tbody>
<tr>
<td><strong>KF STANDARD PROFILE - DOUBLE RETURN</strong></td>
</tr>
<tr>
<td><img src="image" alt="Diagram of KF STANDARD PROFILE - DOUBLE RETURN" /></td>
</tr>
</tbody>
</table>
FW-series

FULLY WELDED

Shanahan’s Manufacturing produces a full line of commercial “fully welded” frames from 14 and 16 Ga galvanneal steel. Each frame is fully welded across the inside of the mitre and stop. The exposed welds on the mitre are ground, finished and prime painted. Each frame will have two spreader bars tack-welded in place. These spreader bars are used to square the frame and to keep the frame stable during shipping to site. “Fully welded” frames are designed to be installed during wall construction and come with welded base angles on each jamb for securing it to the floor. Each jamb is provided with masonry, steel stud or wood stud anchors as required. When butting to existing walls, the jambs are supplied, dimpled and braced for existing wall anchors.

“Fully welded” frames are available as fire rated, from 3/4 hour, up to three hours.

FW-series frames are accredited by The Canadian Food Inspection Agency for use in federally registered food establishments when installed with LS-series hollow metal doors. Available in both ZF120 (A40) galvanneal and 304 x #4 finish stainless steels.
Shanahan’s Manufacturing produces the FW-series to architectural detail in an unlimited number of design possibilities. Entrances, store fronts, window walls and partitions can be made to satisfy almost any reasonable need. Shanahan’s engineering department has the experience and technical expertise to design any configuration required to suit architectural specifications.

Shanahan’s manufactures fire tested sidelite, borrowed-lite and transom assemblies with 3/4 and 1-1/2 hour ratings available, provided the desired unit meets with fire approved design criteria.

Typical sections are illustrated to show how various popular Shanahan’s series F-components can be assembled into sidelite, borrowed-lite, transom frames, or more complicated welded units. Closed frame sections and larger sill sections are fabricated from two or more formed steel sections, with internal reinforcement as required. Custom profiles are available to suit architectural requirements. For further information regarding custom requirements, contact your nearest Shanahan’s office or distributor.
STANDARD SIDE LITE PARTS AVAILABLE

STANDARD MULLION (CAN BE PREPARED FOR HINGE OR STRIKE)

STANDARD RAIL

STANDARD BASE

STANDARD FRAME WITH SIDE LITES

TYPICAL SECTIONS
DWF-series

KNOCKED DOWN DRYWALL FRAMES FOR 1-3/4” DOORS

Shanahan’s Manufacturing produces a knocked down drywall frame, made from 16 or 18 Ga galvanneal steel, designed for installation into existing drywall rough openings. DWF-series frames have been designed for use with 1-3/4” commercial wood or hollow metal doors. The frame jambs are punch mitred and have spot-welded corner tabs, which fit through slots in the frame head. These tabs, when bent over, pull the jamb and the head together to form a tight mitred joint. The jambs are anchored with a compression anchor and base straps. The compression anchor allows for squaring the frame in the opening, and the base straps are fastened to the wall with screws to secure the frame to the base. The base straps are concealed by installation of the baseboard on the wall.

DWA-series

KNOCKED DOWN DRYWALL FRAMES FOR 1-3/8” WOOD DOORS

Similar to the Shanahan’s DWF-series frames, the DWA frame is designed for existing drywall installations where 1-3/8” wood doors are to be used. DWA-series frames are made from 20 Ga galvanneal steel and are for use in commercial and residential applications. DWA-series frames have a punch mitred joint between jambs and head. And they are held together with corner tabs spot-welded to the jambs, which slip through slots in the frame head. The jambs are anchored to the wall using a compression anchor and base straps, the same as the DWF-series frames. The hinge jamb comes complete with one pair of 3-1/2” x 3-1/2” radius corner mortised butts, chromium finish. The nominal opening is oversized to suit full sized, standard wood doors plus 3/16” in width and plus 3/4” in height.
Shan-Ex

(EXPANDABLE) FRAMES

The Shan-Ex frame has been designed for commercial building applications and, in particular, for retrofit work on existing buildings. The frame is an ideal solution when existing wall types are unknown and/or budget restraints limit demolition to existing partitions. The Shan-Ex frame is also an excellent product for use in new construction, where certain wall construction would normally be held up for custom jamb depth frames to be manufactured.

The mitred corners are architecturally pleasing, and durable corner clips provide strong, high-quality mitred joints between the head and jamb. The heavy-duty expansion slider assembly has been designed for smooth operation and superior over-all frame strength.

The Shan-Ex frame is available in three sizes accommodating wall thicknesses in the following ranges: 3-3/8” – 5-1/8”, 4-1/2” – 7-1/2”, 8” – 11”.

The rough opening should be as follows:
R.O. WIDTH = Nominal width + 1-3/4”
R.O. HEIGHT = Nominal height + 7/8”

CORROSION RESISTANT

The Shan-Ex frame is manufactured from 18 Ga galvanneal steel, which provides protection from corrosion and is an ideal substrate for finish paint.

FIRE RESISTANT

The Shan-Ex frame has been tested by an internationally recognized testing laboratory and has met, or exceeded, all safety and fire regulations.

Shan-Ex frames are rated up to and including 1-1/2 hours.
Frame Specifications

KF & FW SERIES FRAMES

Frame Material: 14, 16, 18 Ga galvanneal steel zinc coated to ASTM A653 ZF120 (A40).

Hinge Preparation: 1-1/2" pairs of 4-1/2" standard weight (0.134") template hinges for 6’8", 6’10", 7’0”, 7’2” heights. Two pairs of 4-1/2” standard weight hinges for 8'0” height. Preparation for 4-1/2" heavy weight (0.180"), 5” standard weight (0.134") and heavy weight (0.180”) also available upon order. Custom hinge preparations are also available.

Hinge Reinforcement: 10 Ga hot rolled steel offset for hinge thickness, drilled and tapped for 12-24 screws, dimpled top and bottom for projection-welding to frame material. Top hinge reinforcing to have additional stiffening bend for high frequency strength.

Strike Preparation: Standard preparation is for A.S.A. A115.1 (1-1/4” x 4-7/8”). Also available is A.S.A. A115.3 (1-1/8” x 2-3/4”). Custom strike preparation is available upon request.

Strike Reinforcement: 10 Ga cold rolled steel, offset for strike thickness, drilled and tapped for 12-24 screws, dimpled top and bottom for projection-welding to frame material.

Silencers: Three single stud rubber bumpers per strike jamb for single openings or two single stud rubber bumpers at centre of head for double openings.

Base Angles: All frame jambs to have 16 Ga galvanneal base angles spot-welded to frame.

Anchors: Twist-in wood stud and welded steel stud anchors available for standard profile frame material. Wire anchors for masonry application and existing wall anchors are available to suit any existing partition type. Screws for existing wall anchors are by others.

Temporary Spreaders: Each welded frame will be provided with two 16 Ga spreader bars tack-welded in place. These spreader bars are used for assembly and shipping purposes only.

Smoke Barrier Frames: All parts are made with equal/equal profile (1-15/16” rebate both sides of stop). For fire rated openings, 2-3/16” full height angle reinforcements are welded in place to the inside of the mullion. A 1/4” base plate is welded to the mullion and the vertical reinforcing for fastening to the floor.

Custom Profiles: Shanahan’s Manufacturing will produce custom profiles to suit architectural detail. Please contact the factory for details.

Hinge Reinforcement: 10 Ga cold rolled steel, offset for strike thickness, drilled and tapped for 12-24 screws with dimpled top and bottom for projection-welding to frame material.

DWF-SERIES FRAMES (FOR 1-3/4” DOORS)

Frame Material: 20 Ga galvanneal steel zinc coated to ASTM A653 ZF120 (A40).

Hinge Preparation: One pair of 3-1/2” x 3-1/2” radius corner mortised butts chromium finish supplied.

Hinge Reinforcement: Standard preparation is for A.S.A. A115.3 (1-1/8” x 2-3/4”).

Strike Reinforcement: 10 Ga cold rolled steel, offset for strike thickness, drilled and tapped for 8-32 screws, dimpled top and bottom for projection-welding to frame material.

Silencers: Three single stud rubber bumpers per strike jamb.

Base Angles: All frame jambs to have 16 Ga galvanneal base angles spot-welded to frame.

Anchors: Twist-in wood stud and welded steel stud anchors available for standard profile frame material. Wire anchors for masonry application and existing wall anchors are available to suit any existing partition type. Screws for existing wall anchors are by others.

Temporary Spreaders: Each welded frame will be provided with two 16 Ga spreader bars tack-welded in place. These spreader bars are used for assembly and shipping purposes only.

Smoke Barrier Frames: All parts are made with equal/equal profile (1-15/16” rebate both sides of stop). For fire rated openings, 2-3/16” full height angle reinforcements are welded in place to the inside of the mullion. A 1/4” base plate is welded to the mullion and the vertical reinforcing for fastening to the floor.

Custom Profiles: Shanahan’s Manufacturing will produce custom profiles to suit architectural detail. Please contact the factory for details.

Hinge Reinforcement: 10 Ga cold rolled steel, offset for strike thickness, drilled and tapped for 12-24 screws, dimpled top and bottom for projection-welding to frame material.

DWA-SERIES FRAMES (FOR 1-3/8” DOORS)

Frame Material: 18 Ga galvanneal steel zinc coated to ASTM A653 ZF120 (A40).

Hinge Preparation: 1-1/2” pairs of 4-1/2” standard weight (0.134") template hinges for 6’8”, 6’10”, 7’0”, 7’2” heights. Two pairs of 4-1/2” standard weight hinges for 8'0” height. Preparation for 4-1/2” heavy weight (0.180”), 5” standard weight (0.134") and heavy weight (0.180”) also available upon order. Custom hinge preparations are also available.

Hinge Reinforcement: 10 Ga hot rolled steel, offset for strike thickness, drilled and tapped for 12-24 screws, dimpled top and bottom for projection-welding to frame material. Top hinge reinforcing to have additional stiffening bend for high frequency strength.

Silencers: Three single stud rubber bumpers per strike jamb for single openings or two single stud rubber bumpers at centre of head for double openings.

Anchors: Each jamb is supplied with a compression anchor located in the stop 3-1/2” down from the top of the jamb. Base straps are spot-welded in place for anchoring frame at the bottom of each jamb.

SHAN-EX (EXPANDABLE) FRAMES

Expandable Frames are designed as a two-piece frame component held together with a bracket system spot-welded to the frame material, which allows the jamb depth to be reduced or increased to suit site conditions. The ranges of jamb depths are 4-3/8” – 4-1/8”, 5-1/2” – 8-1/2”, 9” – 12”.

Frame Material: 18 Ga galvanneal steel zinc coated to ASTM A653 ZF120 (A40).

Hinge Preparation: 1-1/2” pairs of 4-1/2” standard weight (0.134") template hinges for 6’8”, 6’10”, 7’0”, 7’2” heights. Two pairs of 4-1/2” standard weight hinges for 8'0” height. Preparation for 4-1/2” heavy weight (0.180”), 5” standard weight (0.134") and heavy weight (0.180”) also available upon order. Custom hinge preparations are also available.

Hinge Reinforcement: 10 Ga hot rolled steel, offset for strike thickness, drilled and tapped for 12-24 screws, dimpled top and bottom for projection-welding to frame material. Top hinge reinforcing to have additional stiffening bend for high frequency strength.

Strike Preparation: Standard preparation is for A.S.A. A115.1 (1-1/4” x 4-7/8”). Also available is A.S.A. A115.3 (1-1/8” x 2-3/4”). Custom strike preparation is available upon order.

Strike Reinforcement: 10 Ga cold rolled steel, offset for strike thickness, drilled and tapped for 12-24 screws, dimpled top and bottom for projection-welding to frame material.

Silencers: Three single stud rubber bumpers per strike jamb for single openings or two single stud rubber bumpers at centre of head for double openings.

Expandable Slide Bracket: These brackets are manufactured from 16 Ga galvanneal steel and are spot-welded to the frame material. Three sliders are used on frame jams and two sliders are used on frame heads.

Anchors: The frame faces are dimpled in three locations on the jams and two locations on the heads to allow for screw fastening of the frame to the wall.
STANDARD HARDWARE LOCATIONS

**Hinges Top**—9-3/4” from top of frame to c/l of hinge.

**Middle**—All spacings to be equal between top hinge and bottom hinge.

**Bottom**—10-3/8” from c/l of hinge to base of jamb.

**Strikes**—40-5/16” c/l from base of jamb.

**Deadlocks**—47-1/4” c/l from base of jamb.

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**Door Handling Chart**

<table>
<thead>
<tr>
<th>Single Doors</th>
<th>Double Doors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right Hand</td>
<td>Right Hand Active</td>
</tr>
<tr>
<td>Outside</td>
<td>Outside</td>
</tr>
<tr>
<td>Left Hand</td>
<td>Left Hand Active</td>
</tr>
<tr>
<td>Outside</td>
<td>Outside</td>
</tr>
</tbody>
</table>

**Right Hand Reverse**

<table>
<thead>
<tr>
<th>Right Hand Reverse</th>
<th>Left Hand Reverse</th>
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<tbody>
<tr>
<td>Outside</td>
<td>Outside</td>
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</table>

**Right Hand Reverse Active**

<table>
<thead>
<tr>
<th>Right Hand Reverse Active</th>
<th>Left Hand Reverse Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside</td>
<td>Outside</td>
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**Hinge and Strike Location Chart**

### Three Hinges

<table>
<thead>
<tr>
<th>Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>6'8&quot;</td>
<td>9-3/4&quot;</td>
<td>29-15/16&quot;</td>
<td>10-3/8&quot;</td>
<td>40-5/16&quot;</td>
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<tr>
<td>6'10&quot;</td>
<td>9-3/4&quot;</td>
<td>30-15/16&quot;</td>
<td>10-3/8&quot;</td>
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<td>7'0&quot;</td>
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<td>31-15/16&quot;</td>
<td>10-3/8&quot;</td>
<td>40-5/16&quot;</td>
</tr>
<tr>
<td>7'2&quot;</td>
<td>9-3/4&quot;</td>
<td>32-15/16&quot;</td>
<td>10-3/8&quot;</td>
<td>40-5/16&quot;</td>
</tr>
<tr>
<td>8'0&quot;</td>
<td>40-5/16&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Four Hinges

<table>
<thead>
<tr>
<th>Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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</thead>
<tbody>
<tr>
<td>6'8&quot;</td>
<td>9-3/4&quot;</td>
<td>19-61/64&quot;</td>
<td>10-3/8&quot;</td>
<td>40-5/16&quot;</td>
</tr>
<tr>
<td>6'10&quot;</td>
<td>9-3/4&quot;</td>
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<td>7'0&quot;</td>
<td>9-3/4&quot;</td>
<td>21-19/64&quot;</td>
<td>10-3/8&quot;</td>
<td>40-5/16&quot;</td>
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<tr>
<td>7'2&quot;</td>
<td>9-3/4&quot;</td>
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</tr>
<tr>
<td>8'0&quot;</td>
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<td>10-3/8&quot;</td>
<td>40-5/16&quot;</td>
</tr>
</tbody>
</table>

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**Lead-Lined Frame**

4# lead applied to inside of frame with adhesive.

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**Sanitary Base**

45 degree mitre.

---

**General**

---

**Tergally Broken Frame**

1/8" x 1/2" neoprene.
Shanahan’s Manufacturing produces a full line of hollow metal doors for commercial use. LS-series doors are all made from 16, 18 or 20 Ga galvanneal steel. The doors are made with an outer pan that is punched for hinges and latching hardware then bent on each stile to form the door edge, which has a 1/8” to 2” bevel. The bending has a lock seam edge for interlocking the inside pan, which has also been punched for the latching hardware. All doors with windows are punched prior to bending to provide consistent, accurate and square windows. Doors are available with honeycomb, polyurethane, polystyrene, temperature rise or steel rib cores.

Doors can be prepared for any hardware specified. Standard sizing is nominal width minus 1/4” and nominal height minus 7/8”. This sizing allows for a 1/8” side clearance between the door and frame, and on the height it allows for 3/4” undercut, which will accommodate most floor finishes. Custom doors can be manufactured to suit almost any requirement. (Lead-lined cores, double acting, oversize doors and mono-rail cut outs are some examples of the many custom requirements that are available.)

Shanahan’s has a full fire door listing, and lockseam doors are available from 3/4 hour up to and including 1-1/2 hours fire rated.

**Lockseam**

**1-3/4" DOORS**

**LS-series (20, 18, 16 Ga)**

Shanahan’s Manufacturing manufactures a full range of welded doors for commercial use. The WSSE-series is a lockseam door that has the lockseam tackwelded every 6” along the full height of the door. These welds are then ground smooth and the seam is filled and finished to provide a seamless edge.

**WSSE-series (18, 16 Ga)**

Shanahan’s Manufacturing manufactures a wide range of continuously welded steel doors for commercial, industrial and institutional applications in addition to its extensive line of standard doors for commercial/residential use.

All Shanahan’s commercial products are designed to withstand considerable abuse and heavy-duty high frequency use. These high quality products have years of proven service behind them. They have been used in schools, arenas, hospitals, office buildings, factories and other heavy-use installations.

Shanahan’s has a full fire door listing, and WSSE and CWS doors are available from 3/4 hour up to and including three hours fire rated.

**CWS-series (18, 16, 14 Ga)**

Shanahan’s Manufacturing manufactures a wide range of continuously welded steel doors for commercial, industrial and institutional applications in addition to its extensive line of standard doors for commercial/residential use.

All Shanahan’s commercial products are designed to withstand considerable abuse and heavy-duty high frequency use. These high quality products have years of proven service behind them. They have been used in schools, arenas, hospitals, office buildings, factories and other heavy-use installations.

Shanahan’s has a full fire door listing, and WSSE and CWS doors are available from 3/4 hour up to and including three hours fire rated.
Steel Stiffened 1-3/4” DOORS

VRS-Series (18, 16, 14, 12 Ga)

When security or resistance to high frequency use is in question, Shanahan’s VRS-series doors are the answer. Constructed completely of welded steel components and insulated with glass fibrefill, VRS-series doors will provide the premium performance demanded by the conditions that they have been specifically designed to satisfy. Available to satisfy a variety of hardware configurations, including institutional security applications, the VRS-series doors are a versatile product, incorporating quality materials and superior construction for an end product that will perform under a wide range of stress conditions.

Commercial VRS Doors

Commercial VRS doors are manufactured using outer pan and inner pan construction the same as the LS-series doors. These doors are stitch-welded along the seam and ground smooth. The seams can be edge filled and finished if specified. Shanahan’s Manufacturing has fully tested steel ribbed doors with fire ratings of 3/4 hour and 1-1/2 hours available.

Security VRS Doors

Security VRS doors are manufactured as continuously edge welded with security channel stiffeners welded in place. The doors are generally manufactured from 14 Ga or 12 Ga galvanneal steel. Doors are custom made to suit project specifications. Security window framing, view ports, food passthroughs, security lock preparations and door position switches are all available upon request.
STANDARD DOOR DETAILS

A. Door Edge Detail

- HONEYCOMB CORE
- 1/8" BEVEL TO 2" - 16, 18, OR 20 GA SKIN

B. Top Hinge Reinforcing

- 10 GA FLAT ASTRAGAL SCREWED TO INACTIVE DOOR
- 14 GA HINGE REINFORCING
- SNAP-IN REMOVABLE STOP

C. Glazing Trim

- 14 GA OVERLAPPING ASTRAGAL SCREWED TO INACTIVE DOOR
- 16 GA CHANNEL

D. Cylindrical Lock Prep

- LATCHBOLT GUIDE
- 5" BACKSET POSITION
- 2-3/4" BACKSET POSITION

E. Astragal

- 14 GA FLAT ASTRAGAL SCREWED TO INACTIVE DOOR

F. Bottom Door Channel

- 16 GA CHANNEL

G. Vinyl Top Cap

- 14 GA CLOSER REINFORCING
- VINYL CAP

DOOR TYPES

- TYPE 50
- TYPE 51
- TYPE 53
- TYPE 54
- TYPE 58
- TYPE 59
- TYPE 62
- TYPE 64

Rated doors are available for wired glass (GPW) or fire rated ceramic glazing.

ELEVATIONS

SINGLE

DOUBLE

SHANAHAN'S
Embossed

1-3/4” DOORS

Shanahan’s Manufacturing combines the proven strength and durability of commercial hollow metal doors with the architectural aesthetic of embossed panel steel. Our embossed doors are designed to accommodate both the commercial and residential building industry using the same high standard manufacturing process found in fire rated commercial steel doors. Unlike most embossed doors, which use wood stiles and wood block reinforcing, all Shanahan’s door components are high-quality steel with heavy duty 10 Ga hinge reinforcements, which provide years of trouble-free performance.

Like all other Shanahan’s hollow metal products, the embossed door is manufactured from coated galvanized steel, which provides protection from corrosion and is an ideal substrate for finish paint.

Doors can be custom ordered to accommodate specific hardware/lock requirements.

FIRE RESISTANCE

The Shanahan’s embossed door has been fire tested by an internationally recognized testing laboratory and has met or exceeded all safety and fire regulations. Embossed doors are available with fire ratings up to and including 1-1/2 hours.

STANDARD SIZES

Nominal Width 2’8”, 2’10”, 3’0”
Nominal Height 6’8”, 6’10”, 7’0”

Wood Grain Embossed Doors

1-3/4” DOORS

Shanahan’s manufactures a wood grain embossed door that combines the strength and durability of a steel door with the beauty of a wood grain finished door. When finished with a stain and top coated with a lacquer finish coat, the door gives the rich appearance of a wood door with the advantage that this door will never warp, crack or bow. The door is made from embossed 20 Ga galvanneal steel sheets and heavy duty 10 Ga lock and hinge reinforcements. Paper honeycomb, polyurethane or polystyrene cores are all available.

Doors can be custom ordered to accommodate specific hardware/lock requirements and are available with fire ratings up to and including 1-1/2 hours.

STANDARD SIZES

Nominal Width 2’8”, 2’10”, 3’0”
Nominal Height 6’8”, 6’10”, 7’0”
Door Specifications

LS, WSSE & CWS SERIES

Door Material: 20, 18 or 16 Gage galvanneal tension levelled steel zinc coated to ASTM A653 ZF120 (A40).

Hinge Preparation: Mortised for 1-1/2" pairs of 4-1/2" standard weight (0.154") template hinges for 6", 6'10", 7'0" heights. Two pairs of 4-1/2" standard weight template hinges for 8'0" height. Preparation for 4-1/2" heavy weight (0.180") also available upon request. Custom hinge preparations are also available.

Hinge Reinforcement: 10 Ga hot rolled steel offset for hinge thickness, drilled and tapped for 12-24 machine screws with (4) dimples top and bottom for projection-welding to door material. Top and bottom hinge reinforcing to have additional stiffening bend for high frequency strength.

Lock Preparation: Standard preparation can be for a cylindrical lock (Can. Fed. Spec. series 300; U.S. Fed. Spec. series 4000, ANSI, A156.2) at a 2-3/4" backset, preparation for a mortised lock (U.S. Fed. Spec. series 1000, ANSI A156.13), or reinforced for rim panic devices. Custom lock preparations are available upon request. (Surface and concealed vertical rods, mortised panic, etc.)

Lock Reinforcements: Edge bracket for cylindrical lock is manufactured from 10 Ga cold rolled steel, offset for lock edge plate thickness, drilled and tapped for 8-32 machine screws with (4) dimples top and bottom for projection-welding to door material. Lock support cage is manufactured from 20 Gage galvanneal steel. Lock edge tabs for mortised locks are manufactured from 10 Ga cold rolled steel that has been offset for faceplate thickness and dimpled for projection-welding to door material. Reinforcing for rim panic devices is 16 Gage galvanneal steel, formed into angles, which are then welded to form a closed rectangular tube 4-7/8" wide by 17" high.

Top and Bottom Channels: Top and bottom of doors have 16 Ga galvanneal channels, recessed 1", spot-welded to inside and outside faces of the door at 4" o/c. Each door channel to have minimum (3) 3/8" weep holes to provide ventilation and prevent condensation build up inside of door.

Strike Preparation: Inactive leaf of pairs prepared for A.S.A. 115.1 strike (1-1/4" x 4-3/8").

Surface Mounted Hardware: Reinforce for surface and bracket type closers. Reinforcing is 16 Ga galvanneal steel formed into angles, which are then welded to form a closed rectangular tube 4" wide by 17-5/16" high. Inactive leaf of pairs of doors can be reinforced for surface-top and bottom bolts as required. All mounting holes for surface applied hardware are to be drilled and tapped by others.

Door Cores: The following door cores are available:

a) Honeycomb Core: Full honeycomb core of resin-impregnated Kraft paper with 1-1/4" cell size. This core provides exceptional strength and impact resistance as well as unequaled flatness. Door faces are left virtually free of weld marks due to the elimination of steel stiffeners.

Honeycomb provides an excellent thermal insulation (2.6k value) and sound deadening (32 DB rating) qualities.

Meets UBC 7-2-97 positive pressure requirements.

b) Polystyrene Core: Pre-expanded sheet polystyrene for exterior applications. Polystyrene provides an insulating value of 6.9k.

c) Polyurethane Core: Pre-expanded sheet polyurethane foil face one side and paper reinforced on the other side. Polyurethane provides an insulating value of 12.2k.

d) Temperature Rise Core: Mineral fibre core designed and fire tested to provide a temperature rise of:

a. 250°F in 30 min.

b. 250°F in 60 min., 450°F in 60 min.

Meets UBC 7-2-97 positive pressure requirements.

Lockseam: LS-series doors are formed to provide a positive interlocking seam between inner face and outer face. The total seam thickness measures 1/4" thick on both vertical edges of the door.

Bevel: Doors are formed to be 1-3/4" thick with a bevel of 1/8" to 2".

Fire Labelling: Shanahan's has a full range of fire-listed products with Warnock Hersey. Doors are available fire-rated from 3/4 hour up to and including three hours.

Meets UBC 7-2-97 positive pressure requirements.

VRS-SERIES

Door Material: 18, 16 or 14 Gage galvanneal tension levelled steel zinc coated to ASTM A653 ZF120 (A40).

Hinge Preparation: Mortised for 1-1/2" pairs of 4-1/2" standard weight (0.134") template hinges for 6", 6'10", 7'0", 7'2" heights. Two pairs of 4-1/2" standard weight template hinges for 8'0" height. Preparation for 4-1/2" heavy weight (0.180"), 5" standard weight (0.134") and heavy weight (0.180") also available upon order. Custom hinge preparations are also available.

Hinge Reinforcement: 10 Ga hot rolled steel offset for hinge thickness, drilled and tapped for 12-24 machine screws with (4) dimples top and bottom for projection-welding to door material. Top and bottom hinge reinforcing to have additional stiffening bend for high frequency strength.

Lock Preparation: Standard preparation can be for a cylindrical lock (Can. Fed. Spec. series 300; U.S. Fed. Spec. series 4000, ANSI, A156.2) at a 2-3/4" backset, preparation for a mortised lock (U.S. Fed. Spec. series 1000, ANSI A156.13), or reinforced for rim panic devices. Custom lock preparations are available upon order. (Surface and concealed vertical rods, mortised panic, etc.)

Lock Reinforcements: Edge bracket for cylindrical lock is manufactured from 10 Ga cold rolled steel, offset for lock edge plate thickness, drilled and tapped for 8-32 machine screws with (4) dimples top and bottom for projection-welding to door material. Lock support cage is manufactured from 20 Ga galvanneal steel. Lock edge tabs for mortised locks are manufactured from 10 Ga cold rolled steel that has been offset for faceplate thickness and dimpled for projection-welding to door material. Reinforcing for rim panic devices is 16 Ga galvanneal steel, formed into angles, which are then welded to form a closed rectangular tube 4-7/8" wide by 17" high.

Surface Mounted Hardware: Reinforce for surface and bracket type closers. Reinforcing is 16 Ga galvanneal steel formed into angles, which are then welded to form a closed rectangular tube 4" wide by 17-5/16" high. Inactive leaf of pairs of doors can be reinforced for surface-top and bottom bolts as required. All mounting holes for surface applied hardware are to be drilled and tapped by others.

Top and Bottom Channels: Top and bottom of doors have 16 Ga galvanneal channels, recessed 1", spot-welded to inside and outside faces of the door at 4" o/c. Each door channel to have minimum (6) 3/8" weep holes to provide ventilation and prevent condensation build up inside of door.

Strike Preparation: Inactive leaf of pairs prepared for A.S.A. A115.1 strike (1-1/4" x 4-3/8").

STEEL STIFFENERS:

Commercial VRS-Series: Steel stiffeners are manufactured from 18 Ga galvanneal steel. Steel is brake formed to a "w" shape and placed vertically inside the door spaced 6" across the width. These stiffeners are then spot-welded at 6" o/c to the outside and inside faces of the door. Door cavities are filled with fibreglass batt insulation, providing an insulating value of 1.2K.

Security VRS-Series: Steel stiffeners are manufactured from 16 Ga galvanneal steel which are brake formed into a series of channel shapes. These stiffeners are placed in the door vertically spaced at 4" o/c across the door width. The stiffeners are spot-welded to the door faces at 4" o/c. The channel stiffeners, which have been spot-welded to each door face are laminated and welded together during the assembly process. The spot-welding process will cause small indentations to appear in door faces wherever a spot-weld is made. These indentations are normal; however, a low gloss or flat finish paint is recommended to minimize the appearance of these indentations on the door faces.

EDGE WELDING:

Commercial VRS-Series: Doors will have the edge seams tack-welded at 6" o/c. The welds are ground down, and if specified, the seams can be filled and finished to provide a seamless edge.

Security VRS-Series: Doors will have the edge seams continuously welded. These welds are then ground down, dressed and finished.

Fire Labelling: Shanahan's has a full range of fire-listed products with Warnock Hersey. Doors are available fire-rated from 3/4 hour up to and including 1-1/2 hours.
Fire Labelling Guide

FRAMES

<table>
<thead>
<tr>
<th>TYPE</th>
<th>MAXIMUM DOOR OPENING SIZE</th>
<th>MAXIMUM RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>DWF 18</td>
<td>3'0&quot; x 7'0&quot;</td>
<td>1-1/2 hours</td>
</tr>
<tr>
<td>DWF 16</td>
<td>3'0&quot; x 7'0&quot;</td>
<td>1-1/2 hours</td>
</tr>
<tr>
<td>EXP 18</td>
<td>6'0&quot; x 7'0&quot;</td>
<td>1-1/2 hours</td>
</tr>
<tr>
<td>KF 16</td>
<td>8'0&quot; x 10'0&quot;</td>
<td>3 hours</td>
</tr>
<tr>
<td>FW 16</td>
<td>8'0&quot; x 10'0&quot;</td>
<td>3 hours</td>
</tr>
<tr>
<td>SBW 16</td>
<td>smoke barrier 2/3'0&quot; x 7'0&quot;</td>
<td></td>
</tr>
<tr>
<td>DEFW 16</td>
<td>double egress 8'0&quot; x 8'0&quot;</td>
<td>1-1/2 hours</td>
</tr>
<tr>
<td>FW 16</td>
<td>transom frames 8'0&quot; x 8'0&quot; (10'0&quot; maximum overall height)</td>
<td>1-1/2 hours</td>
</tr>
<tr>
<td>DEFW 16</td>
<td>double egress transom 8'0&quot; x 8'0&quot; (10'0&quot; maximum overall height)</td>
<td>1-1/2 hours</td>
</tr>
<tr>
<td>FW 16</td>
<td>multiple door opening 3/3'0&quot; x 7'0&quot; or 1/3'0&quot; x 7'0&quot; + 1/6'0&quot; x 7'0&quot;</td>
<td>1-1/2 hours</td>
</tr>
</tbody>
</table>

SIDELITES/BORROWED LITES (3/4 HOUR)

- Maximum overall size: 10'6" wide x 10'0" high
- Maximum door size: 6'0" wide x 7'0" high
- Maximum glass area per lite: 1296 square inches
- Maximum width of glass: 36-3/8"
- Maximum height of glass: 55-1/2"

Face Dimensions of Component Parts

- Header face: 2" up to and including 4"
- Vertical mullion face: 2" up to and including 4"
- Jamb face: 2" up to and including 4"
- Rail face: 2" up to and including 12"
- Base face: 2" up to and including 12"

Double Egress Sidelite

- Maximum door size: 8'0" wide x 8'0" high
- Maximum glass area per lite: 990 square inches
- Maximum width of glass: 22-3/4"
- Maximum height of glass: 43-1/2"

SIDELITES/BORROWED LITES (1 and 1-1/2 HOURS) Consult Manufacturer For More Information

DOORS

<table>
<thead>
<tr>
<th>TYPE</th>
<th>GAUGE</th>
<th>MAX. DOOR SIZE SINGLE</th>
<th>LEAF SIZE DOUBLE</th>
<th>MAXIMUM RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS(hc)</td>
<td>20</td>
<td>3'0&quot; x 7'0&quot;</td>
<td>6'0&quot; x 7'0&quot;</td>
<td>1-1/2 hours *</td>
</tr>
<tr>
<td>LS(hc)</td>
<td>16/18</td>
<td>4'0&quot; x 8'0&quot;</td>
<td>8'0&quot; x 8'0&quot;</td>
<td>1-1/2 hours *</td>
</tr>
<tr>
<td>WS(hc)</td>
<td>14/16/18</td>
<td>4'0&quot; x 10'0&quot;</td>
<td>8'0&quot; x 10'0&quot;</td>
<td>3 hours *</td>
</tr>
<tr>
<td>LS(poly u)</td>
<td>16/18/20</td>
<td>3'0&quot; x 7'0&quot;</td>
<td>N/A</td>
<td>3/4 hour</td>
</tr>
<tr>
<td>LS(poly s)</td>
<td>16/18/20</td>
<td>3'0&quot; x 7'0&quot;</td>
<td>6'0&quot; x 7'0&quot;</td>
<td>1-1/2 hours *</td>
</tr>
<tr>
<td>VRS</td>
<td>14/16/18</td>
<td>4'0&quot; x 8'0&quot;</td>
<td>8'0&quot; x 8'0&quot;</td>
<td>1-1/2 hours</td>
</tr>
<tr>
<td>TEMP.RISE</td>
<td>16/18</td>
<td>4'0&quot; x 8'0&quot;</td>
<td>8'0&quot; x 8'0&quot;</td>
<td>1-1/2 hours *</td>
</tr>
<tr>
<td>TEMP.RISE</td>
<td>16/18</td>
<td>4'0&quot; x 8'0&quot;</td>
<td>N/A</td>
<td>3 hours *</td>
</tr>
</tbody>
</table>

NOTES:
- 1-1/2 hour temperature rise doors must be weld seam.
- 1-1/2 hour rib stiffened doors must be weld seam.
- 3 hour honeycomb doors must be weld seam.
- 1-1/2 hour “embossed” doors available, with polys core.
- 1 and 1-1/2 hours ceramic glazing (by others).

Polyu- Polyurethane core
Polys- Polystyrene core
HC- Honeycomb core
VRS- Rib stiffened with glass fibre insulation.
* Meets UBC 7-2-97 positive pressure requirements.
WHAT IS GALVANNEAL STEEL?
“Satincoat” galvanneal (ASTM A653 ZF120 (A40)) steel is produced as a continuously hot dipped galvanized product with a coating that is completely zinc-iron alloy. Typical coating composition by weight is 8 to 12% iron, balance zinc. Galvanneal has a spangle free matte grey uniform appearance.

WHAT IS THE PURPOSE OF THE ZINC COATING?
Zinc coatings on galvanized steel products help resist corrosion due to the barrier protection and sacrificial characteristics of the coating.

Barrier Protection: In an unpolluted atmosphere, zinc coatings corrode slowly and form basic zinc salts that are insoluble in water and act as a partial insulating barrier between the zinc and the atmosphere to slow down further corrosion.

Sacrificial Protection: Zinc has a higher electro-chemical potential than steel. When zinc and steel are in contact with electrolyte, the zinc corrodes in preference to the steel, which is protected. It is this feature that enables zinc to protect steel at cut edge.

In the case of uncoated cold rolled steel, a nick or scratch in the paint coating disrupts the barrier protection provided by the paint. The exposed steel corrodes, forming a rust pocket and corrosion continues unimpeded. The rust grows to lift the paint causing blistering and paint peeling. The steel is consumed forming a corrosion pit and may eventually lead to perforation.

A damaged site on unpainted zinc coated steel can expose the steel to corrosion. However, the zinc coating sacrifices itself slowly to protect the steel. This galvanic action continues until the zinc is depleted in the immediate area.

DOES GALVANNEAL STEEL NEED TO BE PRIME COATED?
Galvanneal steel’s matte-grey, uniform surface provides an excellent base for post painting. The iron-zinc layer, by its very nature, provides an excellent mechanical keying action for paint and is ready for the finish paint, the galvanneal substituting for a primer. Tests have been done comparing cold-rolled, prime painted and finish painted steel to prime painted and finish painted galvanneal steel and finished painted galvanneal steel. These test pieces were subjected to both salt spray and fog exposures and then evaluated for Blistering (ASTM D 714), Film Creep and Corrosion (ASTMD 1654), Rust (ASTM D 610) and Film Adhesion (ASTM D 3359). The results clearly indicated that the finished painted galvanneal steel outperformed all the other samples. The tests found that applying a primer paint to the galvanneal steel did not improve product performance and in many cases acted as a detriment because it encourages moisture entrapment.