



Built-to-Order Steel Doors by Stiles

Stiles builds steel doors to your exact specifications rather than stock-piling "cookie-cutter" products that you're forced to accept "as is." Count on Stiles to experience strength in flexibility, at competitive prices and lightening-fast lead times.

- Commercial Doors and Entrance Systems
- 100s of Elevations to Choose From
- Flush, Glass Lite and Solid Panel Configurations
- Core Materials for Every Application
- Square, Radius, Arched / Gothic Tops and More
- Factory Hardware Preparation
- A60 Galvanized, Stainless Steel
- Sustainable materials and construction processes
- Factory Primed
- Multi-Feature: Bullet resistant, Sound Control, Fire Rated



MADE IN THE USA



Door Types

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Steel Stiffened Steel Doors Fiberglass Insulation

Description	Steel Stiffened doors are built-to-order for both interior and exterior high frequency use locations.
NAAMM / HMMA	802, 810, 850, 860, 861
ANSI / SDI	Levels 1, 2, 3 & 4 - (ANSI A250.8-2003)
ANSI A250.5	4,000,000 Cycles
Material	1. A60 Galvanized 2. Stainless Steel
Faces	18, 16, 14 or 12 GA
Door Edges	Beveled 1/8" in 2"
Vertical Edges	1. Welded 3" OC, Seamless 2. Continuous Welded, Seamless See Vertical Door Edges, D-3.3
Top / Bottom	16 GA Channels See Door Top & Bottoms, D-3.5
Reinforcements	Hinges: 7 GA, 1-1/2" X 10" Locks: 11 GA or equal # threads Closers: 14 or 12 GA
Core	22 GA Steel Stiffened, 5-1/4" apart
Insulation	1. Fiberglass Batt, 1.5 lb. Density R Factor = 1.57 U-Value = .64 (ASTM C1363)
STC	Min. Sound Control Rating: STC 40 (With Seals) See Sound Control
Fire Rating	See Fire Rated
Bullet Resistant	See Bullet Resistant
STD Primer	PPG Primer
Quick Ship	1, 3, 5 or 10-Day Options See Quick Ship

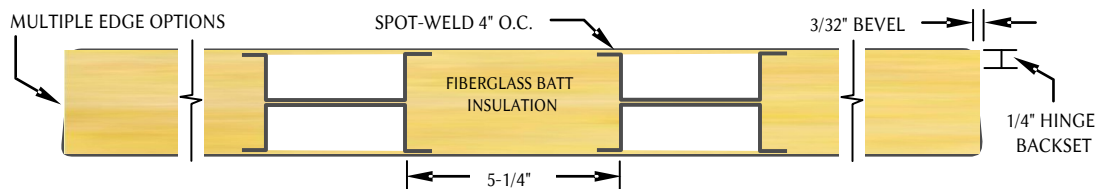
NOTE: Above door data varies depending on specific design criteria



Environmental Data

As encapsulated door core material, Fiberglass does not pose health hazards or emit toxic gas. During fire, no toxic gasses are produced and is classified as fire retardant.

All resins and bonding agents utilized in fabrication are low VOC / environmentally friendly. The long life cycle and recyclability of steel creates a truly sustainable product.



Honeycomb Core Steel Doors

Kraft Honeycomb, Composite Construction

Description	Honeycomb core doors are built-to-order, suitable for Interior locations.
NAAMM / HMMA	B02, B10, 850, 867
ANSI/SDI	ANSI A250.8 Levels 1, 2, 3, 4
Material	1. A60 Galvanized 2. Stainless Steel
Faces	18, 16, 14 or 12 GA
Door Edges	1-3/4" thick, beveled, 1/8" in 2"
Vertical Edges	1. Welded 3" OC, Seamless 2. Continuous Welded, Seamless 3. Open Seam See Vertical Door Edges
Top / Bottom	16 GA Channels See Door Top & Bottoms
Reinforcements	Hinges: 7 GA, 1-1/2" X 10" Locks: 11 GA or equal # threads Closers: 14 or 12 GA
Core	Kraft Honeycomb
Core Strength	Compression Strength: 45 psi
STC	Min. Sound Control Rating: STC 34 with Seals See Sound Control
Fire Rating	See Fire Rated
Bullet Resistant	See Bullet Resistant
STD Primer	PPG Primer - Gray
Quick Ship	1, 3, 5 or 10-Day Options See Quick Ship

NOTE: Above door data varies depending on specific design criteria

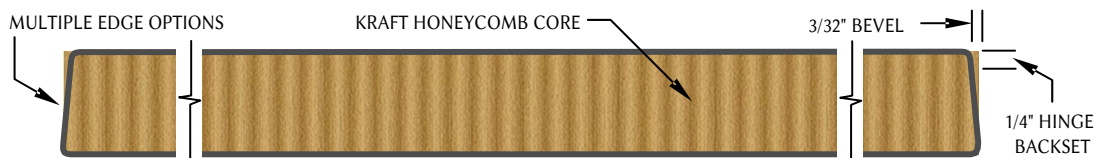


Environmental Data

Kraft honeycomb is made from recycled cellulose products. All resins and bonding agents utilized in fabrication are low VOC / environmentally friendly.

Scrap produced during door fabrication is recycled as a cardboard product, and does not contribute to the landfill.

Recycled steel and cellulose makes the Honeycomb core door a truly sustainable product.



Polyiso Core Steel Doors Composite Construction

Description	Polyisocyanurate core doors are built-to-order, suitable for both interior and exterior locations.
NAAMM / HMMA	802, 810, 850, 867
ANSI / SDI	Levels 1, 2, 3 & 4 - (ANSI A250.8)
Rating	Temp Rise Rating: 250° F or 450° F
Material	1. A60 Galvanized 2. Stainless Steel
Faces	18, 16, 14 or 12 GA
Door Edges	1-3/4" thick, beveled, 1/8" in 2"
Vertical Edges	1. Welded 3" OC, Seamless 2. Continuous Welded, Seamless 3. Open Seam See Vertical Door Edges
Top / Bottom	16 GA Channels See Door Top & Bottoms
Reinforcements	Hinges: 7 GA, 1-1/2" X 10" Locks: 11 GA or equal # threads Closers: 14 or 12 GA
Service Temp	-100° to 250°
Core	Polyisocyanurate R Factor = 2.37 U-Value = .42
Core Density	2.0 pcf
Core Strength	Compression Strength: 23 psi
STC	Min. Sound Control Rating: STC 26 See Sound Control
Fire Rating	None
Bullet Resistant	See Bullet Resistant
STD Primer	PPG Primer Gray
Quick Ship	1, 3, 5 or 10-Day Options See Quick Ship

NOTE: Above door data varies depending on specific design criteria

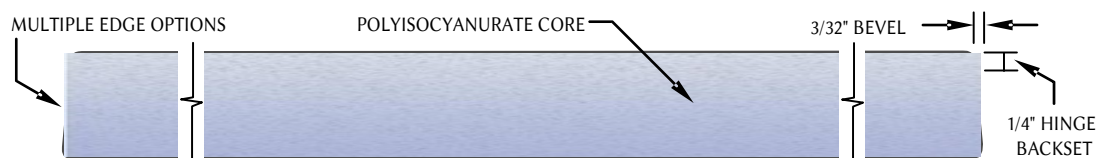


Environmental Data

Temperature Rise composite cores are made from natural mineral materials that pose no environmental threat to landfill.

All resins and bonding agents utilized in fabrication are low VOC / environmentally friendly. Stock sheet materials are ordered in sizes that minimize waste.

The long life cycle of steel makes the Temperature Rise door a truly sustainable product.



Polystyrene (EPS) Core Steel Doors Composite Construction

Description	Polystyrene core doors are built-to-order, suitable for both interior and exterior locations.
NAAMM / HMMA	802, 810, 850, 867
SDI	Levels 1, 2, 3 & 4 - (ANSI A250.8)
Material	1. Stainless Steel 2. A60 Galvanized
Faces	18, 16, 14 or 12 GA
Door Edges	1-3/4" thick, beveled, 1/8" in 2"
Vertical Edges	1. Welded 3" OC, Seamless 2. Continuous Welded, Seamless 3. Open Seam See Vertical Door Edges
Top / Bottom	16 GA Channels See Door Top & Bottoms
Reinforcements	Hinges: 7 GA, 1-1/2" X 10" Locks: 11 GA or equal # threads Closers: 14 or 12 GA
Service Temp	0° to 160°
Core	Polystyrene R Factor = 2.37 U-Value = .42 (ASTM C1363)
Core Density	1.5 pcf
Core Strength	Compression Strength: 35 psi
Fire Rating	See Fire Rated
Bullet Resistant	See Bullet Resistant
STD Primer	PPG Primer Gray
Quick Ship	1, 3, 5 or 10-Day Options See Quick Ship

NOTE: Above door data varies depending on specific design criteria

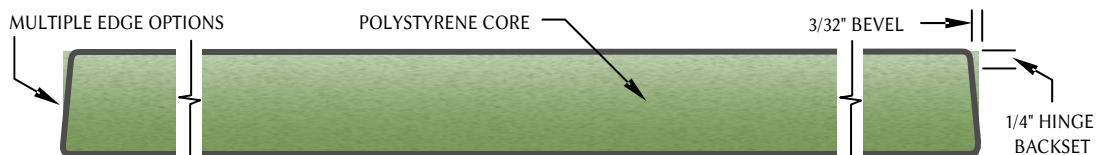


Environmental Data

EPS, a thermoplastic material, is extruded from recycled polystyrene products, and emits no CFC's or HCFC's. All resins and bonding agents utilized in fabrication are low VOC / environmentally friendly.

Natural, 100% biodegradable citrus solvents such as Limonene are utilized to "melt" and recycle polystyrene.

The long life cycle of steel makes the Polystyrene door a truly sustainable product.



Temperature Rise Steel Doors Fire Rated Core, Composite Construction

Description	Temperature Rise doors are built-to-order, suitable for interior locations.
NAAMM / HMMMA	802, 810, 850, 867
ANSI / SDI	Levels 1, 2, 3 & 4 - (ANSI A250.8)
Rating	Temp Rise Rating: 250° F or 450° F
Material	1. Stainless Steel 2. A60 Galvanized
Faces	18, 16, 14 or 12 GA
Door Edges	Beveled, 1/8" in 2"
Vertical Edges	1. Welded 3" OC, Seamless 2. Continuous Welded, Seamless See Vertical Door Edges
Top / Bottom	16 GA Channels See Door Top & Bottoms
Reinforcements	Hinges: 7 GA, 1-1/2" X 10" Locks: 11 GA or equal # threads Closers: 14 or 12 GA
Core	Fire Resistant Core Board
Core Density	27 pcf
Core Strength	Compression Strength: 279 psi
STC	Min. Sound Control Rating: STC 36 with Seals See Sound Control
Fire Rating	See Fire Rated
Bullet Resistant	See Bullet Resistant
STD Primer	PPG Primer Gray
Quick Ship	1, 3, 5 or 10-Day Options See Quick Ship

NOTE: Above door data varies depending on specific design criteria

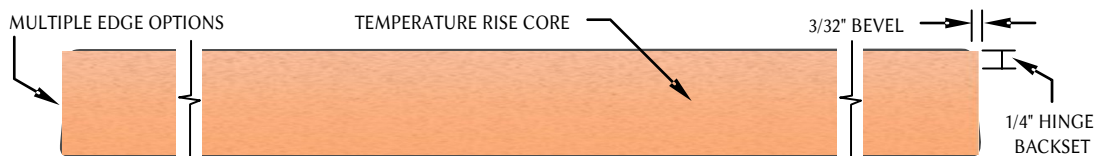


Environmental Data

Temperature Rise composite cores are made from natural mineral materials that pose no environmental threat to landfill.

All resins and bonding agents utilized in fabrication are low VOC / environmentally friendly. Stock sheet materials are ordered in sizes that minimize waste.

The long life cycle of steel makes the Temperature Rise door a truly sustainable product.



Gamma™ Lead Lined Steel Doors Steel Stiffened with Lead-Lined Cores

Description	Lead-Lined doors are built-to-order, suitable for both interior and exterior locations.
NAAMM / HMMA	802, 810, 850, 860 & 861
ANSI / SDI	Levels 1, 2, 3 & 4 - (ANSI A250.8-2003)
Material	1. A60 Galvanized 2. Stainless Steel
Faces	18, 16, or 14 GA
Door Edges	1-3/4" thick, beveled, 1/8" in 2"
Vertical Edges	1. Welded 3" OC, Seamless 2. Continuous Welded, Seamless See Vertical Door Edges
Top / Bottom	16 GA Channels See Door Top & Bottoms
Reinforcements	Hinges: 7 GA, 1-1/2" X 10" Locks: 11 GA or equal # threads Closers: 14 or 12 GA
Core	22 GA Steel Stiffeners w/ Lead Between R Factor = N/A U-Value = N/A
Lead Thickness	Varies per Spec
STC	Not Available
Fire Rating	See Fire Rated
Bullet Resistant	See Bullet Resistant
STD Primer	PPG Primer Gray
Quick Ship	10-Day Options See Quick Ship

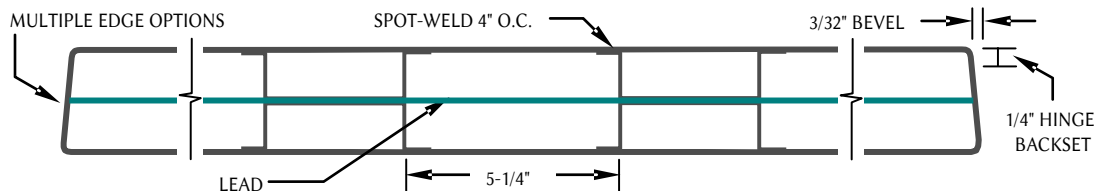
NOTE: Above door data varies depending on specific design criteria



Environmental Data

Recycled lead sheet is utilized for shielding. Lead is toxic when ingested; all precautions are taken during fabrication to prevent exposure. Lead shielding is encapsulated in the Gamma door core, eliminating any exposed lead surfaces.

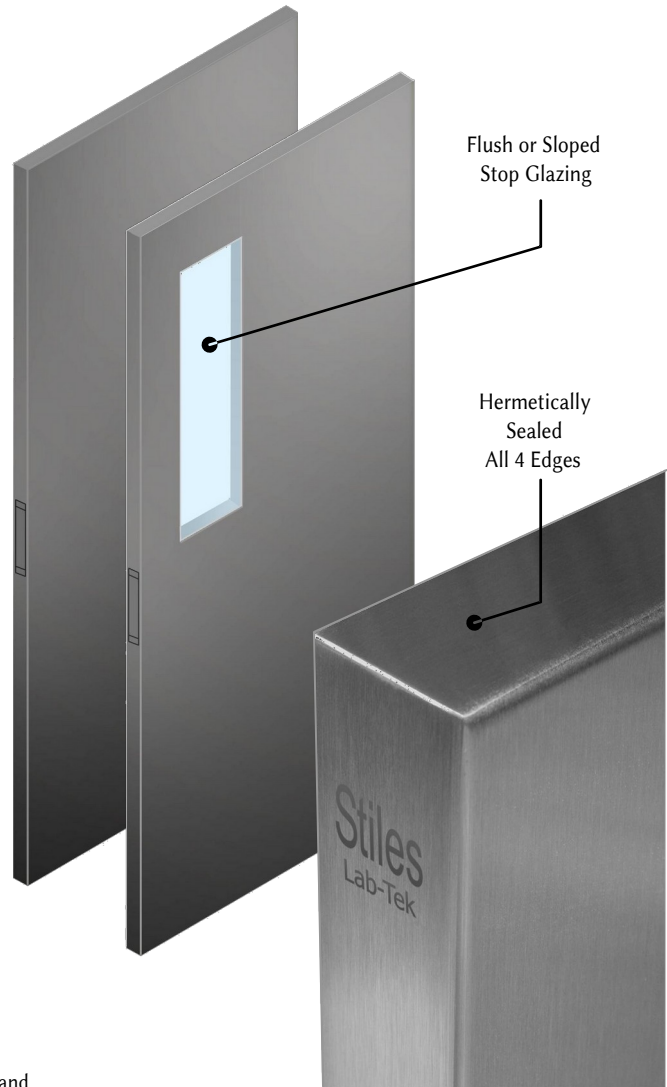
The long life cycle of steel makes the Gamma door a truly sustainable product.



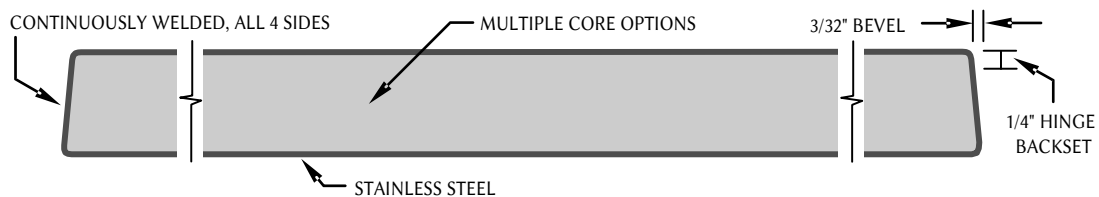
Lab-Tek™ Steel Clean Room Doors Hermetically Sealed

Description	Lead-Tek doors are built-to-order, suitable for both interior and exterior locations.
NAAMM / HMMMA	802, 810, 850, 862 & 866
Material	1. A60 Galvanized 2. Stainless Steel
Faces	18, 16, 14 or 12 GA
Door Edges	Beveled, 1/8" in 2"
Vertical Edges	Continuous Welded all 4 edges Hermetically Sealed See Vertical Door Edges
Top / Bottom	16 GA, Sealed all 4 edges See Door Top & Bottoms
Reinforcements	Hinges: 7 GA, 1-1/2" X 10" Locks: 11 GA or equal # threads Closers: 14 or 12 GA
Core	Varies, depending on application
STC	Available (Contact factory)
Fire Rating	See Fire Rated
Bullet Resistant	See Bullet Resistant
STD Primer	PPG Primer Gray

NOTE: Above door data varies depending on specific design criteria



- Engineered for Pharmaceutical, Medical, Hi-Tech, and all other laboratory and clean room applications.
- Seamless - continuously welded on all 4 door edges.
- Available in a variety of configurations, sizes, and styles, with or without glass lites.
- Flush and sloped stop glazing options to repel bacteria and shed water during wash-down / cleaning operations.
- Designed for high frequency use without sacrificing appearance.
- Stainless Steel, Galvanized Steel; Flush or Glass Lite.
- Hybrid options available including bullet-resistant and fire rated.



Impact Resistant Steel Doors

Impact Resistant Cores, Composite Construction

Description	Doors are built-to-order, suitable for both interior and exterior locations.
NAAMM / HMMA	802, 810, 850, 867
ANSI / SDI	Levels 1, 2, 3 & 54 - (ANSI A250.8-2003)
Material	1. A60 Galvanized 2. Stainless Steel
Faces	18, 16, 14 or 12 GA
Armor Options	1. FRP Face Cladding 2. Stainless Steel
Door Edges	1-3/4" thick, beveled, 1/8" in 2"
Vertical Edges	1. Welded 3" OC, Seamless 2. Continuous Welded, Seamless 3. Open Seam See Vertical Door Edges
Top / Bottom	16 GA Channels See Door Top & Bottoms
Reinforcements	Hinges: 7 GA, 1-1/2" X 10" Locks: 11 GA or equal # threads Closers: 14 or 12 GA
Core	Proprietary Impact Resistant
Core Density	6.0 pcf
STC	None
Bullet Resistant	See Bullet Resistant
STD Primer	PPG Primer Gray
Quick Ship	1, 3, 5 or 10-Day Options See Quick Ship

NOTE: Above door data varies depending on specific design criteria

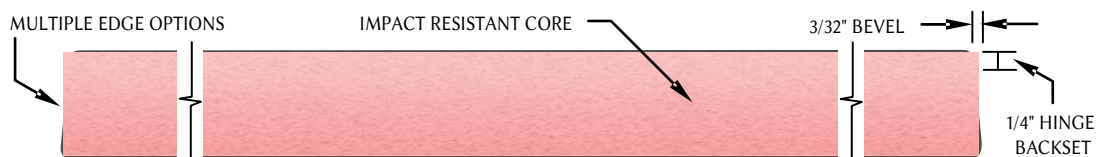


Environmental Data

The proprietary core material is made with recycled materials and has ZERO ozone depleting potential. It is HCFC free.

All resins and bonding agents utilized in the fabrication of these doors are low VOC / environmentally friendly. Stock sheet materials are ordered to make provision for minimal waste.

The long life cycle of the steel makes it a truly sustainable product.





Series 200

2" Stiles + Top Rail



Series 300

3" Stiles + Top Rail



Series 400

4" Stiles + Top Rail



Series 600

6" Stiles + Top Rail

10" Bottom Rail min. per ADA

Configurations

- Swing, Fold, Slide
- Single or Double-Acting
- Multiple Molding Options
- Glass from 1/4" - 1"
- Frame Options
- Elevation Options

Materials

- A60 Galvanized Steel, Stainless Steel & Bronze
- 18, 16, 14, or 12 GA
- Factory Finishes and Surface Treatments
- Green Materials and Manufacturing Processes
- Extremely Long Life Cycle

Hybrid Systems

- Bullet / Blast Resistant, Fire Rated, Sound Control

Factory Finishes

- Primed Painted
- Stainless Surface Textures
- Bronze Surface Textures

Options

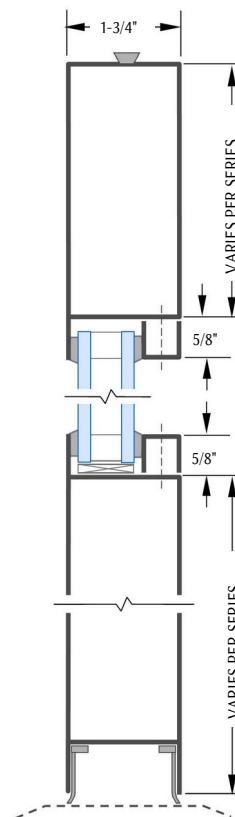
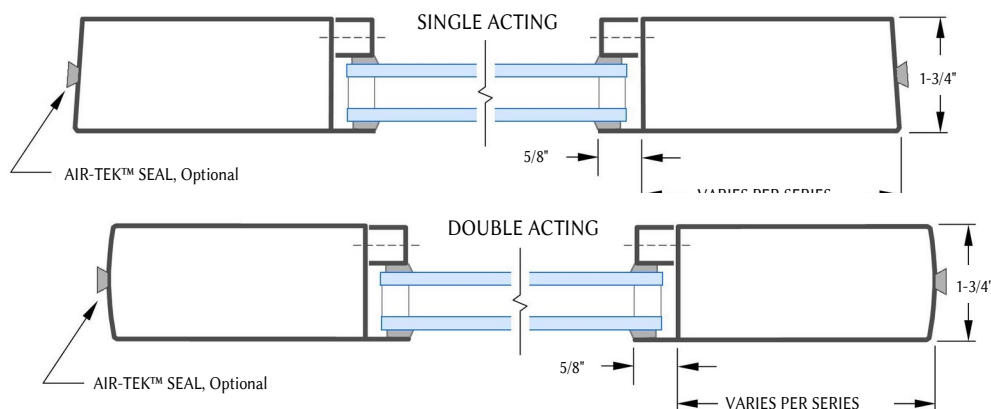
Tough yet attractive, the clean lines of Stiles Commercial Entrances are adaptable to numerous specialty features. Create a customized appearance with numerous elevations, materials options and moulding configurations.

Performance

To resist torsion forces, all four Stiles Commercial Entrance models feature the unparalleled structural integrity of our proprietary high-performance steel construction, far superior to bolt-together aluminum doors.

Flexibility

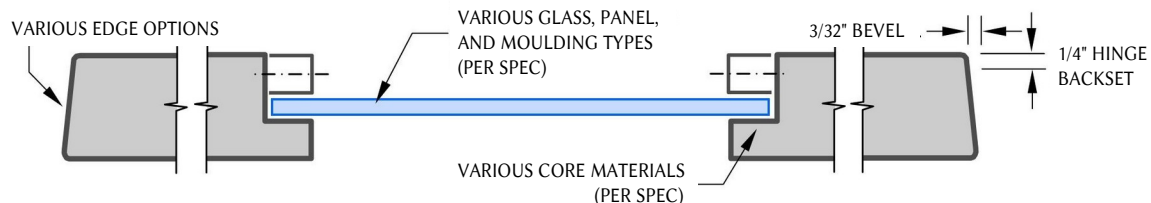
Designed to complement new or remodel construction, contemporary or traditional architecture.



Stile & Rail Steel Doors

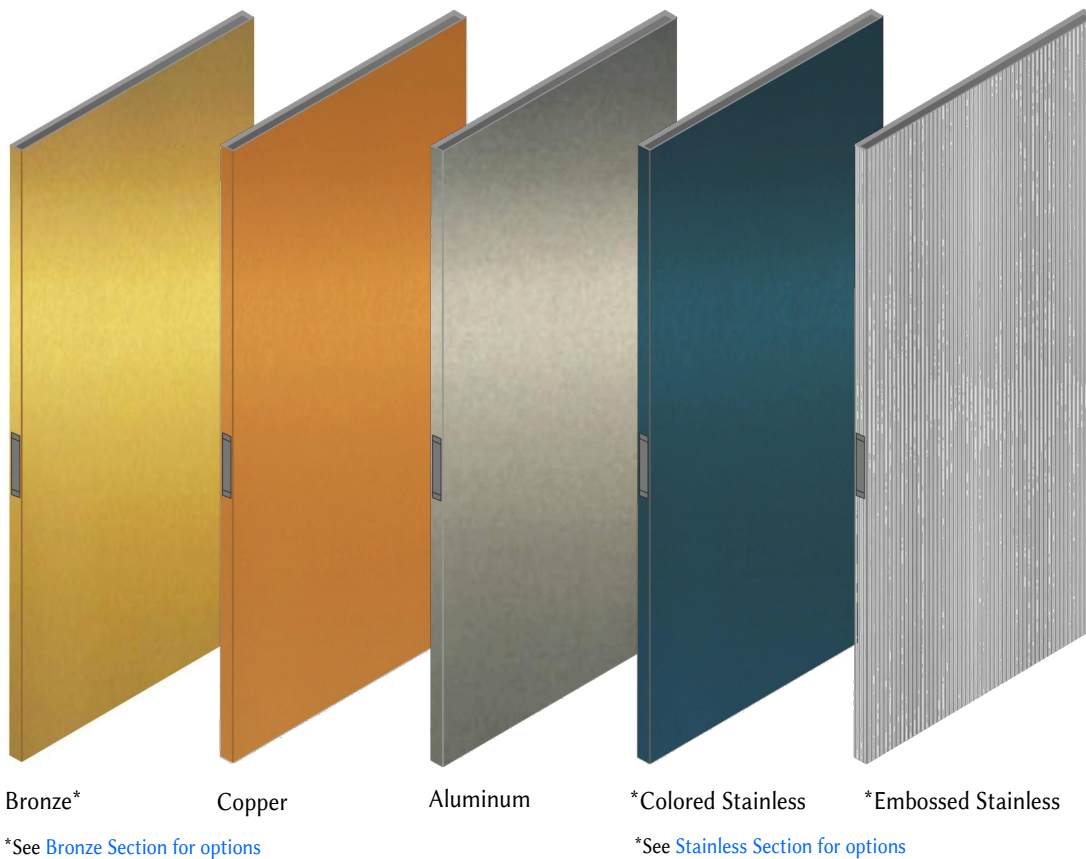
Description	True Stile & Rail doors are built-to-order, suitable for both interior and exterior locations.
NAAMM / HMMA	861, 862
ANSI / SDI	Levels 1, 2, 3 & 4 - (ANSI A250.8)
Material	1. A60 Galvanized 2. Stainless Steel
Faces	18, 16, 14 or 12 GA
Door Edges	1-3/4" thick, beveled, 1/8" in 2"
Vertical Edges	Continuous Welded, Seamless See Vertical Door Edges
Top / Bottom	16 GA Channels See Door Top & Bottoms
Reinforcements	Hinges: 7 GA, 1-1/2" X 10" Locks: 11 GA or equal # threads Closers: 14 or 12 GA
Core Options	Fiberglass, Urethane, Styrene
Fire Rating	See Fire Rated
Bullet Resistant	See Bullet Resistant
STD Primer	PPG Primer Gray
Quick Ship	Contact Factory

NOTE: Above door data varies depending on specific design criteria



Clad Steel Doors

Various Metals, per Customer's Specifications



Features

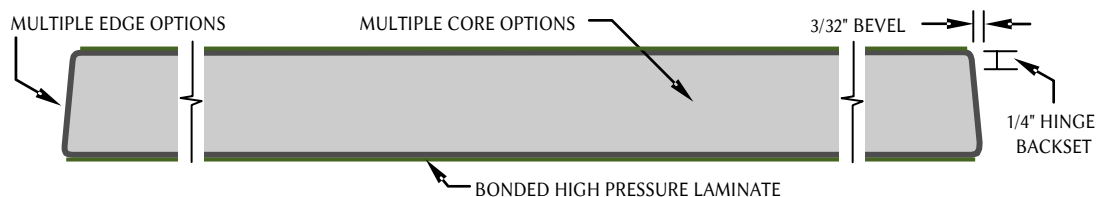
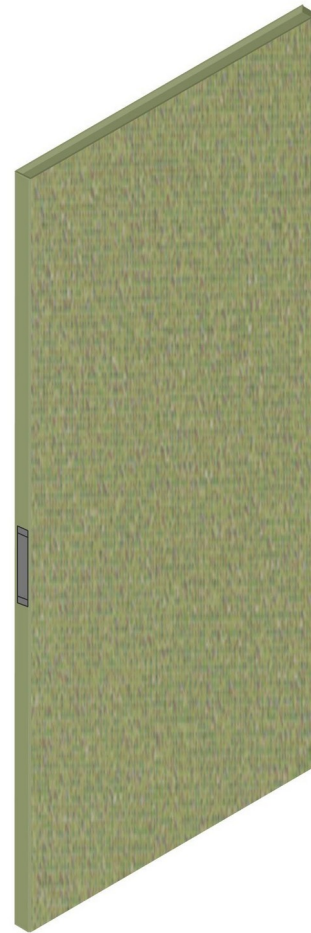
- For all interior and exterior applications
- Clad alloys per customer's specifications
- Available in a variety of configurations, sizes, and styles, with or without glass lites
- Designed for high frequency use without sacrificing aesthetics
- Metals are permanently bonded to substrate, no mechanical fasteners

HPL Steel Doors High Pressure Laminate Faces

Description	HPL Laminate doors are built-to-order, suitable for interior locations.
NAAMM / HMMMA	867
ANSI / SDI	Levels 1, 2, 3, 4
Material	1. A60 Steel
Faces	18, 16, 14 or 12 GA
Door Edges	1-3/4" thick, beveled, 1/8" in 2"
Vertical Edges	1. Welded 3" OC, Seamless 2. Continuous Welded, Seamless 3. Open Seam See Vertical Door Edges
Top / Bottom	16 GA Channels See Door Top & Bottoms
Reinforcements	Hinges: 7 GA, 1-1/2" X 10" Locks: 11 GA or equal # threads Closers: 14 or 12 GA
Core	Honeycomb, Temperature Rise, Polystyrene
STC	See Sound Control
Fire Rating	See Fire Rated
Bullet Resistant	See Bullet Resistant
STD Primer	Gray, EPA Approved, Alkyd, zinc compound primer, standard Finish paint also available See Finishes
Edge Finish	Factory Finish Painted Vertical Door Edges to Match Laminate

NOTE: Above door data varies depending on specific design criteria

- 1000s of colors and textures to choose from
- Permanently bonded laminate with no exposed fasteners or edge channels
- Hybrid options such as bullet resistant, fire rating, and sound control available

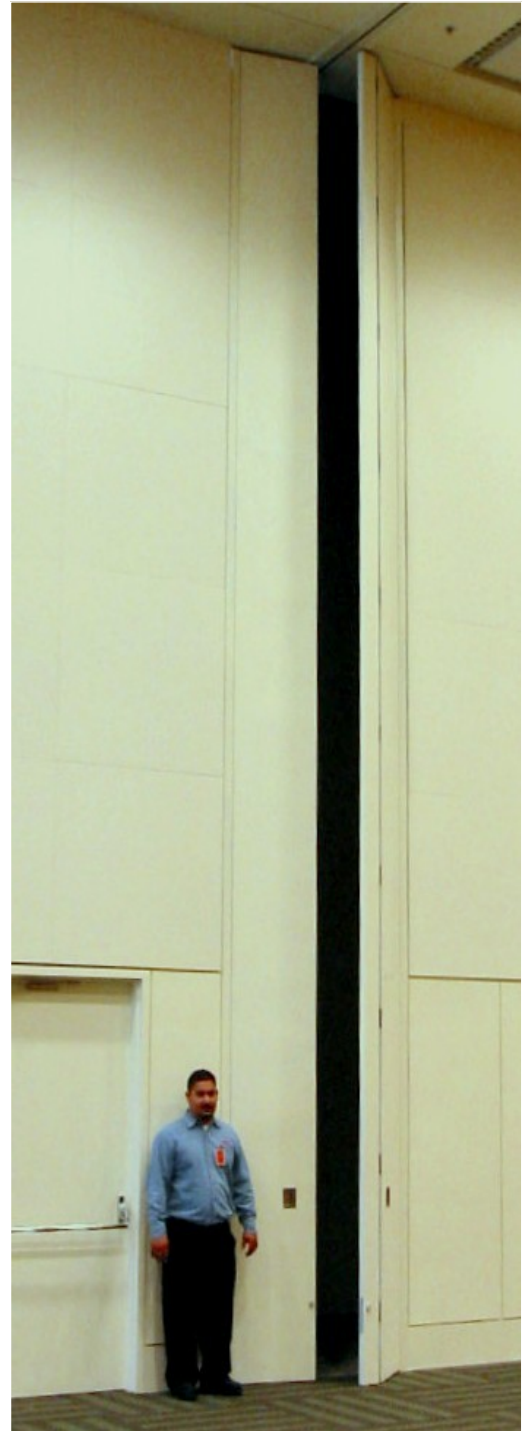
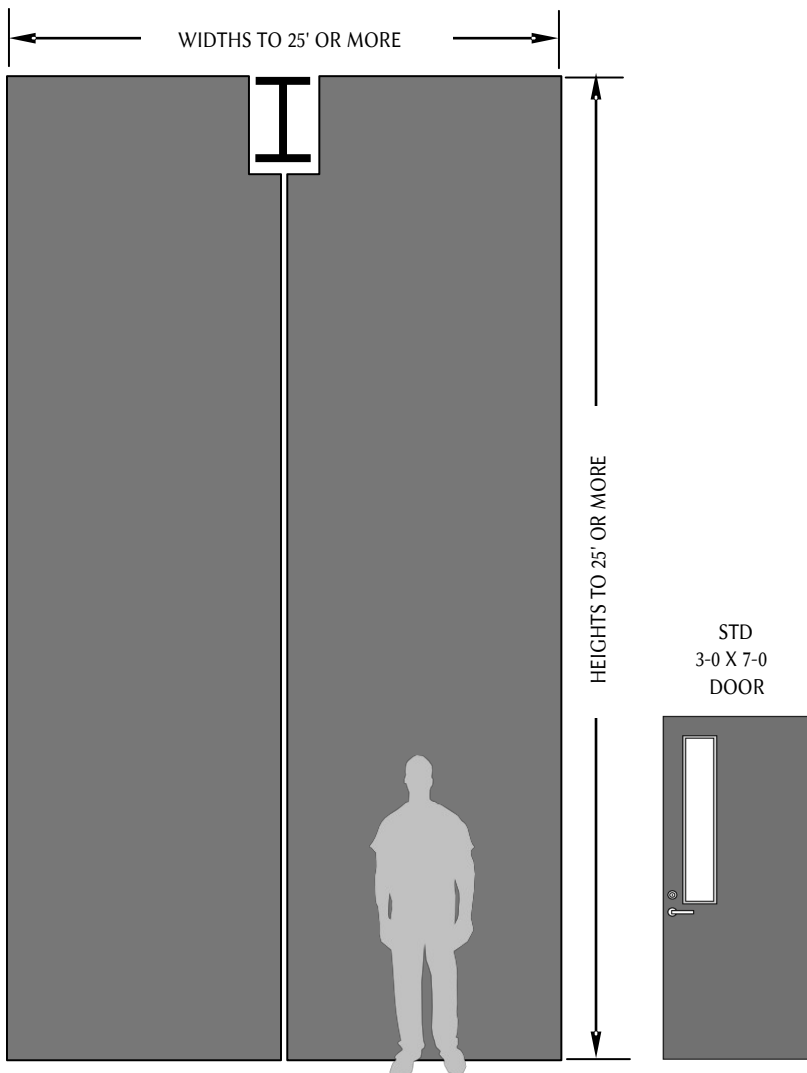


Stiles doors reach new heights...

As a leader in built-to-order doors and frames, Stiles has the experience and technical know-how to build industrial oversized doors for virtually any application including:

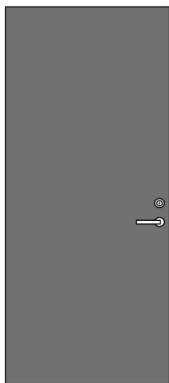
- Partition Chamber Doors
- Industrial Monorail Doors
- Oversized Stage / Sound Control Doors
- Specialty Plant Facility Doors

Since each oversized door project is unique, a variety of construction methods & materials are employed. Drawing on over five decades of experience, Stiles has the capability to provide you with the right solution for your oversized door project.

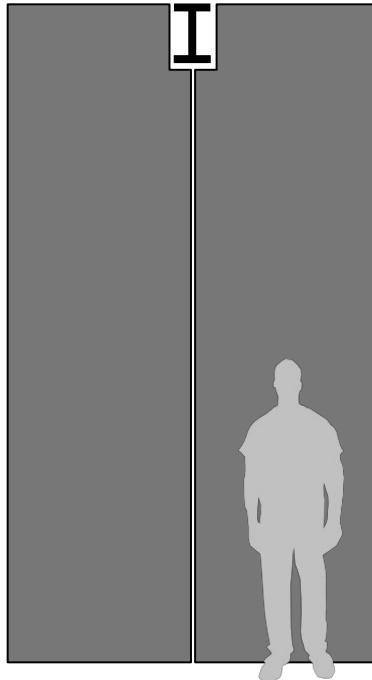


F Series Doors

Flush Doors



F



MRD

Limited Quick Ship

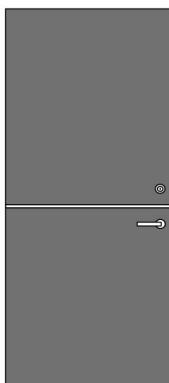
OVERSIZE INDUSTRIAL DOORS

Stiles has the technical know-how and experience to build oversized industrial doors for virtually any application.

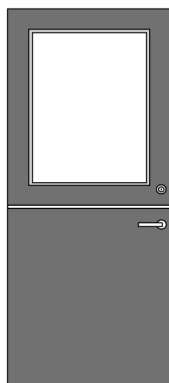
See [D-1.12](#)

D Series Doors

Flush Dutch Doors



D



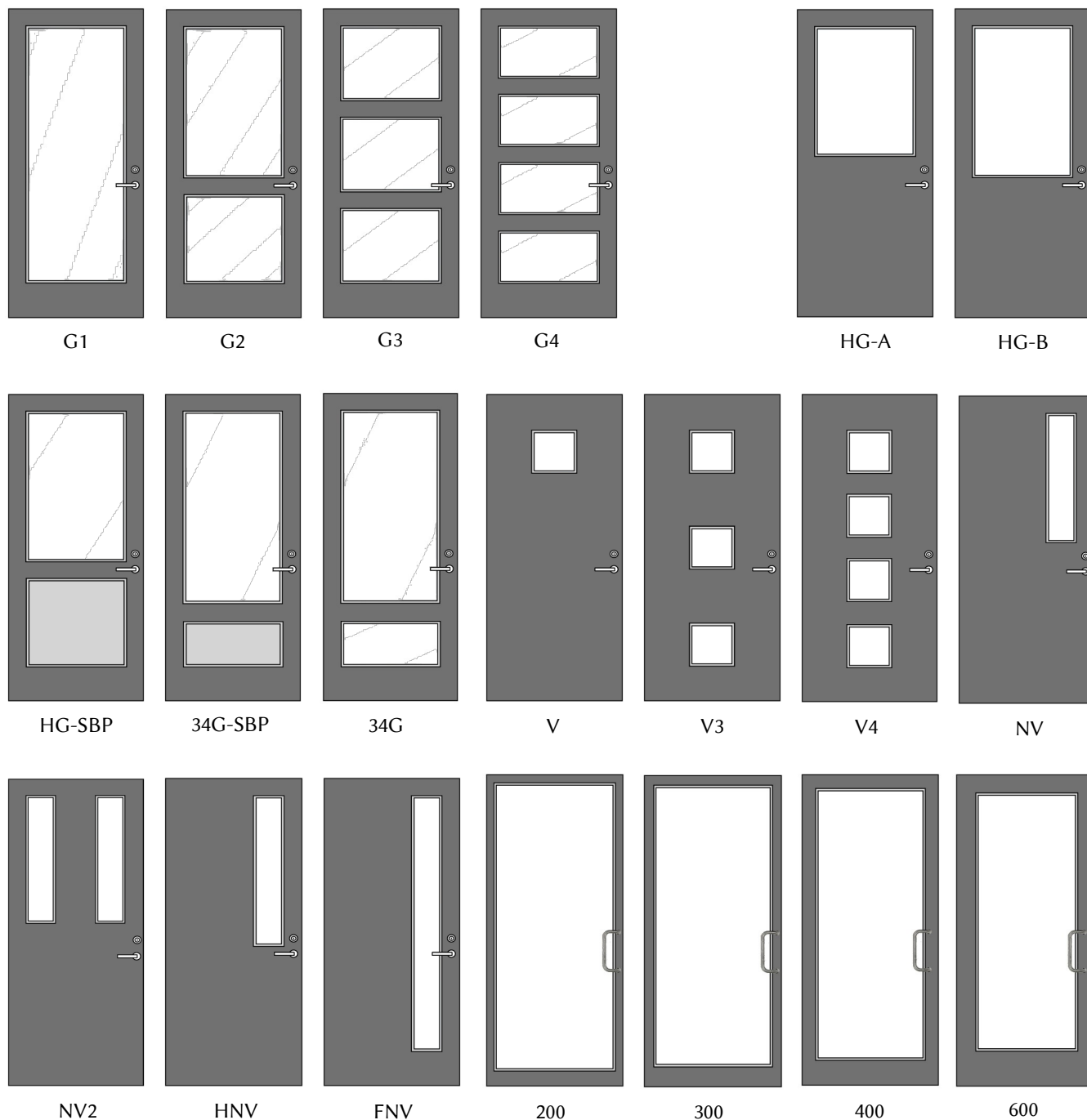
DHG

GLASS + GLAZING

Stiles offers numerous glass and glazing options,

See [Factory Assembly](#)

GL Series Door Elevations Glass Lite & Solid Panel Combinations



PANEL & GLASS MOULDINGS

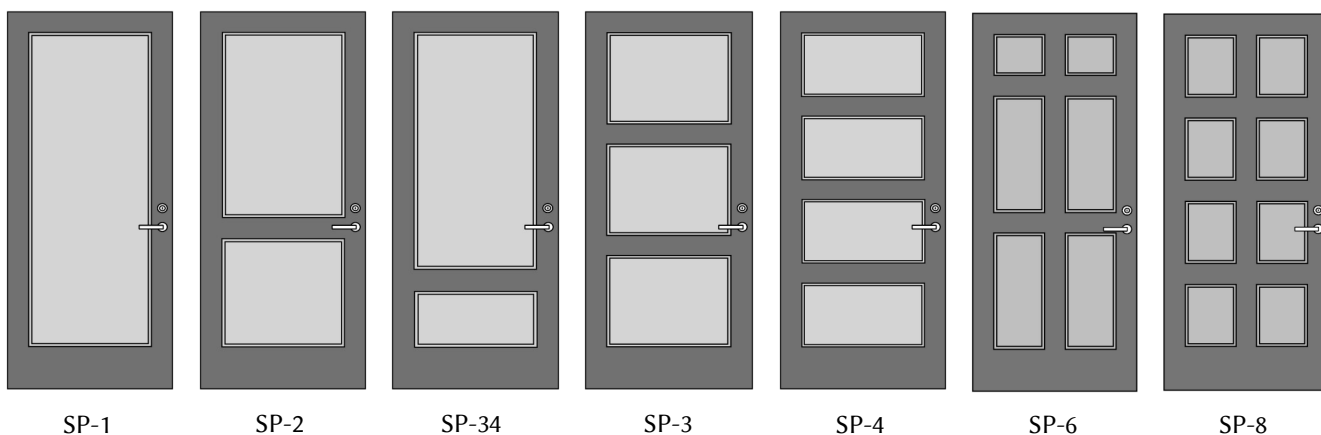
Stiles offers numerous glass and panel moulding options, in addition to a variety of solid panel profiles.

See [D-3.0 to 3.1](#)

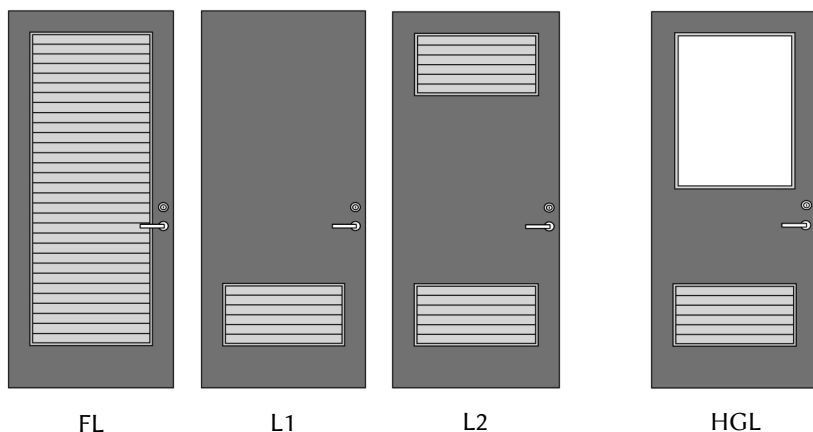
American Disability Act

10" Bottom Rail minimum per ADA.

SP Series Door Elevations Solid Panel with Flush or Raised Mouldings



LV Series Door Elevations Flush Doors with Louver Vents



PANEL & GLASS MOULDINGS

Stiles offers numerous glass and panel moulding options, in addition to a variety of solid panel profiles.

See [D-3.0 to 3.1](#)

LOUVERS

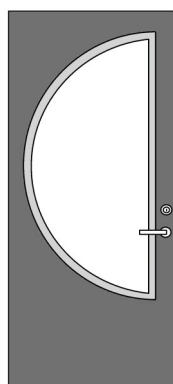
Stiles offers numerous louver options including fire rated.

See [Louvers 3.5](#)

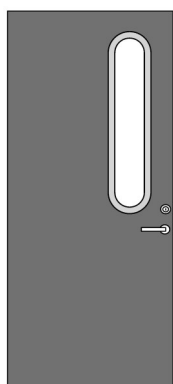
QUICK SHIP NOTE / LV SERIES DOORS

Doors may be shipped “open” if louvers are not available at time of shipment.

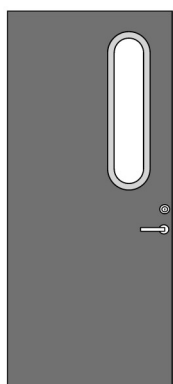
VL Series Door Elevations Flush Doors with Vision Lite Kit Glazing



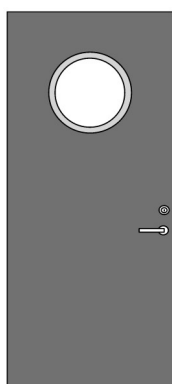
HGR



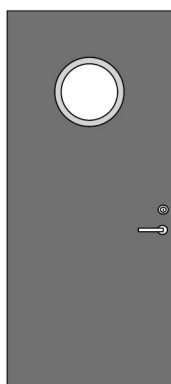
NVR-A



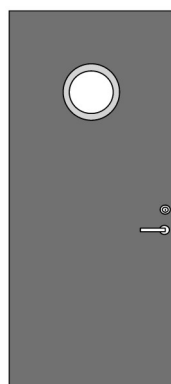
NVR-B



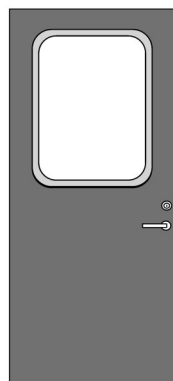
FRV-24



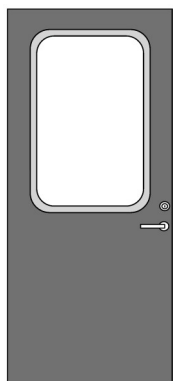
FRV-18



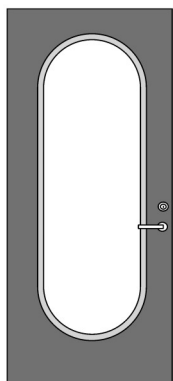
FRV-12



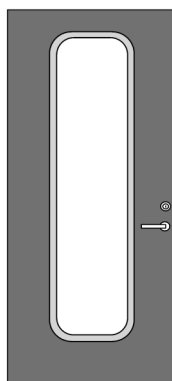
HGR-1



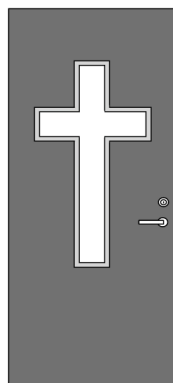
HGR-2



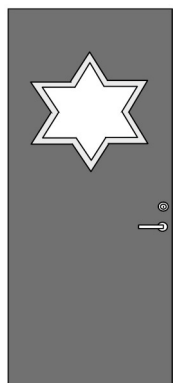
FGR-1



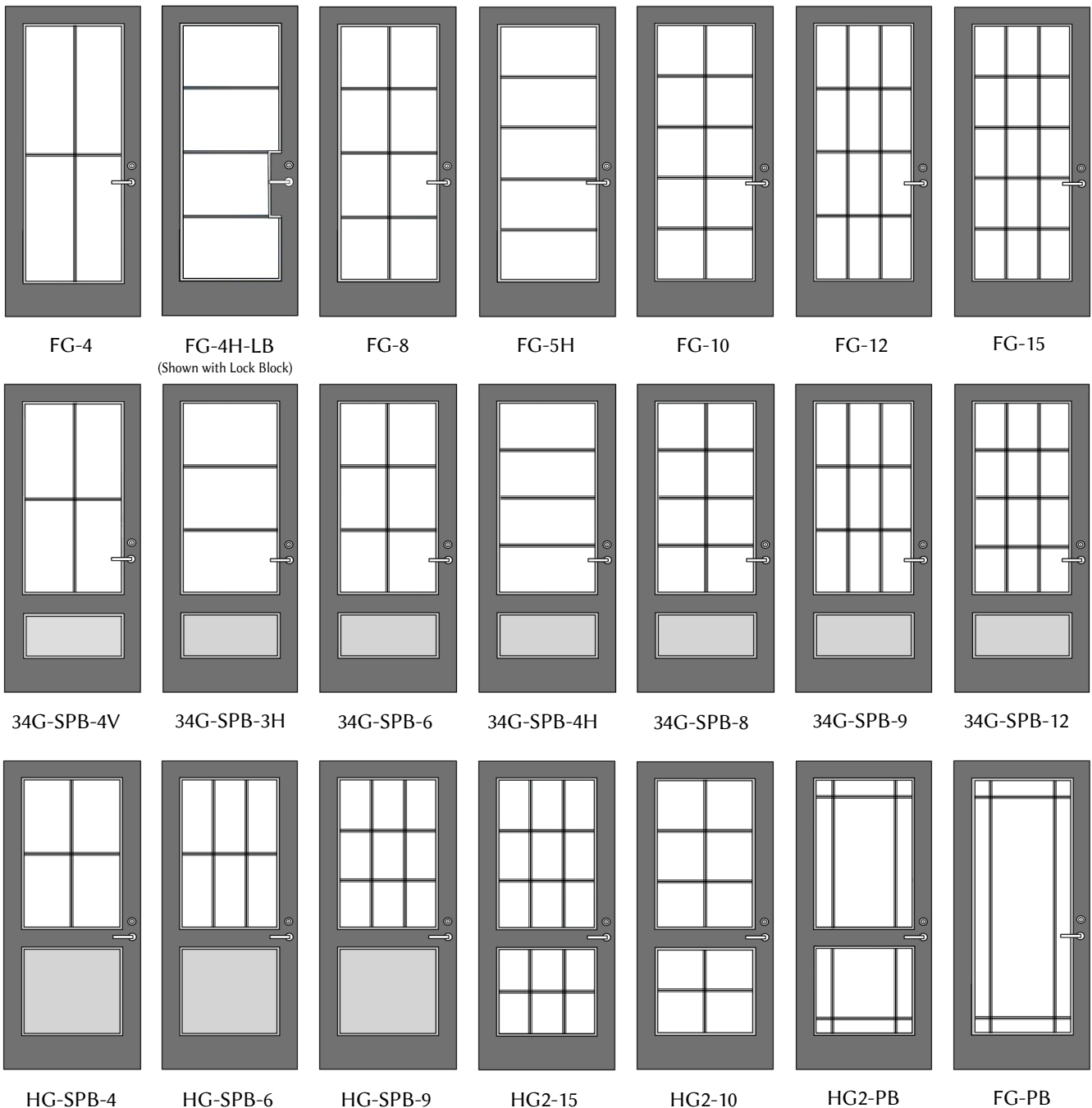
FGR-2



CRS
(SPECIAL)



STD
(SPECIAL)



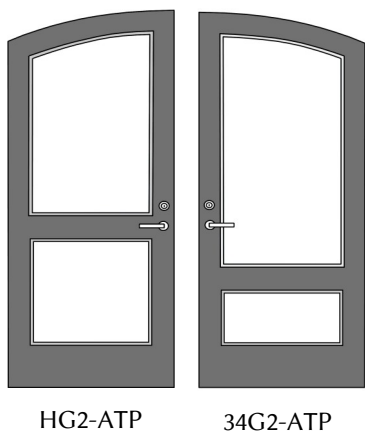
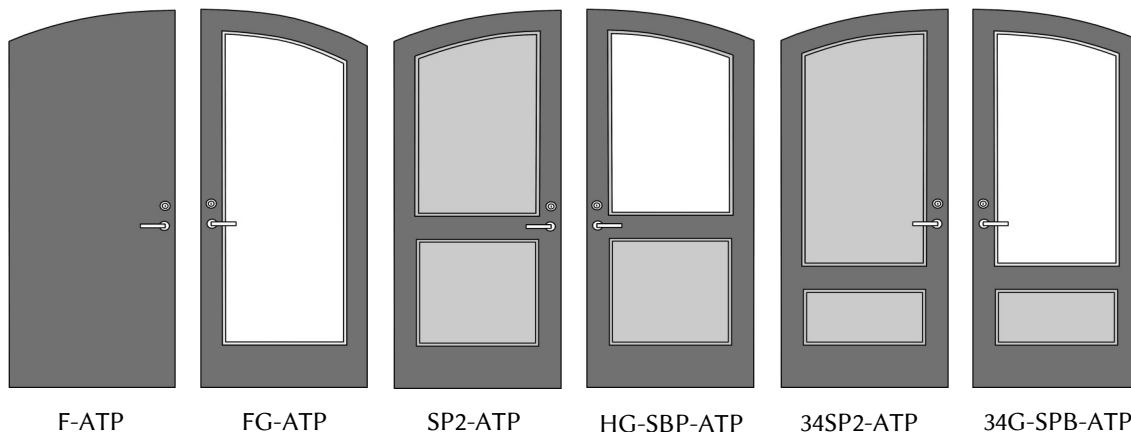
PANEL & GLASS MOULDINGS

Stiles offers numerous glass and panel moulding options, in addition to a variety of solid panel profiles.

See [D-3.0](#) to [3.2](#)

AT Series Door Elevations

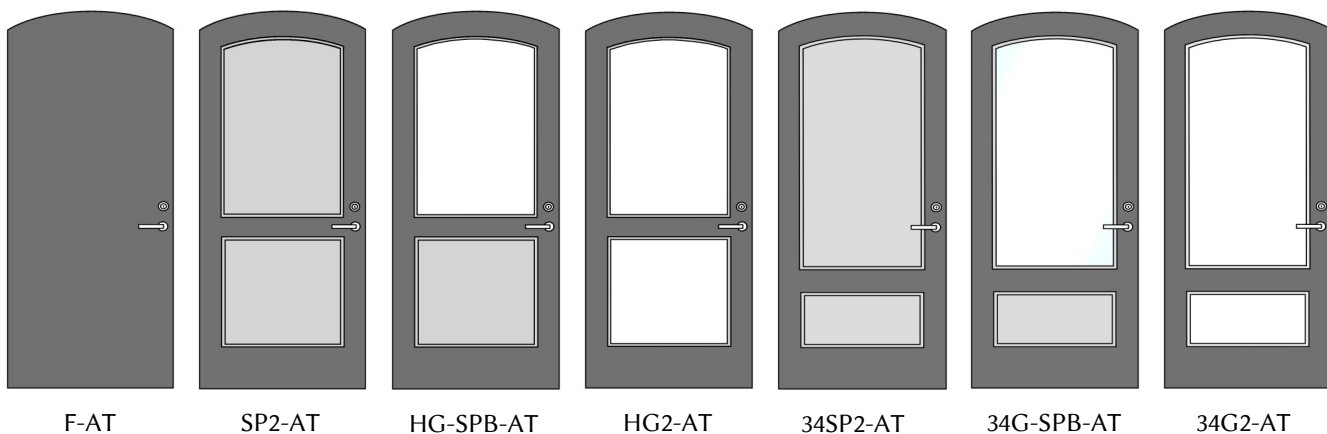
Arch Top Doors with Glass Lites & Solid Panel Combinations



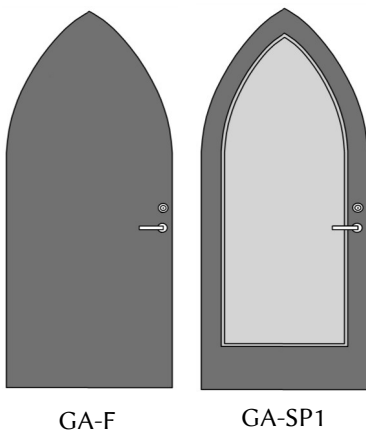
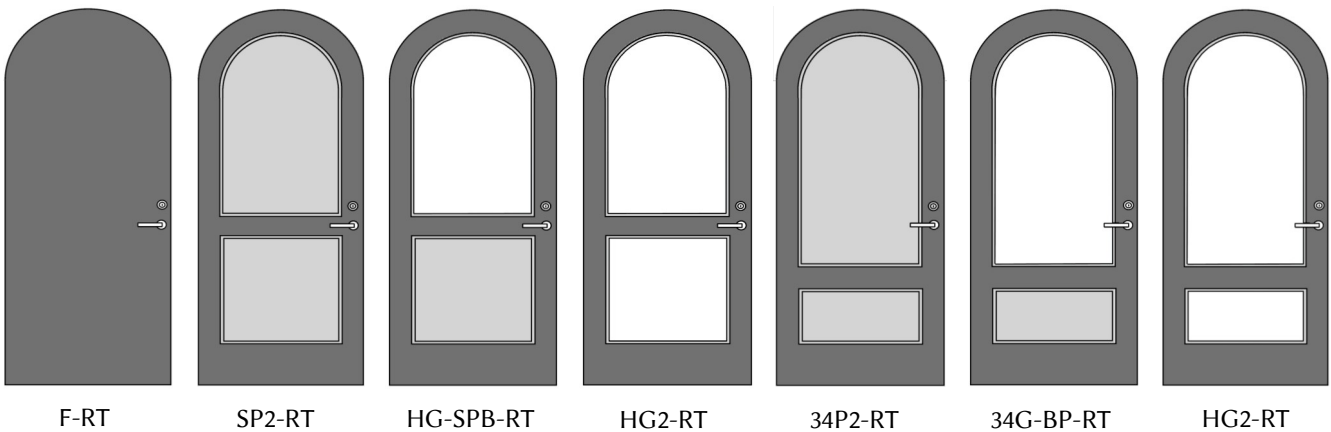
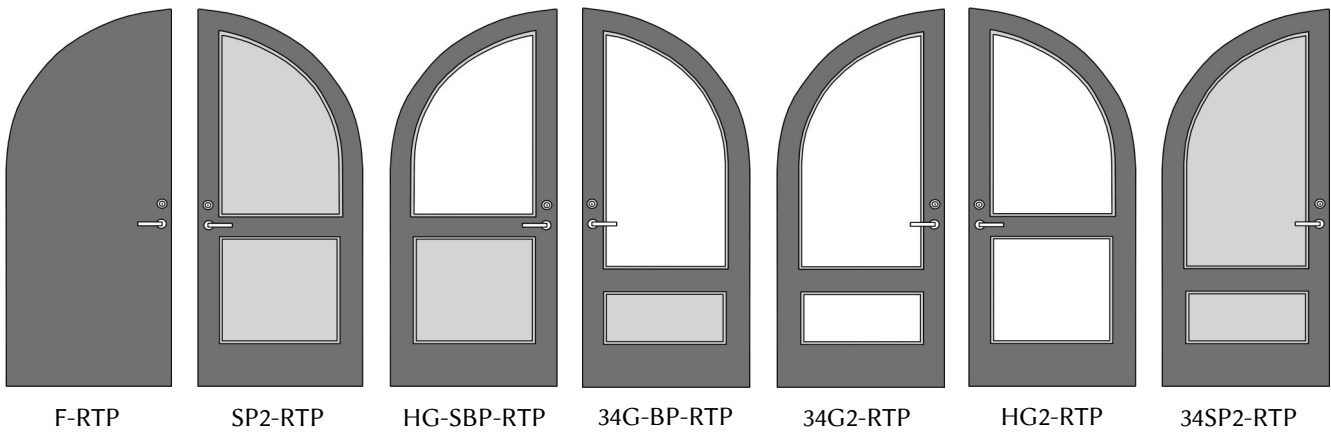
PANEL & GLASS MOULDINGS

Stiles offers numerous glass and panel moulding options, in addition to a variety of solid panel profiles.

See [D-3.0 to 3.1](#)



RT Series Door Elevations Radius Top Doors with Glass Lites & Solid Panel Combinations



PANEL & GLASS MOULDINGS

Stiles offers numerous glass and panel moulding options, in addition to a variety of solid panel profiles.

See [PD-3.0 to 3.1](#)

Historical Replication Representing all Architectural Periods

Stiles manufactures doors and windows to original historical specifications for any type of building. Our capability in authentic replication includes matching of period profiles, materials, and finishes.

We work from original details, photographs, or even actual samples of products.

In addition to traditional stile and rail panel doors, Stiles manufactures historical hot-rolled narrow profile steel windows and doors. We work in galvanized, stainless steel, and bronze alloys.

We have completed historical projects including office buildings, schools, museums, government buildings and churches.



Historical Products

- Traditional Steel Windows and Doors
- Historical Panel and Glass Lite Doors
- Period Window Systems, Fixed and Operable
- Monumental Entrances
- Restoration Glass
- Period Hardware

Materials

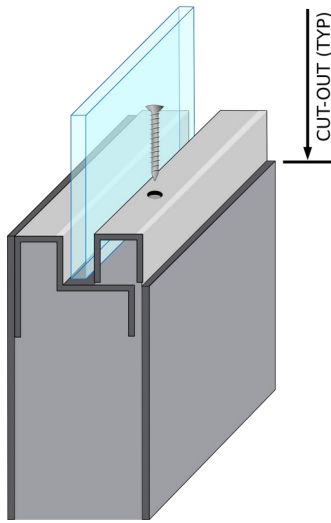
- A60 Galvanized Steel
- Stainless Steel
- Bronze
- Copper

Services

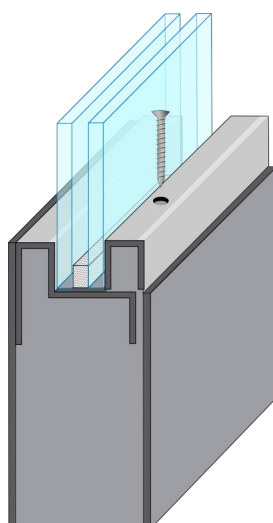
- Historical Analysis & Design Consultation
- Engineering
- Metal Textures and Abraded Finishes

Stiles also offers moulding configurations not shown below. Contact factory for more information.

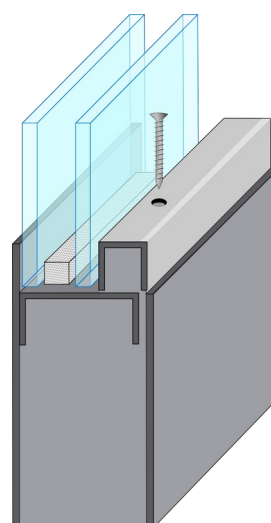
NOTE: Removable glass stops are typically installed to the interior of the building.



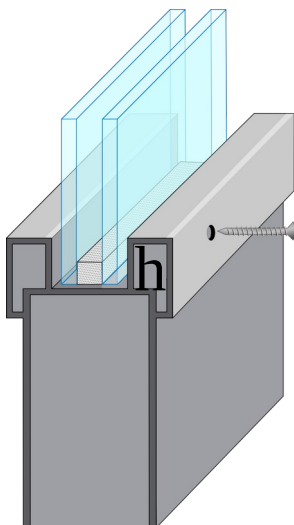
A
1-3/4" Door
5/8" X 5/8" Glass Stops
1/4" Glass – 3/8" Pocket



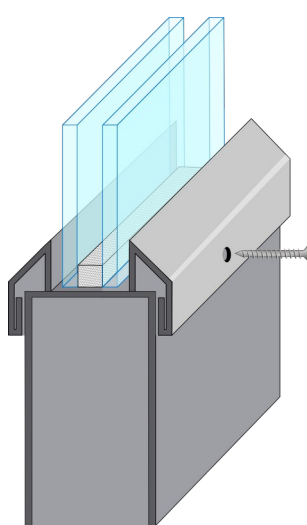
B
1-3/4" Door
7/16" X 5/8" Glass Stops
Up to 3/4" Glass – 7/8" Pocket



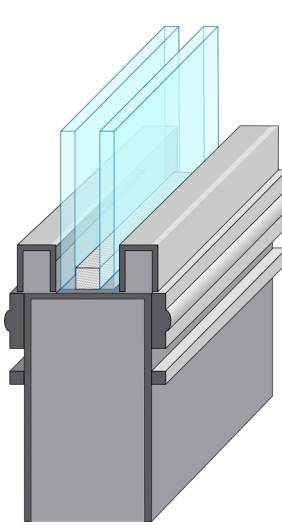
C
1-3/4" Door
5/8" X 5/8" Glass Stops
Up to 1" – 1/8" Pocket
**Concealed Fasteners Available*



E
1-3/4" Door
9/16" X 1-1/4" Glass Stops
Up to 1" Glass – 1 1/8" Pocket

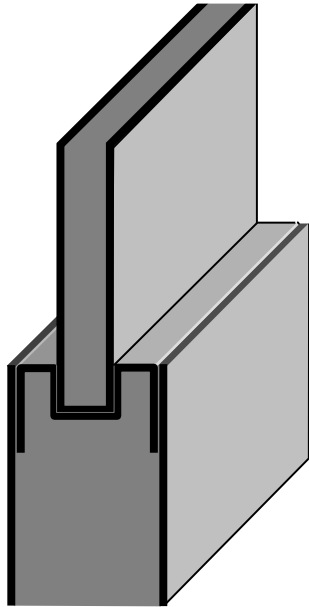


F
1-3/4" Door
7/16" X 1-1/4" Glass Stops
Up to 1" Glass – 1 1/8" Pocket



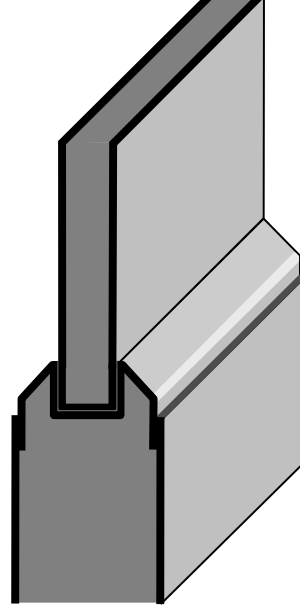
G (Special)
1-3/4" Door
Moulding Available
Contact Factory

Stiles also offers configurations not shown below. Contact factory for more information.



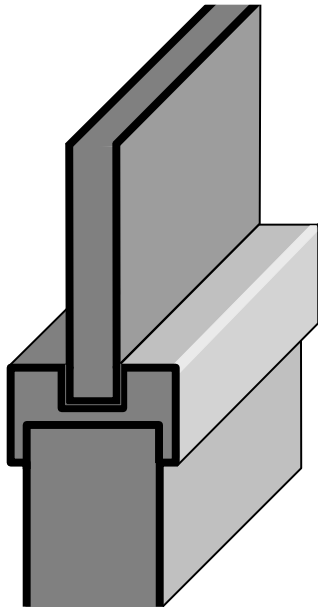
FP-A (STD)

1-3/4" Door
Square Mouldings, Various Sizes
Flat Panel, Various Thicknesses



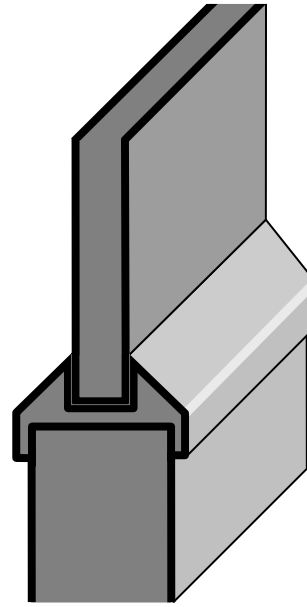
FP-J

1-3/4" Door
Sloped Mouldings, Various Sizes
Flat Panel, Various Thicknesses



FP-E

1-3/4" Door
Square Mouldings, Various Sizes
Flat Panel, Various Thicknesses



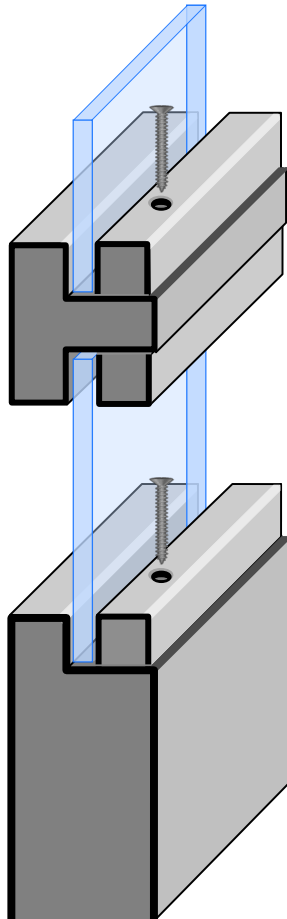
FP-F

1-3/4" Door
Sloped Mouldings, Various Sizes
Flat Panel, Various Thicknesses

Stiles also offers muntin configurations not shown below. Contact factory for more information.

NOTE: Removable glass stops are typically installed to the interior of the building.

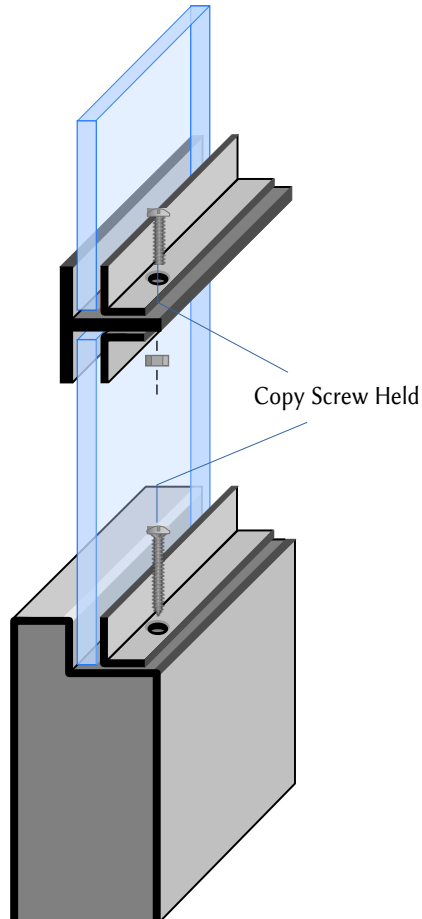
True Divided Lite Muntin



A

1-3/4" Door
5/8" X 5/8" Glass Stops
1/4" Glass

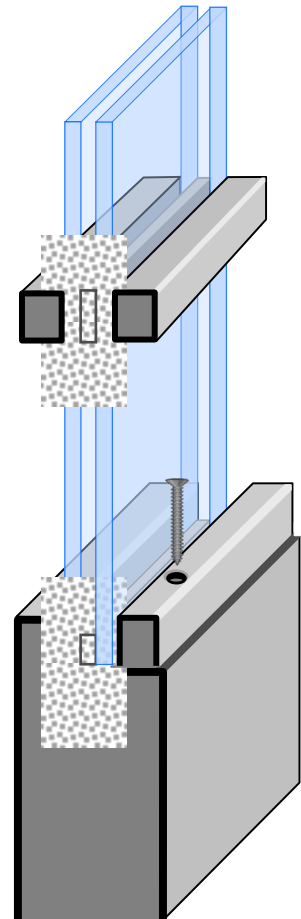
Traditional
True Divided Lite Muntin



B

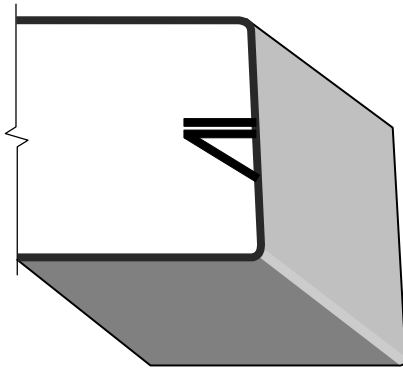
1-3/4" Door
1/2" X 1/2" Angle Glass Stops
1-1/4" X 1-1/4" T Bar
1/4" Glass

Simulated
Divided Lite Bar (SDL)



C

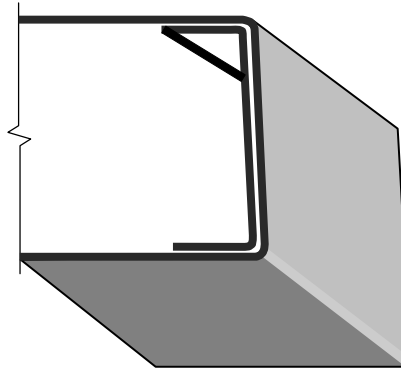
1-3/4" Door
1/2" X 1/2" Square SDL Bar
Internal Glass Spacer
3/4" Insulated Glass



A

Welded Seamless Edge

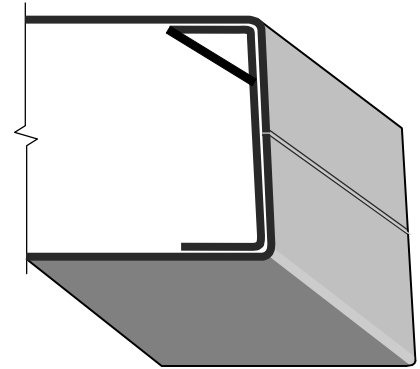
Vertical stitch welds 3" OC, filled and finished smooth, seamless



B

Continuous Welded Seamless Edge

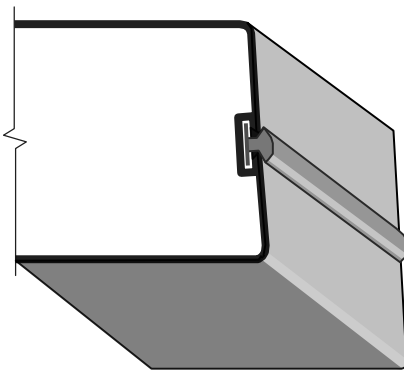
Continuous vertical weld, finished smooth



C

Hairline Seam Edge

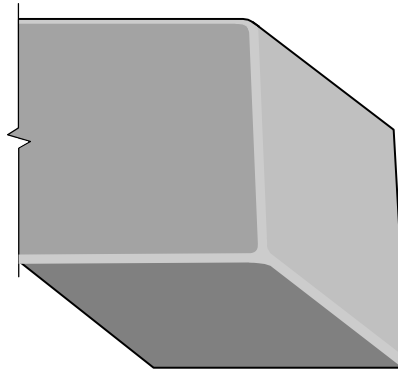
Center of door edge face



D

Air-TekEdge Seal

Integral weather seal at door edge



E

Hermetically Sealed

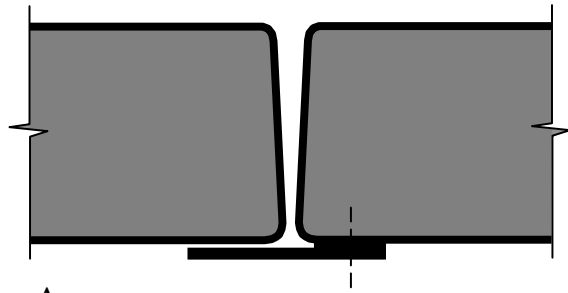
Lab-Tek™ continuously welded all 4 edges, including door top and bottom



Bacteria
Resistant



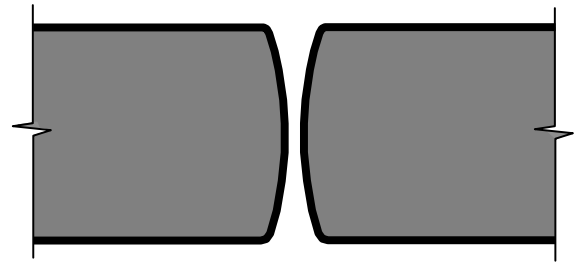
Vermin
Proof



A

V-Bevel with Flat Astragal

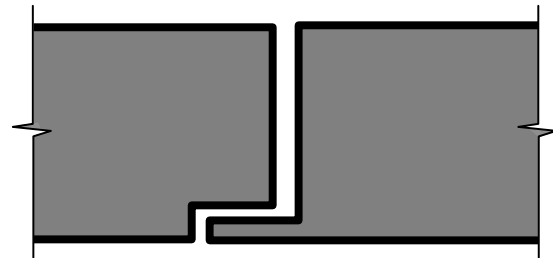
With Applied Flat Astragal



B

Bullnose

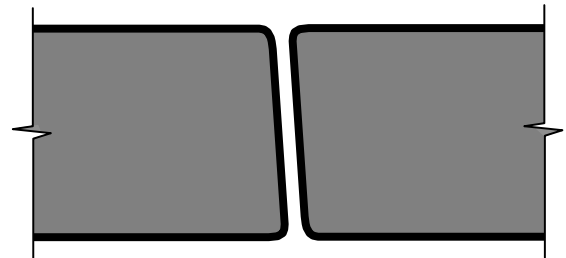
Used on Double-Acting and Center Pivoted Doors



C

Rabbeted

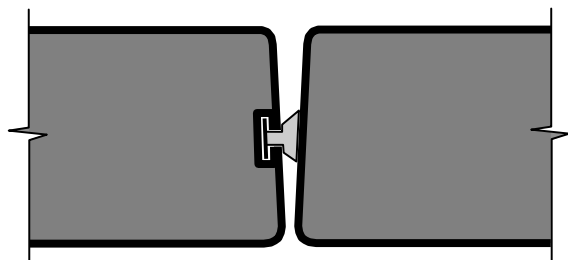
May be used on Double-Egress Doors



D

Parallel Bevel

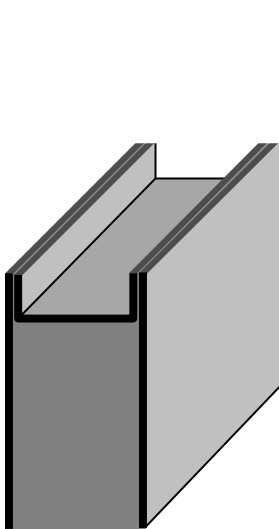
With Special Astragal Double Egress



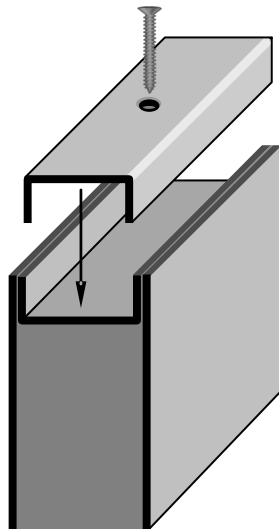
E

Integral Pile Seal

Stiles Proprietary Air-Tek™ Vertical Edge Seal System for Single Doors or Pairs



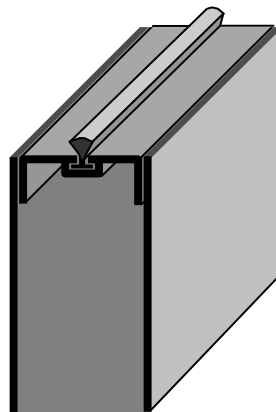
A
Standard Inverted
U-Channel



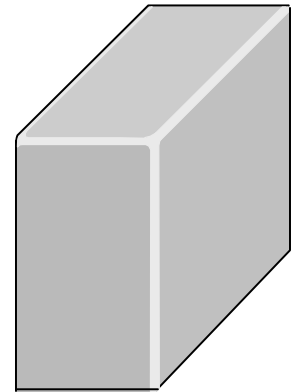
B
U-Channel Cap
**May be wet sealed to
eliminate water penetration*



Waterproof



C
Air-Tek™
Integral cut pile weather strip
in door top and active vertical
door edge



D
Hermetically Sealed
Lab-Tek™ continuously welded
all 4 edges, including door top
and bottom
See [Lab-Tek Door D-1.4](#)

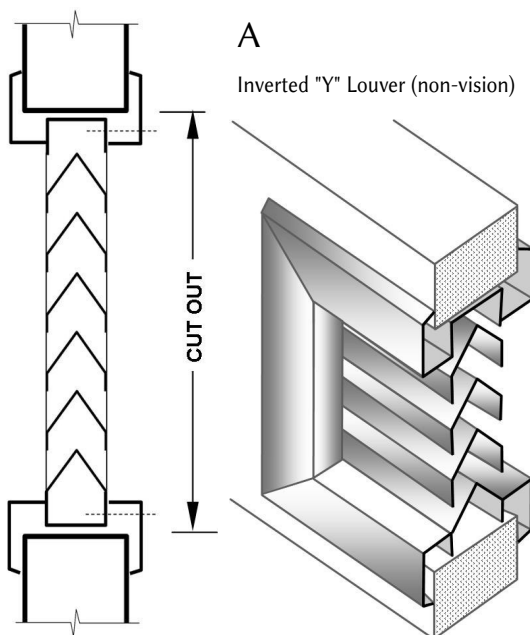


Bacteria
Resistant

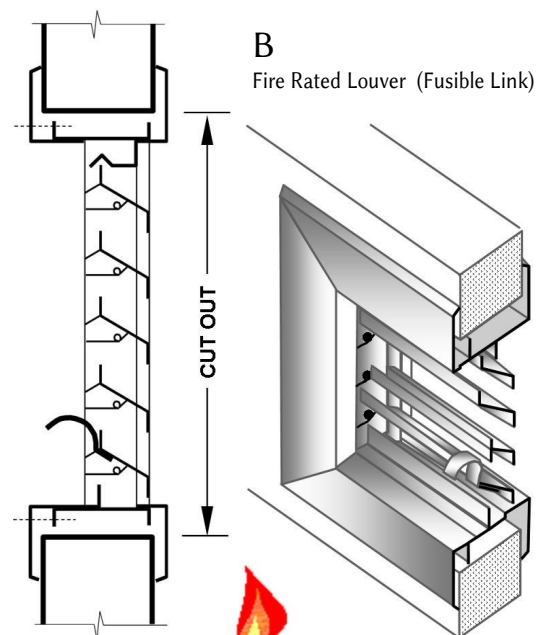


Vermin
Proof

Louvers



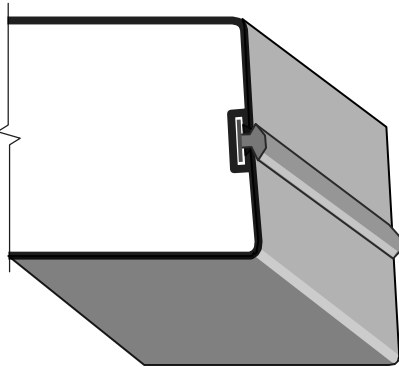
A
Inverted "Y" Louver (non-vision)



B
Fire Rated Louver (Fusible Link)

FIRE RATED

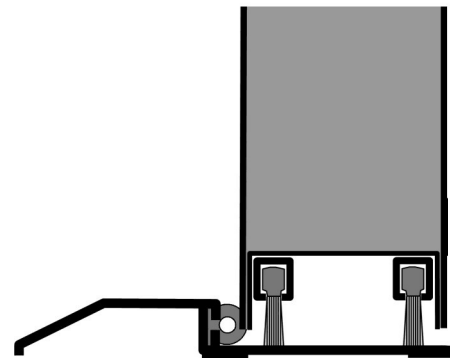
Stiles offers numerous options for weatherization designed to satisfy your specific project requirements, including:



A

Air-Tek™ Door Edge Seals

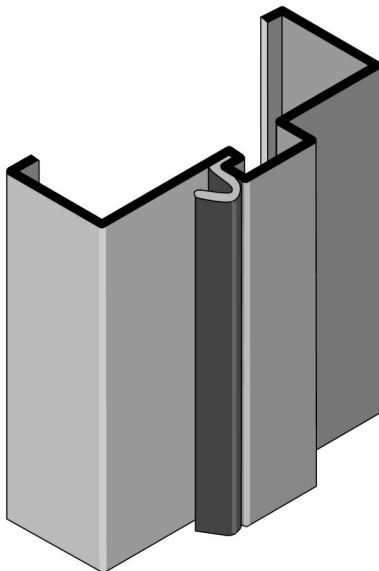
Stiles proprietary Air-Tek™ cut pile replaceable edge seals, available for both single doors and pairs, function as a primary dust and air barrier for active door edges and door tops.



B

Threshold Assemblies

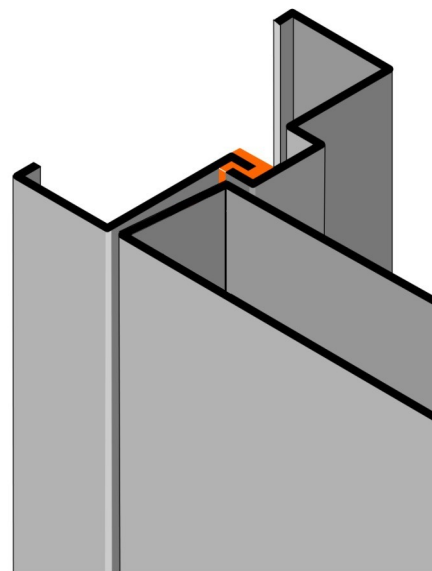
ADA compliant thresholds in all sizes, materials, functions and profiles, with replaceable seals. Dual door bottom sweeps in both brush and vinyl blade configurations, in addition to automatic door bottom seals.



C

Seal-Tek Weather Seal System

Stiles proprietary Seal-Tek™ frames are available with replaceable kerf weather seals that are UL10C listed and available in bronze, white, black, gray, and beige. *Seal is installed on the job after finish paint.



D

Thermal Breaks

Thermal breaks are available for both doors and frames for use in extreme environments, greatly reducing heat and cold transfer.

STEEL DOORS AND FRAMES

Section 08 1110

PART I GENERAL

1.01 SUMMARY:

- A. Description: This section includes Steel Doors, Frames, Sidelites, Transom and Window Frames where shown on the drawings and as specified herein.
- B. Related work not included in this section:
 - 1. Builders finish hardware including gaskets and weather-stripping.
 - 2. Glass and glazing.
 - 3. Sealant and caulking at joints

1.02 QUALITY ASSURANCE:

- a. Applicable standards of the following as referenced herein:
 - 1. AAMA, American Architectural Manufacturers Association
 - 2. ANSI, American National Standards Institute
 - 3. ASTM, American Society for Testing and Materials
 - 4. ADA, Americans with Disabilities Act
 - 5. NFPA 80, National Fire Protection Association
 - 6. NAAMM/HMMA, National Association of Architectural Metals Manufacturers
 - 7. UL 10C, Standards for Positive Fire Tests of Door Assemblies.
- B. Manufacturer shall have been regularly engaged in manufacturing steel door, frames and window assemblies for a period of ten years. Doors and frames shall be fabricated by a single manufacturer. The manufacturer must have an effective quality control system in place.
- C. Provide current test reports to substantiate that all products have been tested to meet the following criteria.
 - 1. Fire Labeled doors and frames, ASTM E2074, UBC 7.2, UL 10C
 - 2. Performance test, ANSI A250.4
 - 3. Wind Load, Deflection / ASTM E330, Air Infiltration / ASTM E283, Water Penetration / ASTM E331
- D. Allowable Tolerances as stated in NAAMM/HMMA Technical Manual.

1.03 SUBMITTALS: Submittal Drawings: Show door and frame elevations and sections. Show listing of opening descriptions including locations, gages, and anchors. Show location and details of all openings. Include test reports on the following: Cycle test, Air and Water Infiltration.

1.04 WARRANTY: All hollow metal work shall be warranted from defects in workmanship and quality for a period of three (3) years from shipment.

PART II PRODUCTS

2.01 DOORS

- A. The Steel Doors are based on Stiles Custom Metal, Inc. ([see www.stilesdoor.com](http://www.stilesdoor.com)) and shall be of the types and sizes shown on the approved submittal drawings and shall be constructed in accordance with the specifications.
 - 1. Vertical Edges: Face sheets shall be joined at center of vertical edges and continuously welded full height of the door with no visible seams on their faces or vertical edges. Welds shall be finished smooth. Single acting doors - beveled 1/8" in 2" profile. At exterior pair openings the meeting stiles shall be furnished with the Air-Tek™, continuous, integral pile weather strip. Adhesive or screw applied weather strip shall not be accepted.
 - 2. Integral Astragal: Where required astragals shall be formed as an integral part of the door skin with corresponding recessed area formed into adjacent door. Surface mounted flat plate or Z shaped astragals shall not be accepted.
 - 3. Door thickness shall be 1-3/4". Doors shall be neat in appearance and free from warpage or buckle. Edge bends shall be true and straight and of minimum radius for the gage of metal used.
 - 4. Materials: Doors shall be made of commercial quality, cold-rolled steel per ASTM A1008 / A1008M.
 - a. Interior doors: Face sheets shall be 0.042 in. (18 gage) min. thickness cold rolled steel.
 - b. Exterior doors: Face sheets shall be 0.053 in. (16 gage) min. thickness with zinc coating A 60.

STEEL DOORS AND FRAMES (continued)

5. Door Core Model Options: (choose one) (see www.stilesdoor.com)

[Steel Stiffened]: 22 gage min., continuous, vertical, formed steel sections spanning the full thickness of the interior space between door faces. Stiffeners spaced so that the vertical interior webs shall be no more than 6" apart. Spot welded maximum of 4" o.c. vertically. Spot welds shall be sanded smooth to eliminate spot weld marks as much as possible. Spaces between stiffeners shall be filled with: (choose one) [Fiberglass Batt Insulation] or [Recycled Cotton Batt Insulation].

[Honeycomb]: "Kraft" paper, hexagonal cell, fully faced on both sides. Open cell un-faced honeycomb shall not be acceptable. Core and inside of door skins shall be completely covered with contact adhesive achieving 100% bond.

[Temperature Rise Core]: Dense Mineral Core rated (choose one) [250° F / 121° C] or [450° F / 232° C] and shall be laminated to the inside of the door skins with contact adhesive achieving 100% bond.

[Polyurethane Core]: Rigid, cellular type, board conforming to ASTM D1622, 1.8 pounds per cubic foot density min., containing no urea formaldehyde resins. Option: [Polyisocyanurate], 2.0 pounds per cubic foot density min., containing no urea formaldehyde resins. Core shall be laminated to the inside of the door skins with contact adhesive achieving 100% bond.

[Polystyrene Door Core]: Rigid, extruded, closed cell board, 1 pound per cubic foot density min., conforming to ASATM C578, Type 1. Core shall be laminated to the inside of the door skins with contact adhesive achieving 100% bond.

6. The top and bottom edges shall be closed with a continuous channel, 16 gage minimum, spot welded to both face sheets maximum 4" o.c. Top of exterior doors shall be fitted with an additional flush closing channel and sealed water-tight.
7. Door opening tag number shall be permanently engraved into the center hinge reinforcement using a programmable engraver. The engraving shall be deep enough to be read after the hinge reinforcement bar is painted. The use of paper stickers only is not acceptable.
8. Glass moldings and stops: Where specified, doors shall be provided with internal channel type, flush glass moldings, to secure glazing in accordance with glass sizes and thickness shown on approved submittal drawings. Molding channels minimum 18 gauge steel, securely spot welded, maximum 4" o.c., to the inside face of the door skin. Removable glass channel stops shall be minimum 18 gage, A60 galvanized steel, butted at corner joints, secured to the door with zinc plated #8 oval head, countersunk, sheet metal screws. Door lights that are cut out of the door after the door is built are not acceptable. Externally mounted lite kits that protrude from the door face are not acceptable.
9. Louvers: Louvers shall be sight proof, with: (choose one) [embossed, security type kick proof] or [V or Y type] (see www.stilesdoor.com) blades, minimum 18 gage, secured to door with sheet metal screws. Louvers at exterior locations shall be A60 galvanized and be provided with Insect screens. Door skins at louver cutouts shall be reinforced with continuous channel reinforcement, full door thickness and perimeter, spot welded to door face 4" o.c.
10. Finish: After fabrication, all tool marks and surface imperfections shall be removed, and exposed faces of all welded joints shall be dressed smooth.

2.02 STEEL PANELS: Steel panels shall be made of the same material and construction and finished in the same way as specified for doors.

2.03 FRAMES

- A. Provisions of this section are applicable to door frames, transom lites, sidelites and window assemblies.
Materials: Frames shall be constructed of 16 gage, 0.053 in. (1.3mm) minimum thickness. Exterior frames shall have an A60 zinc coating.

STEEL DOORS AND FRAMES (continued)

2. Construction: Frames shall be welded units of the sizes and types shown on approved shop drawings. Knocked-down frames shall not be accepted. Jamb, header, mullion and sill profiles shall be in accordance with the frame schedule and as shown on the approved submittal drawings. Mitered corner joints shall have all contact edges closed tight with faces mitered and stops butted. Faces and soffits shall be continuously welded. The use of gussets or splice plates shall not be acceptable. All other joints shall have faces continuously welded. Faces shall be finished smooth. Mineral fillers are not permitted.
3. Exterior windows: Window installer and glazier shall follow Stiles instructions to prevent air and water penetration.
4. Exterior door frames shall have Seal-Tek™ integral weather-strip kerf provided. Adhesive or screw applied weather-strip shall not be accepted. ([see www.stilesdoor.com](http://www.stilesdoor.com))
5. When shipping limitations so dictate, frames for large openings shall be fabricated in sections designated for assembly in the field by installer. Field joints shall be made in accordance with approved submittal drawings and shall be field welded by installer.

2.04 FINISH HARDWARE: Doors and frames shall be mortised, reinforced, drilled and tapped at the factory for completely templated mortised hardware only, in accordance with the final approved hardware schedule and templates provided by the hardware supplier. Where surface mounted, anchor hinges, or non-template mortise hardware is to be applied, doors shall be reinforced, with all drilling and tapping done by others in the field. Reinforcement steel shall comply with NAAMM/HMMA 830 and 861.

2.05 FINISH:

Doors and frames shall be treated to insure maximum paint adhesion and shall be painted on all accessible surfaces with one coat of PPG gray primer that meets or exceeds all ANSI A250.10-98 performance criteria. Red or brown colored primers shall not be permitted.

PART III EXECUTION

3.01 CLEARANCES AND TOLERANCES shall be in compliance with NAAMM / HMMA standards.

3.02 SITE STORAGE AND PROTECTION OF MATERIALS

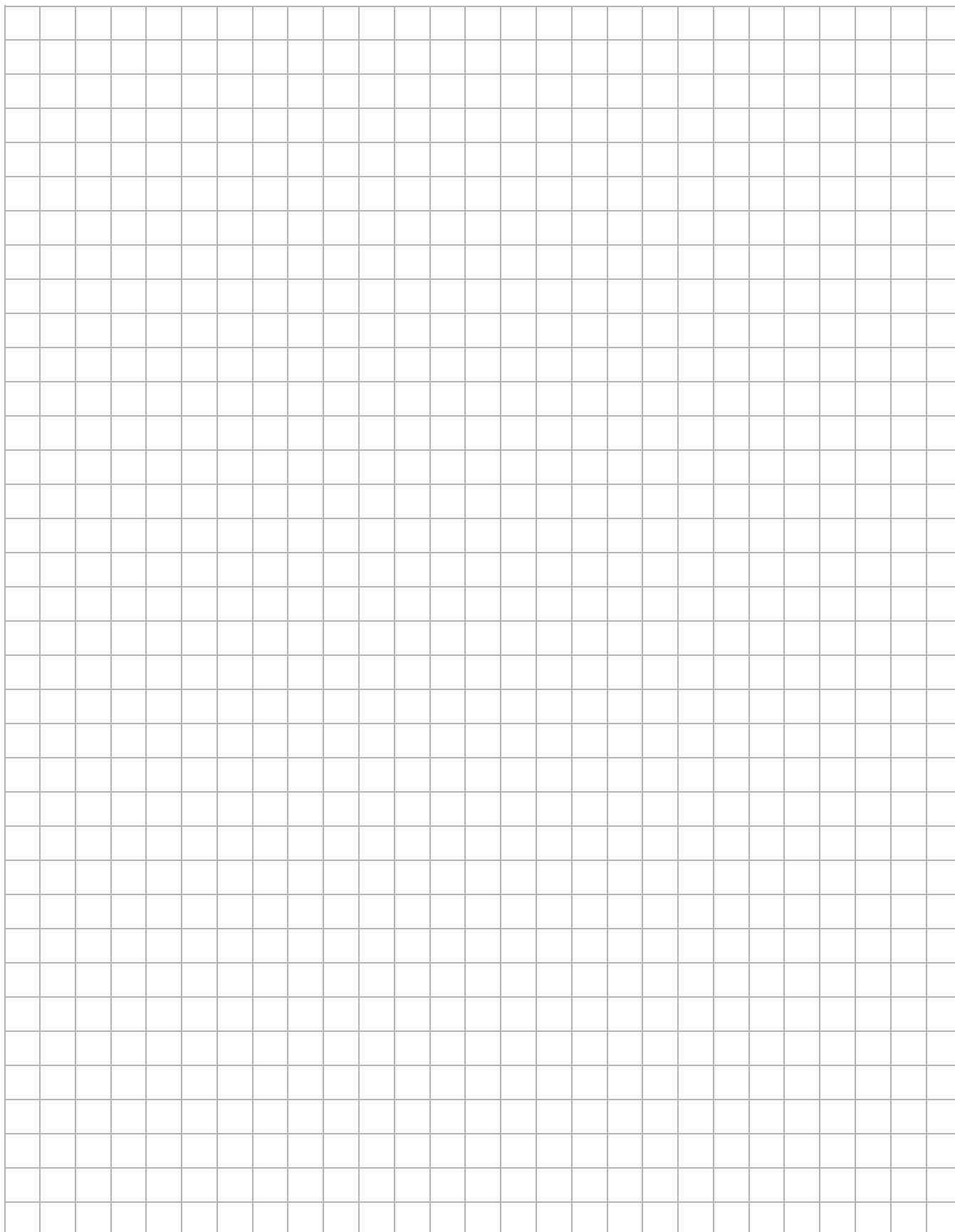
- A. Deliver and store materials to prevent damaging and marring finishes.
- B. Protection: Protect metal surfaces from contact with lime, mortar, cement, acids, and other harmful surfaces and from careless handling, storage or machining.

3.03 INSTALLATION:

- A. It shall be the responsibility of the installation contractor to perform the following:
- B. Installation and tolerances shall meet the requirements of HMMA 840 and as further specified here in. Prior to installation, all frames must be checked and corrected for size, swing, squareness, alignment, twist and plumbness.
- C. Any grout or other bonding material shall promptly be cleaned off of frames or doors following installation. Hollow metal surfaces shall be kept free of grout, tar, or other bonding material or sealer.
- D. Plaster guards and junction boxes are intended to protect hardware mortises and tapped mounting holes from masonry grout of 4" maximum slump consistency which is hand troweled in place. Grouting materials such as gypsum products which require air to dry (cure) shall not be used in any closed section, such as a mullion.
- E. Hardware must be applied in accordance with hardware manufacturer's templates and instructions.
- F. Primed or painted surfaces which have been scratched or otherwise marred during installation including field welding and/or cleaning shall be promptly finished smooth, cleaned, treated for maximum paint adhesion and touched up with a rust inhibitive primer.

End of Section

Notes



Lab-Tek™ STEEL DOORS AND FRAMES

Section 08 1110

PART I GENERAL

1.01 SUMMARY

- A. Description: This section includes Steel Doors, Frames, Sidelites, Transom and Window Frames where shown on the drawings and as specified herein.
- B. Related work not included in this section:
 - 1. Builders finish hardware including gaskets and weather-stripping.
 - 2. Glass and glazing.
 - 3. Sealant and caulking at joints.

1.02 QUALITY ASSURANCE

- A. Applicable standards of the following as referenced herein:
 - 1. AAMA, American Architectural Manufacturers Association.
 - 2. ANSI, American National Standards Institute.
 - 3. ASTM, American Society for Testing and Materials.
 - 4. ADA, Americans with Disabilities Act.
 - 5. NFPA 80, National Fire Protection Association
 - 6. NAAMM/HMMA, National Association of Architectural Metals Manufacturers.
 - 7. UL 10C, Standards for Positive Fire Tests of Door Assemblies.
- B. Manufacturer shall have been regularly engaged in manufacturing steel door, frames and window assemblies for a period of ten years. Doors and frames shall be fabricated by a single manufacturer. The manufacturer must have an effective quality control system in place.
- C. Provide current test reports to substantiate that all products have been tested to meet the following criteria.
 - 1. Fire Labeled doors and frames, ASTM E2074, UBC 7.2, UL 10C
 - 2. Performance test, ANSI A250.4
- D. Allowable Tolerances as stated in NAAMM/HMMA Technical Manual.

1.03 SUBMITTALS: Submittal Drawings: Show door and frame elevations and sections. Show listing of opening descriptions including locations, gages, and anchors. Show location and details of all openings. Include test reports on the following: Cycle test, Air and Water Infiltration.

1.04 WARRANTY: All hollow metal work shall be warranted from defects in workmanship and quality for a period of three (3) years from shipment.

PART II PRODUCTS

2.01 DOORS:

- A. The Steel Doors are based on Stiles Custom Metal, Inc. Model Lab-Tek™ ([see www.stilesdoor.com](http://www.stilesdoor.com))
 - 1. Vertical Edges and Top and Bottom Edges: Door shall be built from two unitized face sheets with all for edges of the door folded and joined at center of vertical edges and top and bottom edges. All seams shall be continuously welded with no visible seams on any surface of the door creating a completely smooth hermitically door skin. Welds shall be finished smooth. The use of Mineral fillers is not permitted. Exposed seams are permitted.
 - 2. Single acting doors - beveled 1/8" in 2" profile. Double acting doors - rounded on 2-1/8" radius. All hardware furnished by the hardware contractor for single acting doors shall be designed for beveled edges as specified herein.
 - 3. Door Core: (choose one) [Vertical Steel Stiffened], [Polyurethane], [Endura™ Impact Resistant] [Polystyrene] ([see www.stilesdoor.com](http://www.stilesdoor.com)) Core and inside of door skins shall be completely covered with contact adhesive achieving 100% bond.
 - 4. Integral Astragal: Where required astragals shall be formed as an integral part of the doors skin with corresponding recessed area formed into adjacent door. Surface mounted flat plate or "Z" shaped astragals shall not be accepted.

Lab-Tek™ STEEL DOORS AND FRAMES (continued)

5. Door thickness shall be 1-3/4".
6. Materials: Doors shall be made of commercial quality, cold-rolled steel per ASTM A1008 / A1008M.
 - a. Interior doors: Face sheets shall be 0.042 in. (18 gage) min. thickness cold rolled steel.
 - b. Exterior doors: Face sheets shall be 0.053 in. (16 gage) min. thickness with zinc coating A 60.
7. Glass Lite Kits: (choose one)

[Structural Glazed]: Internal channel shall be formed with a recess permitting the glass to be structurally glazed completely flush with the face of the door using bacteria resistant structural silicone. There shall be no exposed fasteners.]

[Flush Channel Glazed]: Door skin on clean room side shall be cut out to permit glass to be butted up to the end side surface. Glass shall be held in place on the side opposite clean room with removable glass channels or angle stops at the top and sides. Removable stop at the sill shall be either angle shaped or sloped channel. Removable stops shall be secured to the door with sheet metal screws. Glass shall be wet glazed using bacteria resistant structural silicone.]

8. Door opening tag number shall be permanently engraved into the center hinge reinforcement using a programmable engraver. The engraving shall be deep enough to be read after the hinge reinforcement bar is painted. The use of paper stickers only is not acceptable.
9. Finish: After fabrication, all tool marks and surface imperfections shall be removed, and exposed faces of all welded joints shall be dressed smooth.

2.02 STEEL PANELS: Steel panels shall be made of the same material and construction and finished in the same way as specified for doors.

2.03 FRAMES

- A. Provisions of this section are applicable to door frames, transom lights, sidelights and window assemblies.
1. Materials: Frames shall be constructed of 16 gage, 0.053 in. (1.3mm) minimum thickness. Exterior frames shall have an A60 zinc coating.
 2. Construction: Frames shall be welded units of the sizes and types shown on approved shop drawings. Knocked-down frames shall not be accepted. Jamb, header; mullion and sill profiles shall be in accordance with the frame schedule and as shown on the approved submittal drawings.
 3. Mitered corner joints shall have all contact edges closed tight with faces mitered and stops butted. Faces and soffits shall be continuously welded. The use of gussets or splice plates shall not be acceptable. All other joints shall have faces continuously welded. Faces shall be finished smooth. Mineral fillers are not permitted.
 4. When shipping limitations so dictate, frames for large openings shall be fabricated in sections designated for assembly in the field by installer. Field joints shall be made in accordance with approved submittal drawings and shall be field welded by installer.

2.04 FINISH HARDWARE: Doors and frames shall be mortised, reinforced, drilled and tapped at the factory for completely templated mortised hardware only, in accordance with the final approved hardware schedule and templates provided by the hardware supplier. Where surface mounted, anchor hinges, or non-template mor-tise hardware is to be applied, doors shall be reinforced, with all drilling and tapping done by others in the field. Reinforcement steel shall comply with NAAMM/HMMA 830 and 861.

2.05 FINISH: Doors and frames shall be treated to insure maximum paint adhesion and shall be painted on all accessible surfaces with one coat of a rust inhibitive, modified Alkyd, Zinc compound, gray primer that meets or exceeds all ANSI A250.10-98 performance criteria. Primer coat shall be fully cured prior to shipment. Red or brown colored primers shall not be permitted.

PART III EXECUTION

3.01 CLEARANCES AND TOLERANCES shall be in compliance with NAAMM / HMMA standards.

Lab-Tek™ STEEL DOORS AND FRAMES (continued)

3.02 SITE STORAGE AND PROTECTION OF MATERIALS

- A. Deliver and store materials to prevent damaging and marring finishes.
- B. Protection: Protect metal surfaces from contact with lime, mortar, cement, acids, and other harmful surfaces and from careless handling, storage or machining.

3.03 INSTALLATION

- A. It shall be the responsibility of the installation contractor to perform the following:
- B. Installation and tolerances shall meet the requirements of HMMA 840 and as further specified here in. Prior to installation, all frames must be checked and corrected for size, swing, square, plumb, alignment, and twist.
- C. Any grout or other bonding material shall promptly be cleaned off of frames or doors following installation. Hollow metal surfaces shall be kept free of grout, tar, or other bonding material or sealer.
- D. Plaster guards and junction boxes are intended to protect hardware mortises and tapped mounting holes from masonry grout of 4" maximum slump consistency which is hand troweled in place. Grouting materials such as gypsum products which require air to dry (cure) shall not be used in any closed section, such as a mullion.
- E. Hardware must be applied in accordance with hardware manufacturer's templates and instructions.
- F. Primed or painted surfaces which have been scratched or otherwise marred during in-stallation including field welding and/or cleaning shall be promptly finished smooth, cleaned, treated for maximum paint adhesion and touched up with a rust inhibitive primer.

End of Section

Notes



Endura™ STEEL DOORS AND FRAMES

Section 08 1110

PART I GENERAL

1.01 SUMMARY

- A. Description: This section includes Steel Doors, Frames, Sidelites, Transom and Window Frames where shown on the drawings and as specified herein.
- B. Related work not included in this section:
 - 1. Builders finish hardware including gaskets and weather-stripping.
 - 2. Glass and glazing.
 - 3. Sealant and caulking at joints.

1.02 QUALITY ASSURANCE

- A. Applicable standards of the following as referenced herein:
 - 1. AAMA, American Architectural Manufacturers Association.
 - 2. ANSI, American National Standards Institute.
 - 3. ASTM, American Society for Testing and Materials.
 - 4. ADA, Americans with Disabilities Act.
 - 5. NFPA 80, National Fire Protection Association
 - 6. NAAMM/HMMA, National Association of Architectural Metals Manufacturers.
 - 7. UL 10C, Standards for Positive Fire Tests of Door Assemblies.
- B. Manufacturer shall have been regularly engaged in manufacturing steel door, frames and window assemblies for a period of ten years. Doors and frames shall be fabricated by a single manufacturer. The manufacturer must have an effective quality control system in place.
- C. Provide current test reports to substantiate that all products have been tested to meet the following criteria.
 - 1. Fire Labeled doors and frames, ASTM E2074, UBC 7.2, UL 10C
 - 2. Performance test, ANSI A250.4
 - 3. Wind Load, Deflection / ASTM E330, Air Infiltration / ASTM E283, Water Penetration / ASTM E331
- D. Allowable Tolerances as stated in NAAMM/HMMA Technical Manual.

1.03 SUBMITTALS: Submittal Drawings: Show door and frame elevations and sections. Show listing of opening descriptions including locations, gages, and anchors. Show location and details of all openings. Include test reports on the following: Cycle test, Air and Water Infiltration.

1.04 WARRANTY: All hollow metal work shall be warranted from defects in workmanship and quality for a period of three (3) years from shipment.

PART II PRODUCTS

2.01 DOORS

- A. The Steel Doors are based on Stiles Custom Metal, Inc. Model: Endura™ (see www.stilesdoor.com) and shall be of the types and sizes shown on the approved submittal drawings and shall be constructed in accordance with the specifications.
 - 1. Impact Resistant Door Core: Entire interior of door shall be reinforced with Endura™ core, a proprietary, rigid, impact-resistant core material. Core shall be laminated to the inside of the door skins with contact adhesive achieving 100% bond.
 - 2. Vertical Edges: Door face sheets shall be joined at center of vertical edges and continuously welded full height of the door with no visible seams on their faces or vertical edges. Welds shall be finished smooth. All finish hardware furnished by the hardware supplier for single acting doors shall be designed for beveled edges as specified herein.
 - 3. Integral Astragal: Where required astragals shall be formed as an integral part of the doors skin with corresponding recessed area formed into adjacent door. Surface mounted flat plate or "Z" shaped astragals shall not be accepted.
 - 4. Door thickness shall be 1-3/4". Doors shall be neat in appearance and free from warp or buckle. Edge bends shall be true and straight and of minimum radius for the gage of metal used.

Endura™ STEEL DOORS AND FRAMES (continued)

5. Materials: Doors shall be made of commercial quality, cold-rolled steel per ASTM A1008 / A1008M.
 - a. Interior doors: Face sheets shall be 0.042 in. (18 gage) min. thickness cold rolled steel.
 - b. Exterior doors: Face sheets shall be 0.053 in. (16 gage) min. thickness with zinc coating A-60.
6. The top and bottom edges shall be closed with a continuous channel, 16 gage minimum, spot welded to both face sheets maximum 4" o.c. Top of exterior doors shall be fitted with an additional flush closing channel and sealed water-tight.
7. Door opening tag number shall be permanently engraved into the center hinge reinforcement using a programmable engraver. The engraving shall be deep enough to be read after the hinge reinforcement bar is painted. The use of paper stickers only is not acceptable.
8. Glass moldings and stops: Where specified, doors shall be provided with internal channel type, flush glass moldings, to secure glazing in accordance with glass sizes and thickness shown on approved submittal drawings. Molding channels minimum 18 gauge steel, securely spot welded, maximum 4" o.c., to the inside face of the door skin. Removable glass channel stops shall be minimum 18 gage, A60 galvanized steel, butted at corner joints, secured to the door with zinc plated #8 oval head, countersunk, sheet metal screws. Door lites that are cut out of the door after the door is built are not acceptable. Externally mounted lite kits that protrude from the door face are not acceptable.
9. Louvers: Louvers shall be sight proof, with (choose one) [embossed, security type kick proof] or [V or Y type] blades, minimum 18 gage, secured to door with sheet metal screws. Louvers at exterior locations shall be A60 galvanized and be provided with Insect screens. Door skins at louver cutouts shall be reinforced with continuous channel reinforcement, full door thickness and perimeter, spot welded to door face 4" o.c.
10. Finish: After fabrication, all tool marks and surface imperfections shall be removed, and exposed faces of all welded joints shall be dressed smooth.

2.02 STEEL PANELS: Steel panels shall be made of the same material and construction and finished in the same way as specified for doors.

2.03 FRAMES:

- A. Provisions of this section are applicable to door frames, transom lites, sidelites and window assemblies.
1. Materials: Frames shall be constructed of 16 gage, 0.053 in. (1.3mm) minimum thickness. Exterior frames shall have an A60 zinc coating.
 2. Construction: Frames shall be welded units of the sizes and types shown on approved shop drawings. Knocked-down frames shall not be accepted. Jamb, header; mullion and sill profiles shall be in accordance with the frame schedule and as shown on the approved submittal drawings.
 3. Mitered corner joints shall have all contact edges closed tight with faces mitered and stops butted. Faces and soffits shall be continuously welded. The use of gussets or splice plates shall not be acceptable. All other joints shall have faces continuously welded. Faces shall be finished smooth. Mineral fillers are not permitted.
 4. Exterior windows: Window installer and glazier shall follow Stiles instructions to prevent air and water penetration.
 5. Exterior door frames shall have Seal-Tek™ (see www.stilesdoor.com) integral weather-strip kerf provided.
 6. When shipping limitations so dictate, frames for large openings shall be fabricated in sections designated for assembly in the field by installer. Field joints shall be made in accordance with approved submittal drawings and shall be field welded by installer.

2.04 FINISH HARDWARE: Doors and frames shall be mortised, reinforced, drilled and tapped at the factory for completely templated mortised hardware only, in accordance with the final approved hardware schedule and templates provided by the hardware supplier. Where surface mounted, anchor hinges, or non-template mor-tise hardware is to be applied, doors shall be reinforced, with all drilling and tapping done by others in the field. Reinforcement steel shall comply with NAAMM/HMMA 830 and 861.

2.05 FINISH: Doors and frames shall be treated to insure maximum paint adhesion and shall be painted on all accessible surfaces with one coat of a rust inhibitive, modified Alkyd, Zinc compound, gray primer that meets or exceeds all ANSI A250.10-98 performance criteria. Primer coat shall be fully cured prior to shipment. Red or brown colored primers shall not be permitted.

Endura™ STEEL DOORS AND FRAMES (continued)

PART III EXECUTION

3.01 CLEARANCES AND TOLERANCES shall be in compliance with NAAMM / HMMA standards.

3.02 SITE STORAGE AND PROTECTION OF MATERIALS

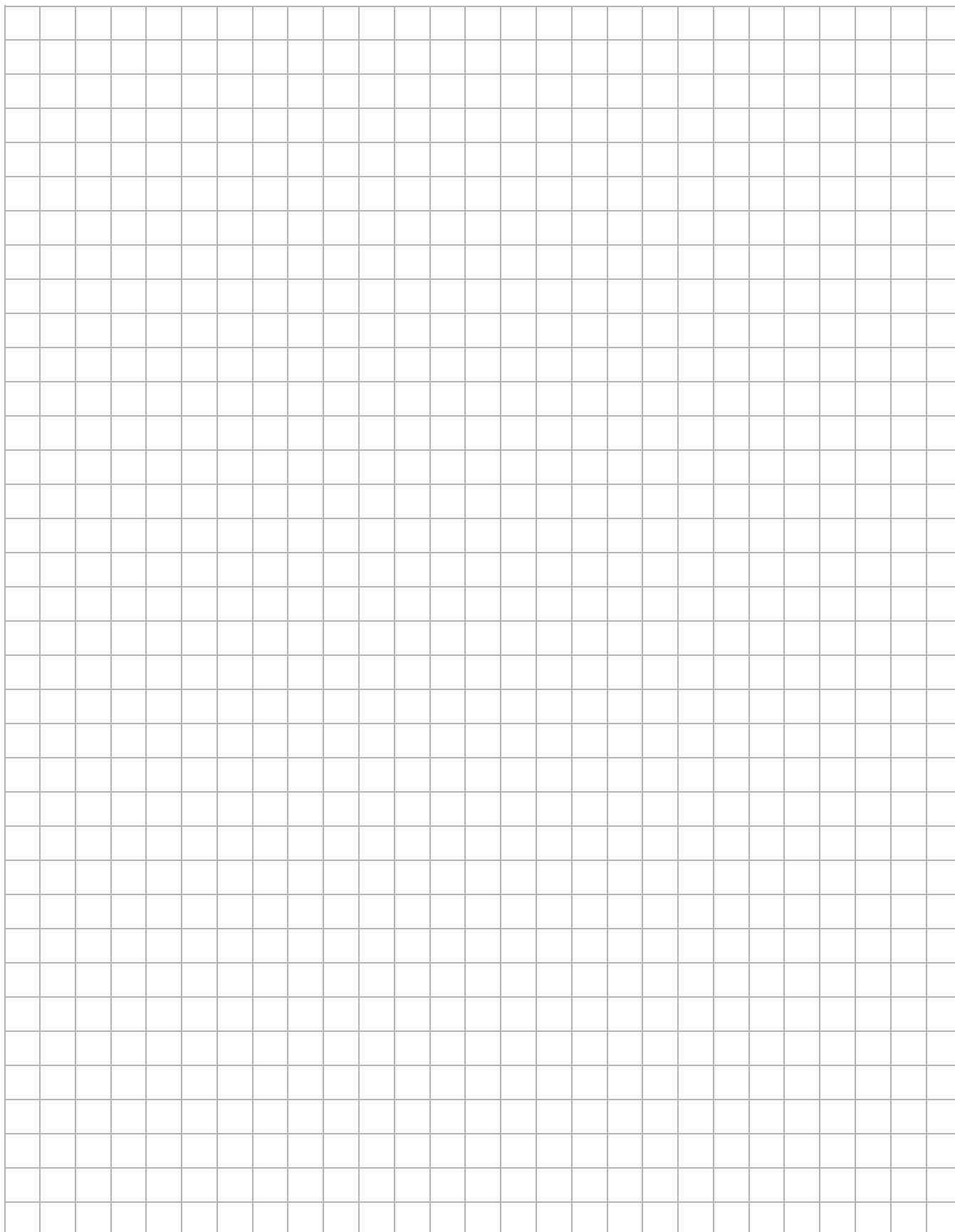
- A. Deliver and store materials to prevent damaging and marring finishes.
- B. Protection: Protect metal surfaces from contact with lime, mortar, cement, acids, and other harmful surfaces and from careless handling, storage or machining.

3.03 INSTALLATION:

- A. It shall be the responsibility of the installation contractor to perform the following:
- B. Installation and tolerances shall meet the requirements of HMMA 840 and as further specified here in. Prior to installation, all frames must be checked and corrected for size, swing, square, plumb, alignment, and twist.
- C. Any grout or other bonding material shall promptly be cleaned off of frames or doors following installation. Hollow metal surfaces shall be kept free of grout, tar, or other bonding material or sealer.
- D. Plaster guards and junction boxes are intended to protect hardware mortises and tapped mounting holes from masonry grout of 4" maximum slump consistency which is hand troweled in place. Grouting materials such as gypsum products which require air to dry (cure) shall not be used in any closed section, such as a mullion.
- E. Hardware must be applied in accordance with hardware manufacturer's templates and instructions.
- F. Primed or painted surfaces which have been scratched or otherwise marred during in-stallation including field welding and/or cleaning shall be promptly finished smooth, cleaned, treated for maximum paint adhesion and touched up with a rust inhibitive primer.

End of Section

Notes



True Stile & Rail™ STEEL DOORS AND FRAMES

Section 08 1110

PART I GENERAL

1.01 SUMMARY

- A. Description: This section includes Steel Doors, Frames, Sidelites, Transom and Window Frames where shown on the drawings and as specified herein.
- B. Related work not included in this section:
 - 1. Builders Finish Hardware including gaskets and weather-stripping.
 - 2. Glass and glazing.
 - 3. Sealant and caulking at joints.

1.02 QUALITY ASSURANCE

- A. Applicable standards of the following as referenced herein:
 - 1. AAMA, American Architectural Manufacturers Association.
 - 2. ANSI, American National Standards Institute.
 - 3. ASTM, American Society for Testing and Materials.
 - 4. ADA, Americans with Disabilities Act.
 - 5. NFPA 80, National Fire Protection Association
 - 6. NAAMM/HMMA, National Association of Architectural Metals Manufacturers.
 - 7. UL 10C, Standards for Positive Fire Tests of Door Assemblies.
- B. Manufacturer shall have been regularly engaged in manufacturing steel door, frames and window assemblies for a period of ten years. Doors and frames shall be fabricated by a single manufacturer. The manufacturer must have an effective quality control system in place.
- C. Provide current test reports to substantiate that all products have been tested to meet the following criteria.
 - 1. Fire Labeled doors and frames, ASTM E2074, UBC 7.2, UL 10C
 - 2. Performance test, ANSI A250.4
 - 3. Wind Load, Deflection / ASTM E330, Air Infiltration / ASTM E283, Water Penetration / ASTM E331
- D. Allowable Tolerances as stated in NAAMM/HMMA Technical Manual.

1.03 SUBMITTALS: Submittal Drawings: Show door and frame elevations and sections. Show listing of opening descriptions including locations, gages, and anchors. Show location and details of all openings. Include test reports on the following: Cycle test, Air and Water Infiltration.

1.04 WARRANTY: All hollow metal work shall be warranted from defects in workmanship and quality for a period of three (3) years from shipment.

PART II PRODUCTS

2.01 DOORS:

- A. The Steel Doors are based on Stiles Custom Metal, Inc. Model: True Stile and Rail™ ([see www.stilesdoor.com](http://www.stilesdoor.com)) and shall be of the types and sizes shown on the approved submittal drawings and shall be constructed in accordance with the specifications.
- B. Construction:
 - 1. Stile and Rail doors shall be unitized, true tube type construction with joints continuously welded and ground smooth.
 - 2. Door Core: Polystyrene, rigid, extruded, closed cell board, 1 pound per cubic foot density min., conforming to ASATM C578, Type 1 shall fill void in stile and rails. Core shall be laminated to the inside of the door skins with contact adhesive achieving 100% bond.
 - 3. Vertical Edges: Door face sheets shall be joined at center of vertical edges and continuously welded full height of the door with no visible seams on their faces or vertical edges. Welds shall be finished smooth. Single acting doors - beveled 1/8" in 2" profile. Double acting doors - rounded on 2-1/8" radius. All hardware furnished by the hardware contractor for single acting doors shall be designed for beveled edges as specified herein.

TRUE STILE & RAIL [™] STEEL DOORS AND FRAMES (continued)

4. Integral Astragal: Where required astragals shall be formed as an integral part of the doors skin with corresponding recessed area formed into adjacent door. Surface mounted flat plate or "Z" shaped astragals shall not be accepted.
5. Door thickness shall be 1-3/4". Doors shall be neat in appearance and free from warp or buckle. Edge bends shall be true and straight and of minimum radius for the gage of metal used.
6. Materials: Doors shall be made of commercial quality, cold-rolled steel per ASTM A1008 / A1008M. Stile and rails shall be 0.053 in. (16 gage) min. thickness with zinc coating A-60 at exterior..
7. The top and bottom edges shall be closed with a continuous channel, 16 gage minimum, spot welded to both face sheets maximum 4" o.c. Top of exterior doors shall be fitted with an additional flush closing channel and sealed water-tight.
8. Door opening tag number shall be permanently engraved into the center hinge reinforcement using a programmable engraver. The engraving shall be deep enough to be read after the hinge reinforcement bar is painted. The use of paper stickers only is not acceptable.
9. Glass moldings and stops: Where specified, Fixed molding stop shall be a formed integral of the door skin to secure glazing in accordance with glass sizes and thickness shown on approved submittal drawings. Removable glass channel stops shall be butted at corner joints, secured to the door with concealed, #8, sheet metal screws. Exposed fasteners shall not be accepted. Door lights that are cut out of the door after the door is built are not acceptable. Externally mounted lite kits that protrude from the door face are not acceptable.
10. Louvers: Louvers shall be sight proof, with: (choose one) [embossed, security type kick proof] or [V or Y type] blades, minimum 18 gage, secured to door with sheet metal screws. Louvers at exterior locations shall be A-60 galvanized and be provided with Insect screens. Door skins at louver cutouts shall be reinforced with continuous channel reinforcement, full door thickness and perimeter, spot welded to door face 4" o.c.
11. Finish: After fabrication, all tool marks and surface imperfections shall be removed, and exposed faces of all welded joints shall be dressed smooth.

2.02 STEEL PANELS: Steel panels shall be made of the same material and construction and finished in the same way as specified for doors.

2.03 FRAMES:

- A. Provisions of this section are applicable to door frames, transom lites, sidelites and window assemblies.
 1. Materials: Frames shall be constructed of 16 gage, 0.053 in. (1.3mm) minimum thickness. Exterior frames shall have an A-60 zinc coating.
 2. Construction: Frames shall be welded units of the sizes and types shown on approved shop drawings. Knocked-down frames shall not be accepted. Jamb, header; mullion and sill profiles shall be in accordance with the frame schedule and as shown on the approved submittal drawings.
 3. Mitered corner joints shall have all contact edges closed tight with faces mitered and stops butted. Faces and soffits shall be continuously welded. The use of gussets or splice plates shall not be acceptable. All other joints shall have faces continuously welded. Faces shall be finished smooth. Mineral fillers are not permitted.
 4. Exterior windows: Window installer and glazier shall follow Stiles instructions to prevent air and water penetration.
 5. Exterior door frames shall have Seal-Tek [™] (see www.stilesdoor.com) integral weather-strip kerf provided.
 6. When shipping limitations so dictate, frames for large openings shall be fabricated in sections designated for assembly in the field by installer. Field joints shall be made in accordance with approved submittal drawings and shall be field welded by installer.

2.04 FINISH HARDWARE: Doors and frames shall be mortised, reinforced, drilled and tapped at the factory for completely templated mortised hardware only, in accordance with the final approved hardware schedule and templates provided by the hardware supplier. Where surface mounted, anchor hinges, or non-template mor-tise hardware is to be applied, doors shall be reinforced, with all drilling and tapping done by others in the field. Reinforcement steel shall comply with NAAMM/HMMA 830 and 861.

TRUE STILE & RAIL™ STEEL DOORS AND FRAMES (continued)

2.05 FINISH: Doors and frames shall be treated to insure maximum paint adhesion and shall be painted on all accessible surfaces with one coat of a rust inhibitive, modified Alkyd, Zinc compound, gray primer that meets or exceeds all ANSI A250.10-98 performance criteria. Primer coat shall be fully cured prior to shipment. Red or brown colored primers shall not be permitted.

PART III EXECUTION

3.01 CLEARANCES AND TOLERANCES shall be in compliance with NAAMM / HMMA standards.

3.02 SITE STORAGE AND PROTECTION OF MATERIALS

- A. Deliver and store materials to prevent damaging and marring finishes.
- B. Protection: Protect metal surfaces from contact with lime, mortar, cement, acids, and other harmful surfaces and from careless handling, storage or machining.

3.03 INSTALLATION:

- A. It shall be the responsibility of the installation contractor to perform the following:
- B. Installation and tolerances shall meet the requirements of HMMA 840 and as further specified here in. Prior to installation, all frames must be checked and corrected for size, swing, square, plumb, alignment, and twist.
- C. Any grout or other bonding material shall promptly be cleaned off of frames or doors following installation. Hollow metal surfaces shall be kept free of grout, tar, or other bonding material or sealer.
- D. Plaster guards and junction boxes are intended to protect hardware mortises and tapped mounting holes from masonry grout of 4" maximum slump consistency which is hand troweled in place. Grouting materials such as gypsum products which require air to dry (cure) shall not be used in any closed section, such as a mullion.
- E. Hardware must be applied in accordance with hardware manufacturer's templates and instructions.
- F. Primed or painted surfaces which have been scratched or otherwise marred during in-stallation including field welding and/or cleaning shall be promptly finished smooth, cleaned, treated for maximum paint adhesion and touched up with a rust inhibitive primer.

End of Section

Notes



Wood Grain STEEL DOORS AND FRAMES

Section 08 1110

PART I GENERAL

1.01 SUMMARY:

- A. Description: This section includes Steel Doors, Frames, Sidelites, Transom and Window Frames, where shown on the drawings and as specified herein.
- B. Related work not included in this section:
 - 1. Builder's finish hardware including gaskets and weather-stripping.
 - 2. Glass and glazing.
 - 3. Sealant and caulking at joints.

1.02 QUALITY ASSURANCE:

- A. Applicable standards of the following as referenced herein:
 - 1. AAMA, American Architectural Manufacturers Association.
 - 2. ANSI, American National Standards Institute.
 - 3. ASTM, American Society for Testing and Materials.
 - 4. ADA, Americans with Disabilities Act.
 - 5. NFPA 80, National Fire Protection Association
 - 6. NAAMM/HMMA, National Association of Architectural Metal Manufacturers.
 - 7. UL 10C, Standards for Positive Fire Tests of Door Assemblies.
- B. Manufacturer shall have been regularly engaged in manufacturing steel doors, frames and window assemblies for a period of ten years. Doors and frames shall be fabricated by a single manufacturer. The manufacturer must have an effective quality control system in place.
- C. Provide current test reports to substantiate that all products have been tested to meet the following criteria:
 - 1. Fire Labeled doors and frames, ASTM E2074, UBC 7.2, UL 10C
 - 2. Performance test, ANSI A250.4
 - 3. Wind Load, Deflection / ASTM E330, Air Infiltration / ASTM E283, Water Penetration / ASTM E331
- D. Allowable tolerances as stated in NAAMM/HMMA Technical Manual.

1.03 SUBMITTALS: Submittal Drawings: Show door and frame elevations and sections. Show listing of opening descriptions including locations, gages, and anchors. Show location and details of all openings. Include test reports on the following: Cycle test, Air and Water Infiltration.

1.04 WARRANTY: All hollow metal work shall be warranted free from defects in workmanship and quality for a period of three (3) years from shipment.

PART II PRODUCTS

2.01 DOORS

- A. The Steel Doors are based on Stiles Custom Metal, Inc. Model: "Wood Grain Steel" and shall be of the types and sizes shown on the approved submittal drawings and shall be constructed in accordance with the specifications.
 - 1. Door Core Options: (choose one) [Honeycomb "Kraft" paper, hexagonal cell, fully faced], [Polyurethane], [Endura™ Impact Resistant], [Temperature Rise], [Polystyrene]
 - 2. Core and inside of door skins shall be completely covered with contact adhesive achieving 100% bond.
 - 3. Vertical Edges: Door face sheets shall be open seamed type with vertical edges joined by a with a 16 gage edge channel running the full depth and height of the door edged. Single acting doors: beveled 1/8" in 2" profile. Double acting doors: rounded on 2-1/8" radius. All hardware furnished by the hardware contractor for single acting doors shall be designed for beveled edges as specified herein.
 - 4. Integral Astragal: Where required astragals shall be formed as an integral part of the doors skin with corresponding recessed area formed into adjacent door. Surface mounted flat plate or Z shaped astragals shall not be accepted.
 - 5. Door thickness shall be 1-3/4". Doors shall be neat in appearance and free from warp or buckle. Edge bends shall be true and straight and of minimum radius for the gage of metal used.

WOOD GRAIN STEEL DOORS AND FRAMES (continued)

6. Materials: Doors shall be made of commercial quality, cold-rolled steel per ASTM A1008 / A1008M.
 - a. Face sheets shall be 0.042 in. (18 gage) min. thickness cold rolled steel with zinc coating A 60.
 - b. A wood grained texture shall be embossed into the door skins.
7. The top and bottom edges shall be closed with a continuous channel, 16 gage minimum, spot welded to both face sheets maximum 4" o.c. Top of exterior doors shall be fitted with an additional flush closing channel and sealed water-tight.
8. Door opening tag number shall be permanently engraved into the center hinge reinforcement using a programmable engraver. The engraving shall be deep enough to be read after the hinge reinforcement bar is painted. The use of paper stickers only is not acceptable.
9. Glass moldings and stops: Where specified, doors shall be provided with internal channel type, flush glass moldings, to secure glazing in accordance with glass sizes and thickness shown on approved submittal drawings. Molding channels minimum 18 gauge steel, securely spot welded, maximum 4" o.c., to the inside face of the door skin. Removable glass channel stops shall be minimum 18 gage, A60 galvanized steel, butted at corner joints, secured to the door with zinc plated #8 oval head, countersunk, sheet metal screws. Door lights that are cut out of the door after the door is built are not acceptable. Externally mounted lite kits that protrude from the door face are not acceptable.
10. Louvers: Louvers shall be sight proof, with (choose one) [embossed, security type kick proof] or [V or Y type] blades, minimum 18 gage, secured to door with sheet metal screws. Louvers at exterior locations shall be A60 galvanized and be provided with Insect screens. Door skins at louver cutouts shall be reinforced with continuous channel reinforcement, full door thickness and perimeter, spot welded to door face 4" o.c.
11. Finish: After fabrication, all tool marks and surface imperfections shall be removed, and exposed faces of all welded joints shall be dressed smooth.

2.02 STEEL PANELS: Steel panels shall be made of the same material and construction and finished in the same way as specified for doors.

2.03 FRAMES

- A. Provisions of this section are applicable to door frames, transom lites, sidelites and window assemblies.
1. Materials: Frames shall be constructed of 16 gage, 0.053 in. (1.3mm) minimum thickness. Exterior frames shall have an A60 zinc coating.
 2. Construction: Frames shall be welded units of the sizes and types shown on approved shop drawings. Knocked-down frames shall not be accepted. Jamb, header; mullion and sill profiles shall be in accordance with the frame schedule and as shown on the approved submittal drawings.
 3. Mitered corner joints shall have all contact edges closed tight with faces mitered and stops butted. Faces and soffits shall be continuously welded. The use of gussets or splice plates shall not be acceptable. All other joints shall have faces continuously welded. Faces shall be finished smooth. Mineral fillers are not permitted.
 4. Exterior windows: Window installer and glazer shall follow Stiles instructions to prevent air and water penetration.
 5. Exterior door frames shall have Seal-TekTM (see www.stilesdoor.com) integral weather-strip kerf provided.
 6. When shipping limitations so dictate, frames for large openings shall be fabricated in sections designated for assembly in the field by installer. Field joints shall be made in accordance with approved submittal drawings and shall be field welded by installer.

2.04 FINISH HARDWARE: Doors and frames shall be mortised, reinforced, drilled and tapped at the factory for completely templated mortised hardware only, in accordance with the final approved hardware schedule and templates provided by the hardware supplier. Where surface mounted, anchor hinges, or non-template mor-tise hardware is to be applied, doors shall be reinforced, with all drilling and tapping done by others in the field. Reinforcement steel shall comply with NAAMM/HMMA 830 and 861.

2.05 FINISH: Doors and frames shall be treated to insure maximum paint adhesion and shall be painted on all accessible surfaces with one coat of a rust inhibitive, modified Alkyd, Zinc compound, gray primer that meets or exceeds all ANSI A250.10-98 performance criteria. Primer coat shall be fully cured prior to shipment. Red or brown colored primers shall not be permitted.

WOOD GRAIN STEEL DOORS AND FRAMES (continued)

3.01 CLEARANCES AND TOLERANCES shall be in compliance with NAAMM / HMMA standards.

3.02 SITE STORAGE AND PROTECTION OF MATERIALS

- A. Deliver and store materials to prevent damaging and marring finishes.
- B. Protection: Protect metal surfaces from contact with lime, mortar, cement, acids, and other harmful surfaces and from careless handling, storage or machining.

3.03 INSTALLATION:

- A. It shall be the responsibility of the installation contractor to perform the following:
- B. Installation and tolerances shall meet the requirements of HMMA 840 and as further specified here in. Prior to installation, all frames must be checked and corrected for size, swing, square, plumb, alignment, and twist.
- C. Any grout or other bonding material shall promptly be cleaned off of frames or doors following installation. Hollow metal surfaces shall be kept free of grout, tar, or other bonding material or sealer.
- D. Plaster guards and junction boxes are intended to protect hardware mortises and tapped mounting holes from masonry grout of 4" maximum slump consistency which is hand troweled in place. Grouting materials such as gypsum products which require air to dry (cure) shall not be used in any closed section, such as a mullion.
- E. Hardware must be applied in accordance with hardware manufacturer's templates and instructions.
- F. Primed or painted surfaces which have been scratched or otherwise marred during in-stallation including field welding and/or cleaning shall be promptly finished smooth, cleaned, treated for maximum paint adhesion and touched up with a rust inhibitive primer.

End of Section

Notes

