



**STEEL DOORS & FRAMES**  
ENJOY THE FREEDOM TO DESIGN ANYTHING



100 Millennium Blvd.  
Moncton, NB, Canada

[www.apexindustries.com](http://www.apexindustries.com)



**Behrakis Health Sciences Center, Northeastern University** » Boston, Massachusetts

STEEL DOORS & FRAMES

# OUR COMMITMENT

WE PROVIDE TOTAL SATISFACTION  
FROM BEGINNING TO END

Customer satisfaction comes naturally to us. Our team of dedicated project managers and professional staff work alongside customers to meet their needs and to remove the headache that can come with dealing with doors and frames.

Whatever your schedule, whatever your particular need, our people will make it happen.

# OUR PRODUCTS

ENJOY THE FREEDOM TO  
DESIGN ANYTHING

As a manufacturer with decades of experience, we've seen and built a lot of different types of doors, frames and windows. We manufacture and stock a complete line of standard designs, but what we truly excel in is our ability to make any architectural plan a reality: any size, any space, and any purpose. We make it happen with ease.

- Custom doors and frames
- Detention doors and frames
- Stainless steel doors and frames
- High security doors and frames
- Fire-rated doors and frames





# COMMERCIAL

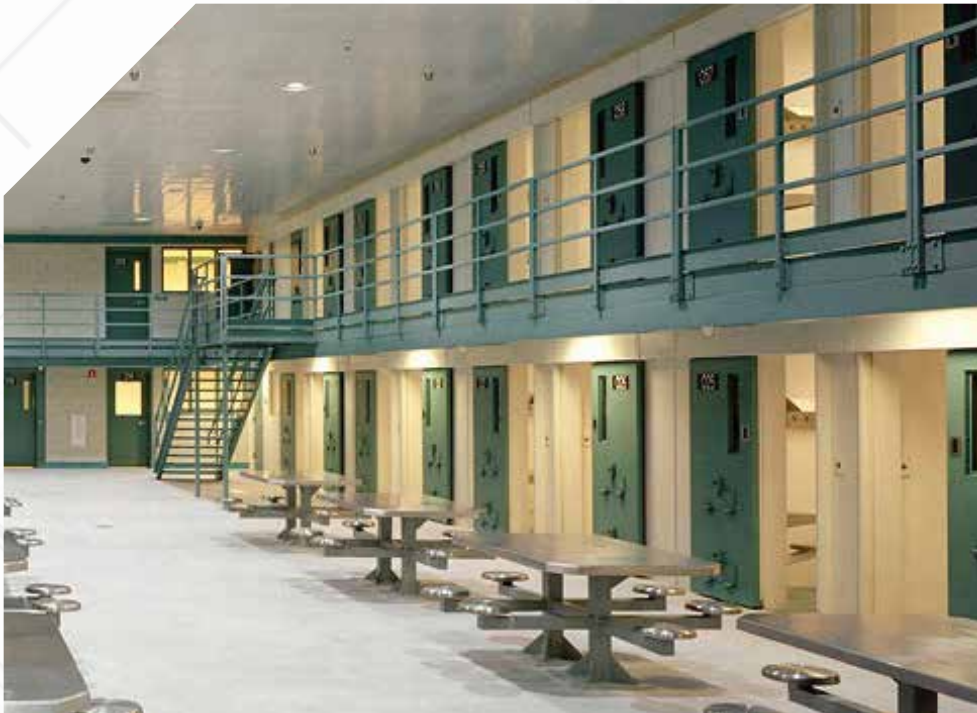
Our custom capabilities are second-to-none, with custom profiles and sizes available for any project.

Our products are manufactured from steel ranging from 10-gauge to 20-gauge, and include products from true radius frames, to arched frames and doors, and everything in-between.



# DETENTION

Apex Industries is a leading manufacturer of custom detention products and can customize to any project specification.



# STAINLESS

Unlike many manufacturers, we are able to work with stainless steel up to 10-gauge, and can produce doors and openings of any size, design or specification.





# OUR PROJECTS

WE HAVE A DEEP RANGE OF EXPERIENCE

Our depth of experience includes a wide-range of projects. Our portfolio of work includes schools, hospitals, office buildings, care facilities, industrial, retail, post-secondary, pharmaceutical,

commercial applications and others. Additionally, our proximity to highway, rail, and ports allows us to ship to destinations all around the globe. Some of our high-quality projects include:

- Harvard Medical School
- University of Delaware
- Massachusetts Correctional Institution
- Lexington Policy Facility
- World Trade Center West
- East Boston Health Center
- Massachusetts General Hospital
- Holy Cross College Hall
- Tufts University Dental School
- MIT Graduate Housing
- Sheraton Boston - Phase 1 & 2
- Boston College Administration Building
- Sun Microsystems, Boston
- Olin College
- Berklee School of Music



**Levi Heywood Memorial Library** » Gardner, Massachusetts



**South Health** » Calgary, AB



**Harrisburg University** » Harrisburg, PA

- Fordham University
- West Point Military Academy
- Portsmouth Regional Hospital
- Amgen, Boston
- Teradyne, Boston
- AstraZeneca Pharmaceuticals, Boston
- Millennium Village Project, Qatar
- Grantley Adams International Airport, Barbados
- Berkeley Institute Senior School, Bermuda
- Dubai International Airport, U.A.E
- Canadian High Commission, London, England
- Canadian Embassy, Beijing, China



**Shrewsbury High School** » Shrewsbury, Massachusetts



# APEX INDUSTRIES

WE ARE A DIVERSE  
COMPANY BUILT ON  
QUALITY AND SERVICE

## APEX INDUSTRIES INC.

Corporate Head Office  
100 Millennium Blvd  
Moncton, NB, Canada  
Toll Free: 1 800 268-3331  
Office: 1 506 857-1600

[www.apexindustries.com](http://www.apexindustries.com)

Since 1966, Apex has been manufacturing doors and frames for world-class clients all over the globe. Our success stems from our commitment to product quality, uncompromising customer service, category-leading innovation and by surrounding ourselves with the best people in the industry.

Our customer portfolio in North America and beyond is a veritable "who's who" of companies. A sample of the organizations we've worked with include:

## CONTRACTORS

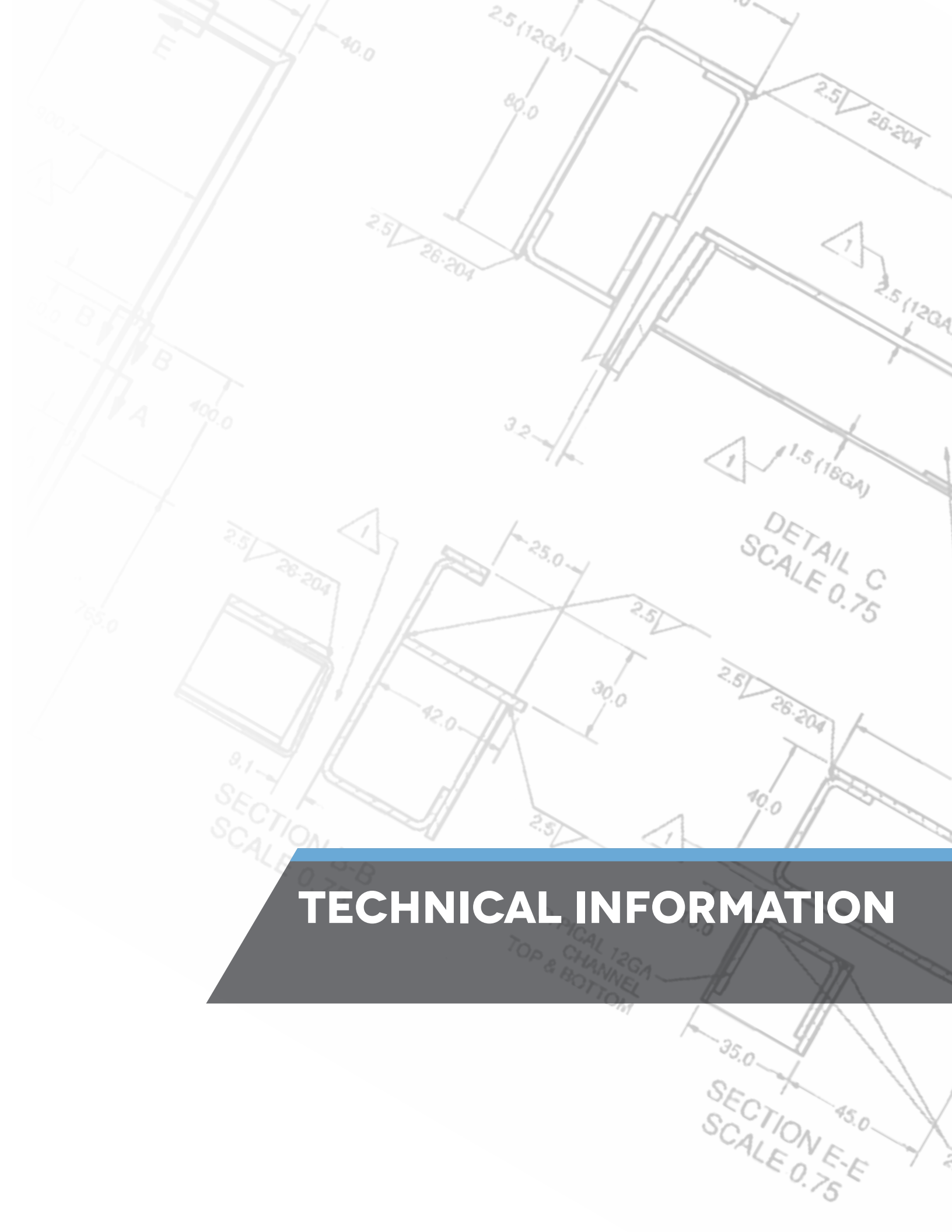
- Turner Construction
- Suffolk Construction
- Fluor Corp.
- PCL Construction
- Skanska USA
- Tutor Perini
- Ellis Don
- Morganti/American International Contractors
- Clark Builders

## ARCHITECTS

- Jacobs
- Elkus Manfredi Architects
- CBT Architects
- Payette
- Kasian Architecture
- Goody Clancy
- Skidmore, Owings & Merrill
- Robert A. M. Stern Architects







# TECHNICAL INFORMATION

TYPICAL 12GA  
CHANNEL  
TOP & BOTTOM

SECTION E-E  
SCALE 0.75



***Our in-house machinery allows us to manufacture a wide-range of custom sizes and gauges of steel.***

## AFFILIATIONS & ACCREDITATIONS

- Door and Hardware Institute (DHI)
- National Association of Architectural Metal Manufacturers (NAAMM)
- Hollow Metal Manufacturers Association (HMMA)
- Detention Equipment Manufacturers Association (DEMA)
- American Correctional Association (ACA)
- ITS – Warnock Hersey
- Canadian Steel Door Manufacturers Association (CSDMA)





# STEEL SPECIFICATIONS

ASTM A653/A653M-05a, specification for steel sheet, zinc coated (galvanized) or zinc-iron alloy coated (galvannealed) by the hot-dip process.

- A40 (ZF120)
- A60 (ZF180)
- G90 (ZF275)

# FIRE RATINGS – INTERTEK WARNOCK HERSEY



# SUSTAINABILITY

Our galvannealed steel can be easily painted, however, we do offer fully primed steel doors and frames.

ASTM A240/A240M Standard specification for chromium and chromium-nickel stainless steel plate, sheet, and strip for pressure vessels as well as for general applications.

- Type 304 #4 Finish
- Type 316 #4 Finish

Our products comply with the following:

- NFPA 80 National Fire Protection Association standard for fire doors and other opening protectives;
- UL 10 C Underwriters Laboratory standard for positive pressure fire tests of door assemblies;
- UBC-7-2 Uniform Building Code Standard for positive pressure fire tested door assemblies; and,
- CAN/ULC S104-10 Standards Council of Canada standard method for fire tests of door assemblies

Apex Industries Inc. is committed to environmental responsibility and good stewardship of the earth's resources. Apex has developed a comprehensive recycling program sending all scrap metal, paint and cooling fluids to local recyclers. We also recycle wooden transport pallets and use low VOC paints and primers. Total recycled content of galvanized steel used in our doors and frames is 89.7% recycled steel scrap, with 33.3% post-industrial scrap and 50.6% post-consumer scrap. Our steel complies with the recycled content (credit 4) under the LEED rating system and can be credited with the maximum number of points for the materials credit aspect of the rating system.

# HOLLOW METAL DOORS

## 10 SERIES | LAMINATED CORE

- Construction meets the requirements of ANSI A250.8 2003, ANSI / NAAMM / HMMA 861
- Door thickness 1 ¾" (45mm)
- Full height, adhesive filled, mechanically interlocking edge construction
- Beveled hinge and lock edges 1/8" in 2"
- High frequency 10-gauge hinge reinforcements at all hinge locations
- Welded 16-gauge top and bottom inverted channels
- Fire rated up to 3 hours

### Steel Options

A-40 (ZF-120) Galvanneal Steel
A-60 (ZF-180) Galvanneal Steel
G-90 (ZF-275) Bright Galvanized Steel
Stainless steel 304, 316, #4 finish

### Gauge Options

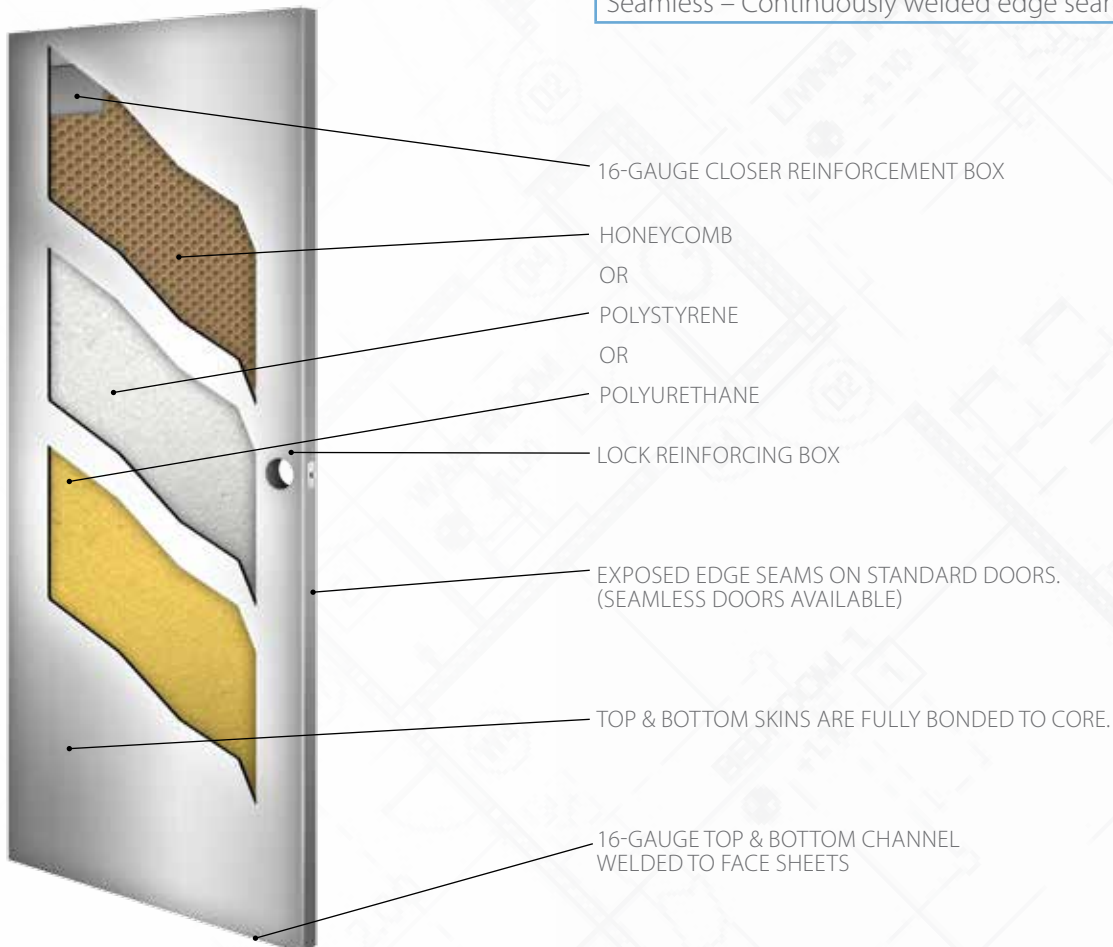
20-Gauge
18-Gauge
16-Gauge
14-Gauge

### Core Options

Voids filled with:
Honeycomb
Polystyrene
Polyurethane

### Edge Options

Exposed lock seam
Seamless – Tack welded filled seam ground smooth
Seamless – Continuously welded edge seam





# HOLLOW METAL DOORS

## 20 SERIES | STEEL – STIFFENED

- Steel stiffeners offer increased durability and security
- Steel stiffeners can be laminated or welded to face sheets
- Construction meets the requirements of ANSI A250-8 2003, NAAMM / HMMA 861, 867
- Door thickness 1 ¾" (45mm)
- Full height, adhesive filled mechanically interlocking edge construction
- Beveled hinge and lock edges 1/8" in 2"
- High frequency 10-gauge hinge reinforcements at all hinge locations
- Welded 16-gauge top and bottom inverted channel
- Fire rated up to 3 hours

### Steel Options

A-40 (ZF-120) Galvanneal Steel
A-60 (ZF-180) Galvanneal Steel
G-90 (ZF-275) Bright Galvanized Steel
Stainless steel 304, 316, #4 finish

### Gauge Options

20-Gauge
18-Gauge
16-Gauge
14-Gauge

### Core Options

Polystyrene
Honeycomb
Polyurethane
Mineral wool
Rigid fiberglass

### Edge Options

Exposed lock seam
Seamless – Tack welded filled seam ground smooth
Seamless – Continuously welded edge seam



16-GAUGE CLOSER REINFORCEMENT BOX

POLYSTYRENE, HONEYCOMB, POLYURETHANE, MINERAL WOOL, OR RIGID FIBERGLASS

20-GAUGE STIFFENERS

LOCK REINFORCING BOX

EXPOSED EDGE SEAMS ON STANDARD DOORS. (SEAMLESS DOORS AVAILABLE)

TOP & BOTTOM SKINS ARE FULLY BONDED TO CORE.

16-GAUGE TOP & BOTTOM CHANNEL WELDED TO FACE SHEETS

# HOLLOW METAL DOORS

## 30 SERIES | EMBOSSED

- Construction meets the requirements of ANSI A250.8 2003, ANSI / NAAMM / HMMA 861
- Door thickness 1 3/4" (45mm)
- Full height, adhesive filled mechanically interlocking edge construction
- Beveled hinge and lock edges 1/8" in 2"
- High frequency 10-gauge hinge reinforcements at all hinge locations
- Welded 16-gauge top and bottom inverted channels
- Fire rated up to 3 hours

### Steel Options

A-40 (ZF-120) Galvanneal Steel

### Gauge Options

18-Gauge

### Core Options

Honeycomb  
Polystyrene

### Edge Options

Exposed lock seam

Seamless – Tack welded filled seam  
ground smooth

Seamless – Continuously welded edge seam





# HOLLOW METAL DOORS

## 40 SERIES | TEMPERATURE RISE CORE

Temperature rise doors limit the transmission of heat for a period of time. These doors are built with a core that is specifically designed to restrict the transmission of heat.

- Construction meets the requirements of ANSI A250-8 2003, NAAMM / HMMA 861, 867
- Door thickness 1 3/4" (45mm)
- Full height adhesive filled, mechanically interlocking edge construction
- Beveled hinge and lock edges 1/8" in 2"
- High frequency 10-gauge hinge reinforcements at all hinge locations
- Welded 16-gauge top and bottom inverted channel
- Fire rated up to 3 hours

### Steel Options

A-40 (ZF-120) Galvanneal Steel
A-60 (ZF-180) Galvanneal Steel
G-90 (ZF-275) Bright Galvanized Steel

### Gauge Options

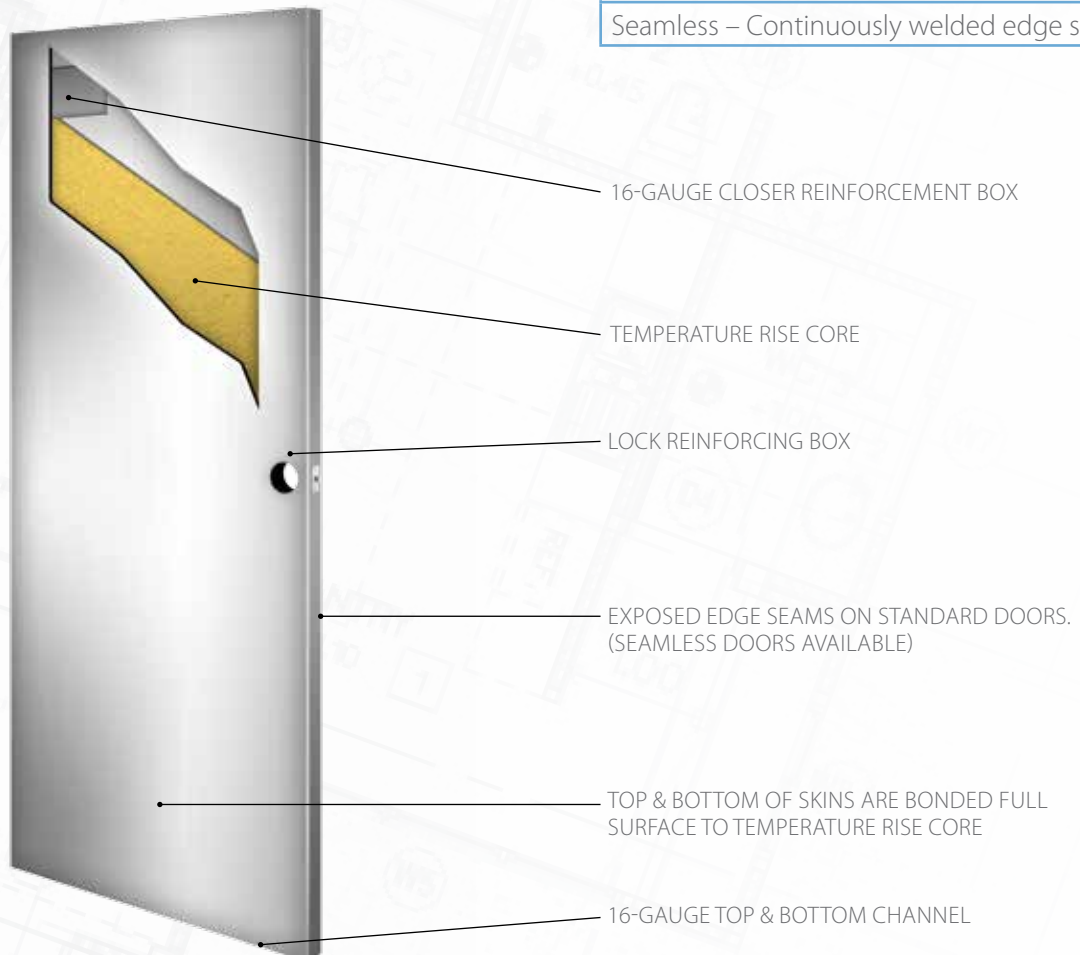
20-Gauge
18-Gauge
16-Gauge
14-Gauge

### Core Options

Temperature rise rated (TRR) core for ratings of 250 F (120 C), 450 F (250 C) and 650 F (340 C) at 30 or 60 minutes
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### Edge Options

Exposed lock seam
Seamless – Tack welded filled seam ground smooth
Seamless – Continuously welded edge seam



# HOLLOW METAL DOORS

## 50 SERIES | DETENTION DOORS AND FRAMES

Detention security hollow metal doors are the standard in prisons, jails, courthouses, police stations, and detention centers throughout the world.

Construction meets and exceeds industry performance standards and are third-party (ITS Warnock Hersey) tested to:

- ANSI / NAAMM / HMMA-863, ASTM-F1450 criteria
- 2" (50mm) door thickness standard
- Static load test
- Rack test
- Door impact test
- Glazing stop impact test
- Fire rated up to 3 hours

### Steel Options

A-40 (ZF-120) Galvanneal Steel
A-60 (ZF-180) Galvanneal Steel
G-90 (ZF-275) Bright Galvanized Steel

### Gauge Options

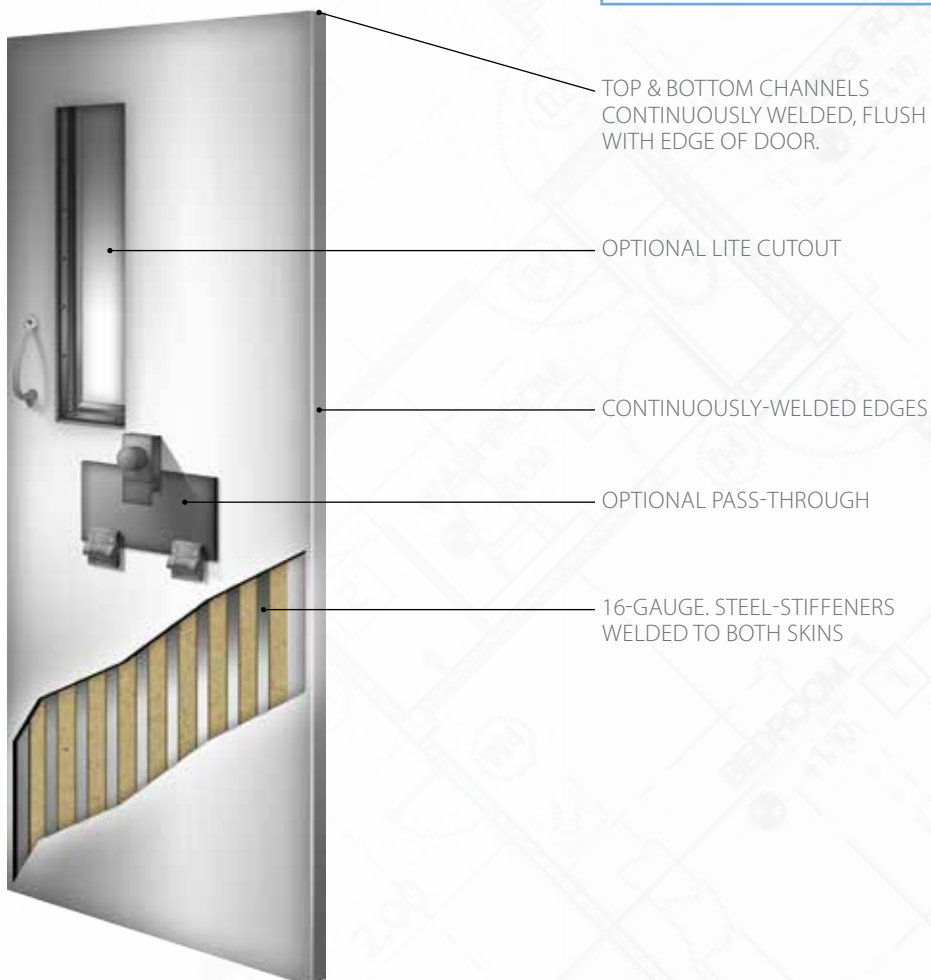
14-Gauge
12-Gauge
10-Gauge

### Core Options

Welded stiffeners with fiberboard core
12-gauge reinforced perimeter channels

### Edge Options

Continuously welded edges
Continuously welded flush top and bottom end channels



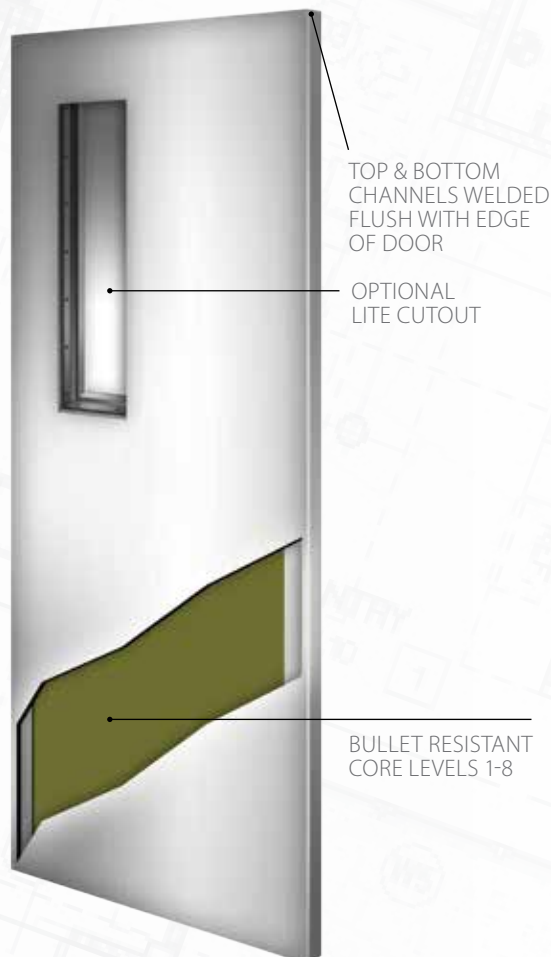


# HOLLOW METAL DOORS

## 60 SERIES: BULLET RESISTANT

### CORES LEVELS 1-8

- Full height, adhesive filled, mechanically interlocking edge construction
- Door thickness available in 1 ¾ (45mm) and above
- Construction meets the requirements of ANSI A250.8 2003, ANSI/NAAMM/HMMA 861
- Certified & tested by H.P. White Laboratory Inc. in accordance with ANSI/UL 752 Bullet Resistant Standards
- Optional fire ratings available



#### Steel Options

A-40 (ZF-120) Galvanneal Steel
A-60 (ZF-180) Galvanneal Steel
G-90 (ZF-275) Bright Galvanized Steel

#### Gauge Options

16-Gauge
14-Gauge
12-Gauge
10-Gauge














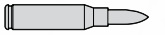


#### Core Options

Bullet Resistant core Level 1-8
---------------------------------

#### Edge Options

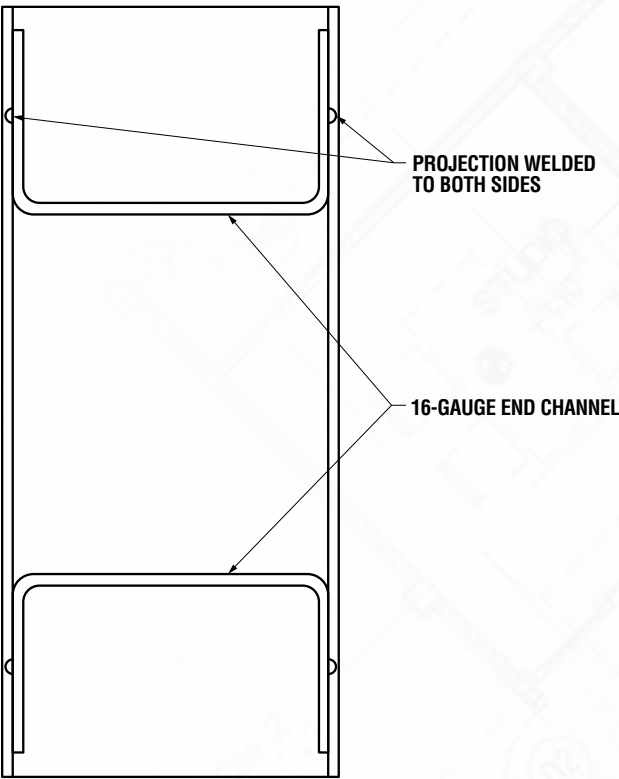
Exposed lock seam
Seamless – Tack welded filled seam ground smooth
Seamless – Continuously welded edge seam

#### Underwriters Laboratory UI 752 Ballistic Standards

UL Level	Weapon	Ammunition	Shots
1	 Baretta 9mm Parabellum	 9mm, 124 Grain FMJ	3
2	 Smith & Wesson .357 Magnum	 .357 Magnum, 158 Grain JSP	3
3	 Colt .44 Magnum	 .44 Magnum, 240 Grain SWC	3
4	 M-1 Garand 30-06, 30 Caliber	 .30 Cal, 30-06, 180 Grain JSP	1
5	 Heckler & Koch Model G3 7.62 X 51 NATO	 .30 Cal, 7.62, 150 Grain FM	1
6	 Baretta 9mm Parabellum	 9mm, 124 Grain FMJ	5
7	 Colt M16 (AR 15 Semi) 5.56 x 45 NATO	 223 Cal, 5.56 NATO, 55 Grain FMJ	5
8	 Heckler & Koch Model G3 7.62 X 51 NATO	 .30 Cal, 7.62, 150 Grain FM	5

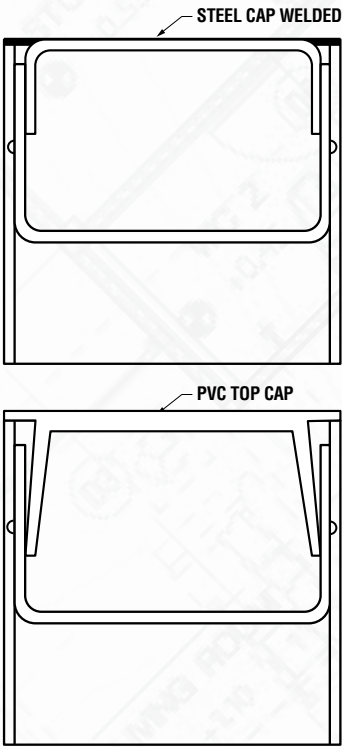
# DOOR DETAILS

## END CHANNELS



**STANDARD TOP & BTM  
END CHANNELS**

### OPTION



## DOOR EDGES



**STANDARD EXPOSED LOCK SEAM  
ADHESIVE FILLED**



**EXPOSED LOCK SEAM  
TACK WELDED**



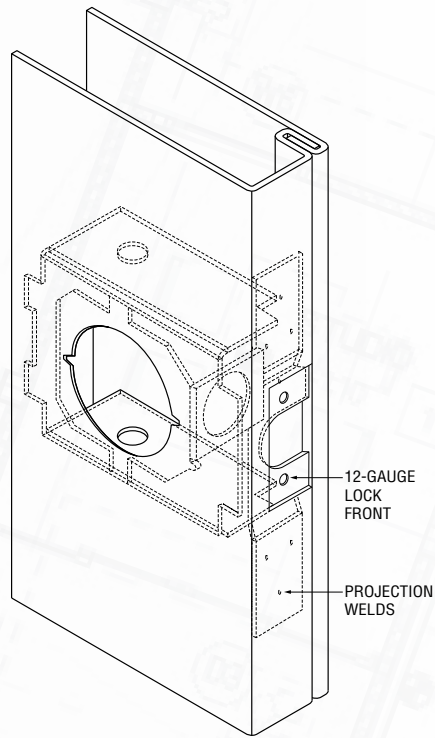
**LOCK SEAM CONTINUOUSLY WELDED  
ENTIRE HEIGHT OF DOOR GROUND  
SMOOTH & BODY FILLED SEAMLESS EDGE**



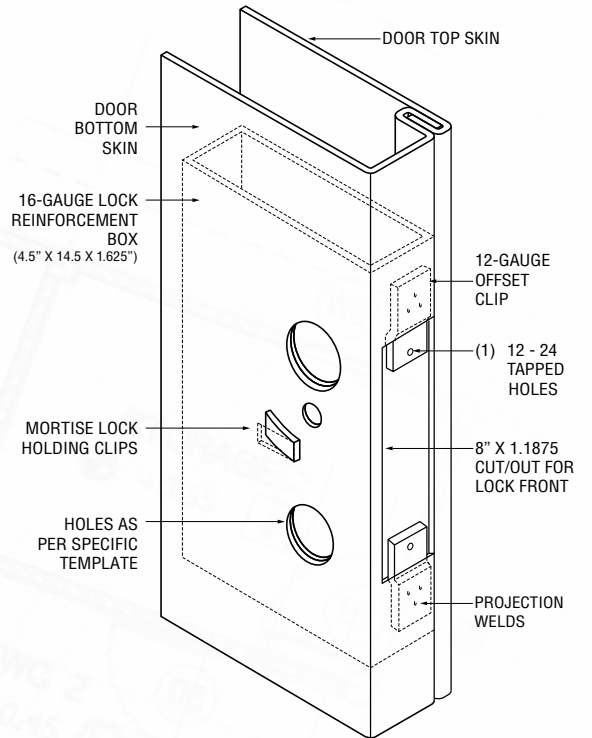
**LOCK SEAM TACK WELDED BODY FILLED  
& GROUND SMOOTH SEAMLESS EDGE**

# DOOR HARDWARE REINFORCEMENTS

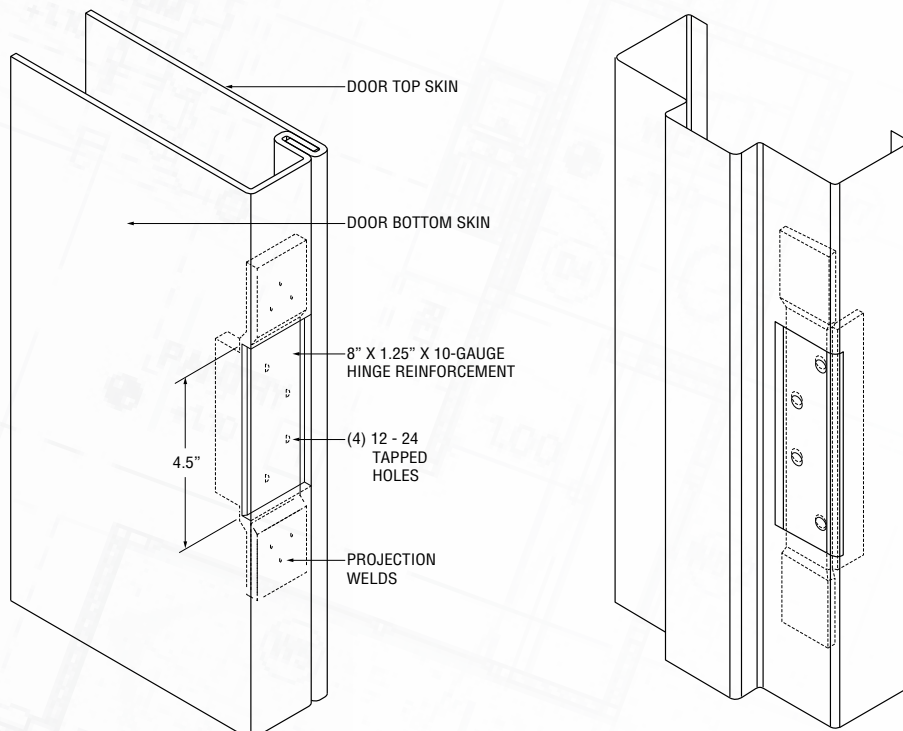
## CYLINDRICAL LOCK REINFORCEMENTS



## MORTISE LOCK REINFORCEMENTS



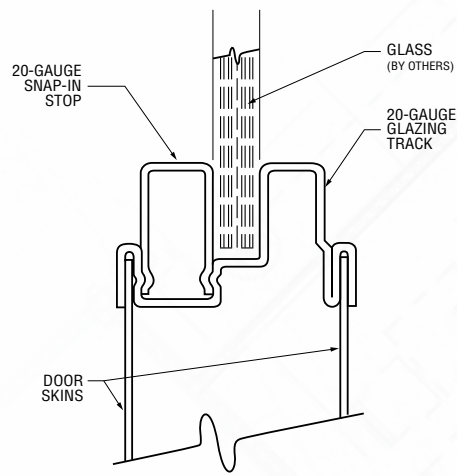
## HIGH FREQUENCY HINGE REINFORCEMENT



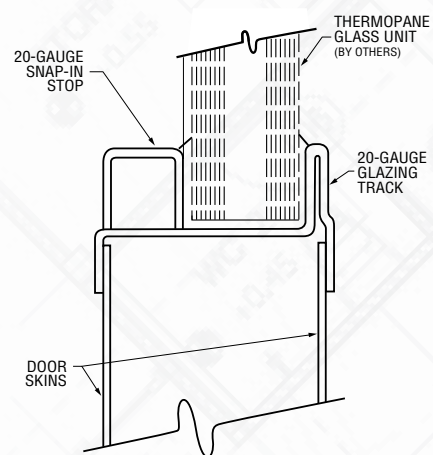


# LITE KITS

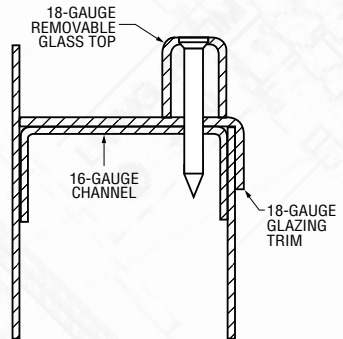
## STANDARD SNAP-IN KIT



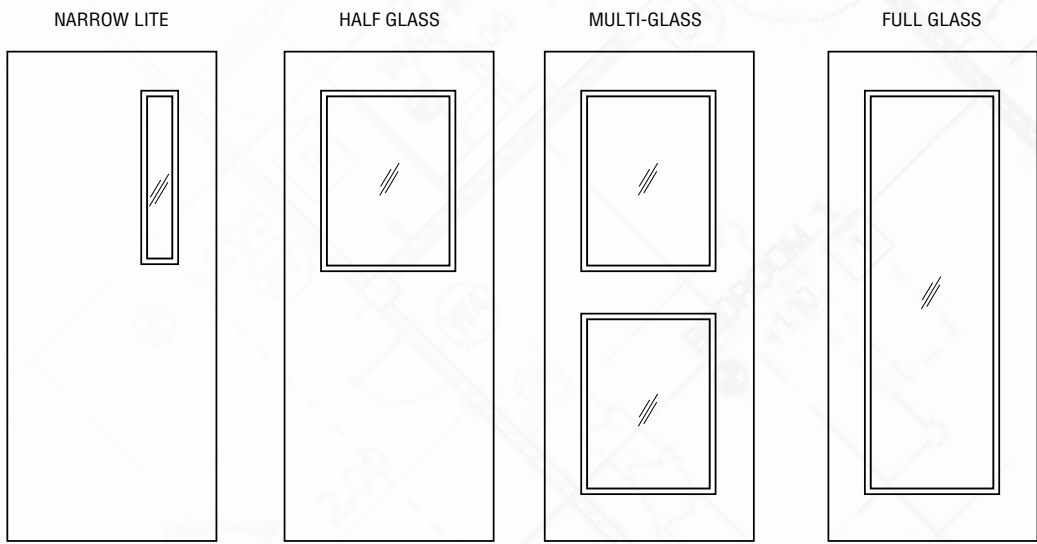
## THERMAL GLASS KIT



## OPTIONAL THERMAL GLASS KIT

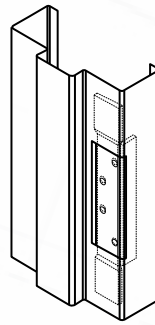
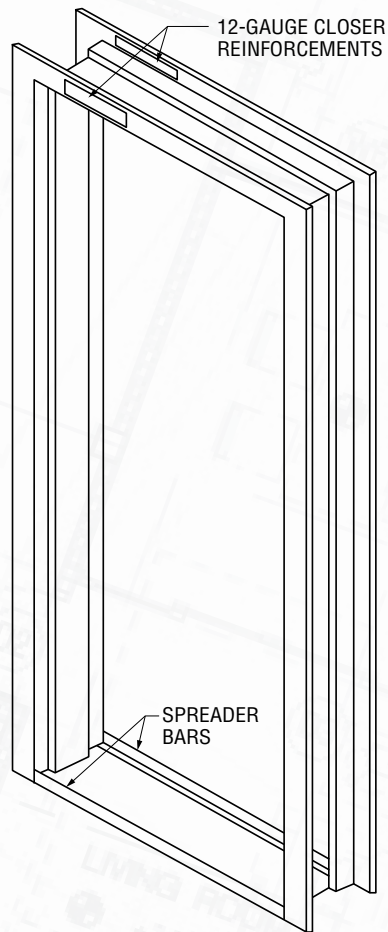


## OPTIONS

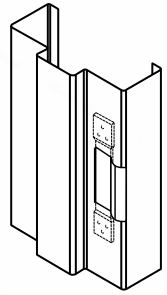


\*\*Other lite options available

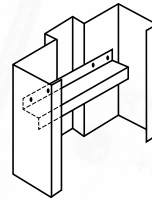
# PRESSED STEEL FRAMES



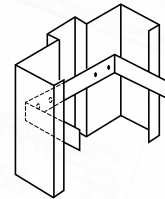
HIGH FREQUENCY 10-GAUGE  
HINGE REINFORCEMENT



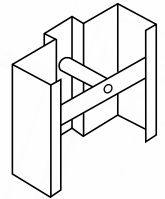
PROJECTION WELDED 12-GAUGE  
STRIKE REINFORCEMENT



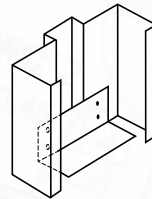
STEEL STUD ANCHOR  
(SPOT WELDED)



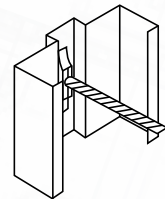
WOOD STUD ANCHOR  
(SPOT WELDED)



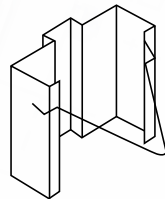
EXISTING WALL  
ANCHOR



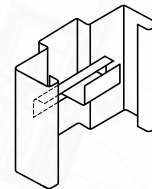
FIXED FLOOR ANCHOR  
(SPOT WELDED)



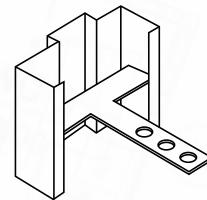
CORRUGATED TAIL ANCHOR  
(SPOT WELDED)



MASONRY WIRE  
ANCHOR (SHIPPED  
LOOSE WITH FRAME)

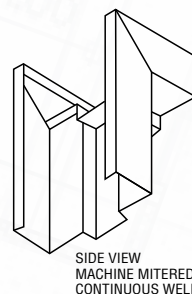
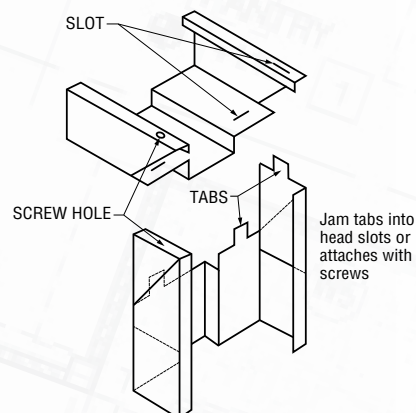


FLUSH STEEL  
STUD ANCHOR

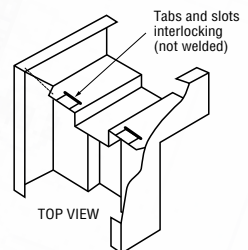


T ANCHOR

## TYPICAL CORNER ASSEMBLY



SIDE VIEW  
MACHINE MITERED,  
CONTINUOUS WELD

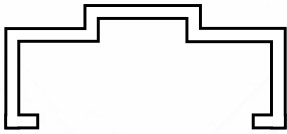


TOP VIEW

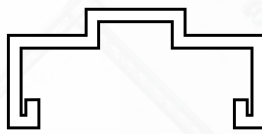
Tabs and slots  
interlocking  
(not welded)

# PROFILES

**DOUBLE RABBET, SINGLE RETURN**



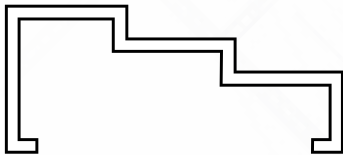
**DOUBLE RABBET, DOUBLE RETURN**



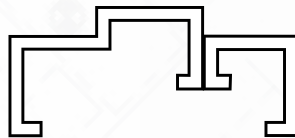
**SINGLE RABBET, SINGLE RETURN  
(DOUBLE RETURN AVAILABLE)**



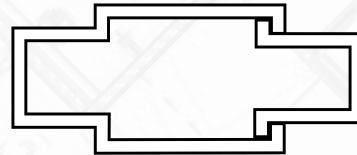
**DOUBLE EGRESS**



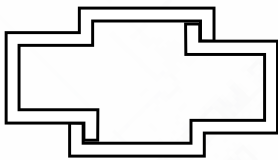
**THERMAL BREAK FRAME**



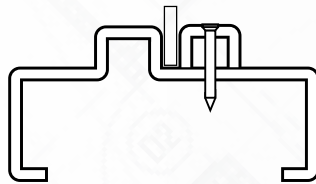
**THERMAL BREAK MULLION**



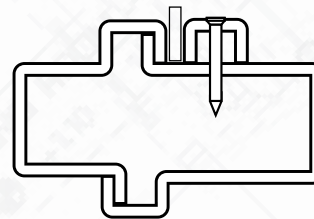
**DOUBLE RABBET MULLION**



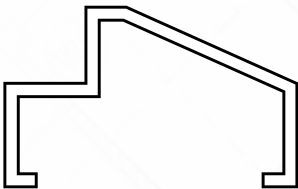
**CENTER GLAZED, DOUBLE RABBET**



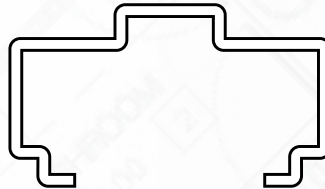
**CENTER GLAZED, MULLION**



**SLOPPED SILL**



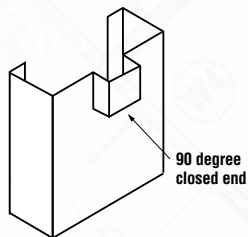
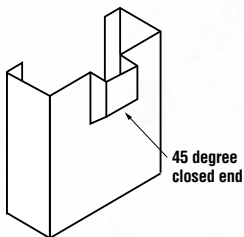
**SHADOW LINE**



**CASED OPEN FRAME  
(SINGLE RABBET, DOUBLE RETURN AVAILABLE)**



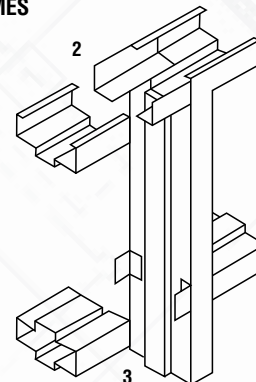
**CUTOFF (SANITARY) STOPS  
6" MAXIMUM HEIGHT AT FIRE RATED OPENINGS**



**FIELD SPLICES FOR LARGE  
MULTI-OPENING FRAMES**



To facilitate handling and/or shipping, large frames are spliced and prepared in the shop of mechanical attachment or field welding by others.

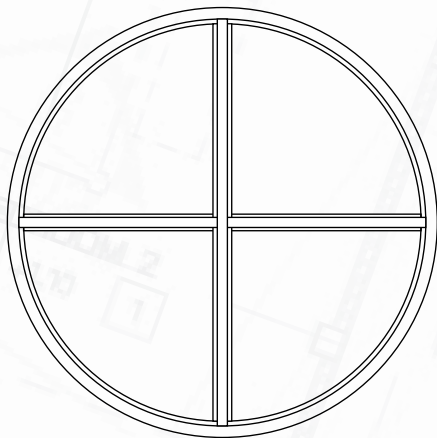




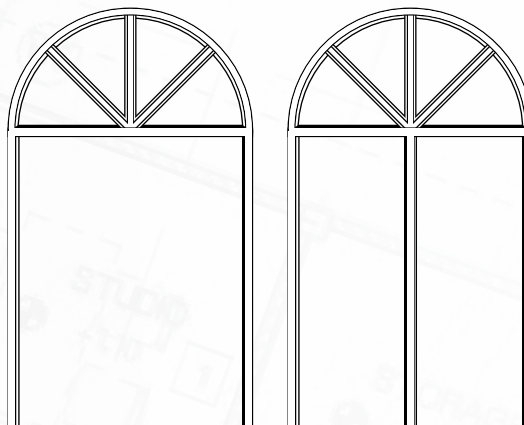
# SPECIAL FRAMES

CUSTOM FRAMES MADE TO ORDER

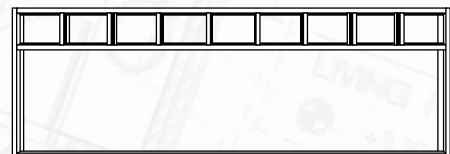
**ROUND**



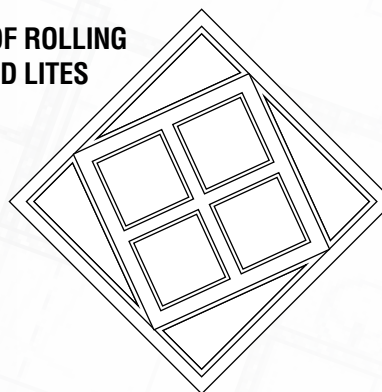
**ARCHED**



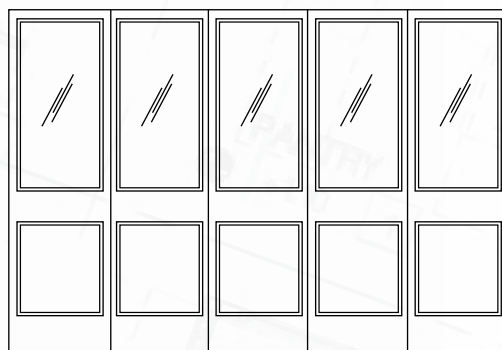
**TRUE RADIUS**



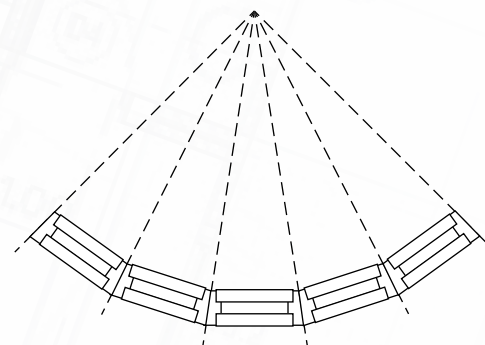
**SECTION OF ROLLING  
BORROWED LITES**



**SEGMENTED FRAME**



**ELEVATION**



**PLAN VIEW**

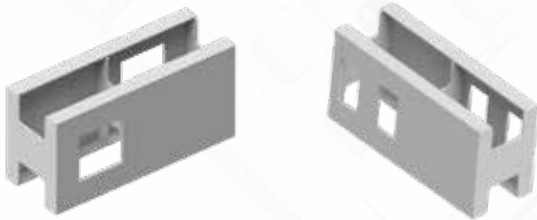
# MASONRY STEEL BLOCKS

## MECHANICAL



- SPRINKLERS
- PIPING
- VENTILATION

## ELECTRICAL BLOCKS

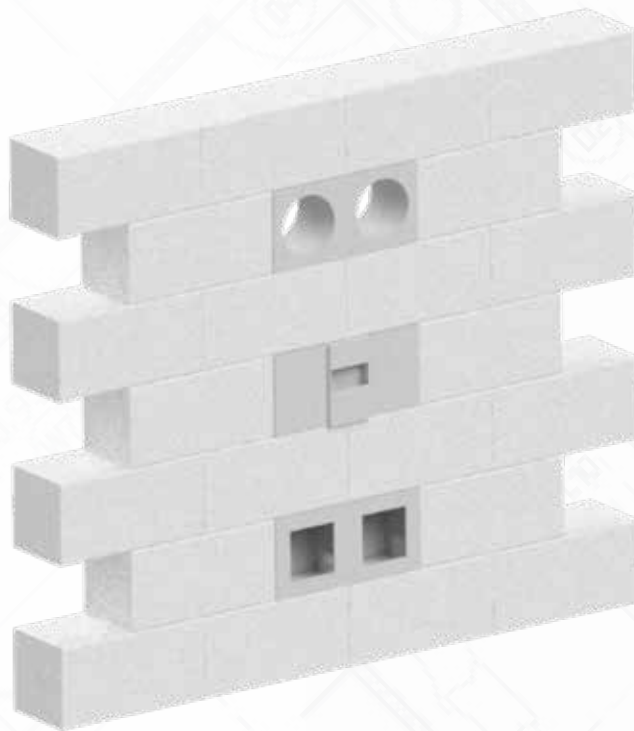


- ELECTRICAL
- SWITCH
- ELECTRICAL BOXES
- HARDWARE MOUNTING
- INTERCOM
- CARD READER

## SPECIAL APPLICATIONS



- FOOT HOLD
- SOAP DISH
- HAND HOLDS







# SPECIALTY DOORS AND FRAMES

IF YOU DESIGN IT... WE WILL SUPPLY IT

Apex's true strength is our ability to manufacture a broad range of specialty doors and frames. This includes custom sizes, profiles, true radius and arched doors/frames, all manufactured from steel in the range of 20- to 10-gauge.

- Stainless steel doors and frames (304, 316, #4 finish)
- Lead lined doors and frames
- High security/bullet resistant/forced entry doors and frames
- Detention doors and frames
- Fire rated doors and frames



## **APEX INDUSTRIES INC.**

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