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GROUTED:

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FIRE RATED:

STC 37 WINDOW ASSEMBLY (GROUTED) 128
A1 STANDARD STRAP ANCHOR

MATERIAL: GALVANNEAL
GAUGE: 18
TWO SPOTWELDS PER STRAP

NAILS OR SCREWS FOR WALL ATTACHMENT
NOT INCLUDED

Ø3/16”
(5 PL. 5/8” FROM END AND 5/8” ON CENTER.)
A2 FLUSH METAL STUD ANCHOR

MATERIAL: GALVANNEAL
GAUGE: 16
TWO SPOTWELDS PER END

SCREWS USED TO FASTEN TO STUD
NOT INCLUDED

TOP VIEW

STUD THICKNESS

FRONT VIEW

MATERIAL: GALVANNEAL
GAUGE: 16
TWO SPOTWELDS PER END

SCREWS USED TO FASTEN TO STUD
NOT INCLUDED
A3 Recessed Metal Stud Anchor

Material: Galvanneal
Gauge: 16
Two spotwelds per end

Screws used to fasten to stud are not included

Top View

Front View

WALL THICKNESS

1-1/4"  1-7/16"

2-7/16"

1/2" Recess
A4 STANDARD BASE ANCHOR

MATERIAL: GALVANNEAL
GAUGE: 16
TWO SPOTWELDS PER END

ANCHOR BOLTS FOR FLOOR ATTACHMENT NOT INCLUDED
A5 MASONRY “TEE” ANCHOR

MATERIAL: GALVANNEAL
GAUGE: 16
WELDED: (4) SPOTWELDS
THIS ANCHOR SHIPS LOOSE

ALTENATE
A6 ANCHOR
3/16” DIA
WIRE ANCHOR

SIDE VIEW
10-1/4”
1/4”

Ø1” HOLE
(2 PL)
A7B "BUTTERFLY ANCHOR"

18 GAUGE - 2 SPOT WELDS PER SIDE

STANDARD FOR JAMBS WITH 2" FACES
AND UNDER 9" JAMB DEPTH

PREP FOR Ø3/8" BOLT
STANDARD

FACE + STOP MINUS METAL THICKNESS

PIPE SLEEVE

Ø1" EMT CONDUIT

STRAP

Ø3/4"

JAMB DEPTH MINUS 3/8"

A7P ALTERNATE ANCHOR
"PIPE AND STRAP"

16 GAUGE - 2 TACK WELDS PER END

STANDARD ONLY FOR JAMBS WITH CUSTOM
FACES AND PROFILES
A8 ADJUSTABLE BASE ANCHOR

MATERIAL: GALVANNEAL
GAUGE: 16
TWO SPOT WELDS PER END

ANCHOR BOLTS USED FOR FLOOR CONNECTION ARE NOT INCLUDED

HAT STRAP

ADJUSTABLE ANGLE
MATERIAL: GALVANNEAL
GAUGE: 18

MAY BE MANUFACTURED FOR CUSTOM JAMB DEPTHS, FACES AND PROFILES.

STOCKED FOR THE FOLLOWING JAMB DEPTHS - SHIPS LOOSE.

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<td>4-3/4&quot;</td>
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<td>2&quot;</td>
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ALTERNATE
A9W ANCHOR

WELDED IN - FOR CUSTOM PROFILES
A10 KDDW COMPRESSION ANCHOR

MATERIAL: GALVANNEAL
GAUGE: 16
TWO SPOTWELDS PER END

HEADER
GUSSET
HEAD TAB
COMPRESSION ANCHOR
PUNCH & DIMPLE FOR #8 SCREW (NOT INCLUDED)
STANDARD BASE ANCHOR
ALTERNATE BASE ANCHOR (SEE TO PAGE 1 FOR DETAILS)
A11 ADJUSTABLE MASONRY ANCHOR

MATERIAL: GALVANNEAL
GAUGE: 16
TWO SPOT WELDS PER END

Ø1" (2 PL) SLOT
3"
5/8"
1-3/4"

ADJUSTABLE HAT SECTION
7/8"
8"
1-3/4"

ANCHOR STRAP
10-1/4"
1/4"
A12 FLOOR ANCHOR

MATERIAL: GALVANNEAL
GAUGE: 14
THIS ANCHOR SHIPS LOOSE

SILL BASE ANCHOR

MULLION BASE ANCHOR

BASE ANCHOR INSTALLATION INSTRUCTIONS:
LOCATE ANCHOR CAREFULLY.
FASSTEN ANCHOR TO FLOOR WITH
RAWLPLUGS OR EXPANSION BOLTS.
SLIP SILL OR MULLION OVER ANCHOR.

ANCHOR BOLTS FOR FLOOR ATTACHMENT
NOT INCLUDED
BORROWED LITE - FACE WELDED

CONSTRUCTION: FULLY WELDED
GLASS STOP: 5/8 x 5/8 x 16 GA.
ANCHORS: AS REQUIRED
FINISH: RUST INHIBITIVE BAKED-ON GREY PRIMER

MACHINE-MITERED AND FULLY WELDED.
(CONTINUOUSLY WELDED AT FACE AND RETURN. FACE GROUND SMOOTH AND FINISHED.)
CONSTRUCTION: FULLY WELDED
GLASS STOP: 5/8 x 5/8 x 16 GA.
ANCHORS: AS REQUIRED
FINISH: RUST INHIBITIVE BAKED-ON GREY PRIMER

MACHINE-MITERED AND FULLY WELDED. (CONTINUOUSLY WELDED AT FACE AND RETURN. FACE GROUND SMOOTH AND FINISHED.)

SEE PAGE 21

SEE PAGE 22
ROUGH BUCK

MATERIAL: GALVANNEAL
GAUGE: 16
CONSTRUCTION:
COMPOSED OF 3 LOOSE CHANNELS
WITH WELDED FINISHED BUCK

#8 SHEET METAL SCREW
3 INCHES FROM ENDS
10 INCHES ON CENTER

ROUGH BUCK
MASONRY BOLT NOT INCLUDED
FINISHED BUCK
STANDARD DOUBLE EGRESS FRAME

RIGHT HAND (SHOWN)

LEFT HAND

JAMB

FINISH OPENING WIDTH

JAMB

HEAD

2" 2-5/8"

OPTIONAL HEAD

1-3/8" 5/8" 2"
KD COMPLETE 3-SIDED FRAME
FIELD ASSEMBLED - JAMB AND GUSSET TABS TO BE BENT IN FIELD
AFTER ASSEMBLY, INSTALLATION SIMILAR TO WELDED FRAMES
INSTALLED WITH THE SAME HARDWARE AND ANCHORS AS WELDED FRAMES

WHI FIRE RATINGS AVAILABLE - SEE FIRE RATED FRAMES SECTION
FACE WELDED CORNER

CONTINUOUS WELD RETURN AND FACE GRIND AND FINISH SMOOTH

SLOT

HEAD

NOTCH HEAD FOR RETURN

TAB

NOTCH JAMB FOR STOP

MITER

JAMB
CONTINUOUSLY WELDED CORNER

CONTINUOUS WELD RETURN, FACE, RABBET AND STOP INSIDE OF MITER

GRIND FACE AND FINISH SMOOTH

HEAD

45° MITER STOP

JAMB

MITER
LARGE-FACE-HEAD WELDED CORNER

CONTINUOUS WELD RETURN AND FACE
GRIND AND FINISH SMOOTH

SLOT

HEAD

NOTCH HEAD
FOR RETURN

TAB

NOTCH JAMB
FOR STOP

JAMB

MITER
STANDARD MULLION

- JAMB DEPTH
- NOTCHED FOR STOP
- JAMB OPENING HEIGHT

HARDWARE PREPS AS REQUIRED
CONTINUOUSLY WELDED FACES
GRIND AND FINISH SMOOTH
MULLION T-JOINT AT HEAD

CONTINUOUSLY WELDED FACES
GRIND AND FINISH SMOOTH
MULLION CROSS JOINT

CONTINUOUSLY WELDED FACES
GRIND AND FINISH SMOOTH
BUTTED SILL CORNER SECTION

CONTINUOUSLY WELDED FACES
GRIND AND FINISH SMOOTH
REMOVABLE MULLION

BRACKET & REINF PLATES:
MATERIAL: GALVANNEAL
GAUGE: 12
DRILLED AND TAPPED
WHI APPROVED UP TO 3 HOURS

5/8" x 1/4-20 FHMS
(4) PER BRACKET
REMOVABLE TRANSOM PANEL

CHANNELS AND L-BRACKETS:
MATERIAL: GALVANNEAL
WHI APPROVED UP TO 3 HOURS

12 GA L-BRACKET
DRILL AND TAPPED FOR
12-24” FHMS (2) PER BRACKET
SPOTWELDED (2) PER BRACKET

16 GA CHANNEL
SPOTWELDED
4” MAX FROM ENDS
6” MAX OC

PANEL WITH
RECESSED CHANNELS
AT TOP AND SIDES

PANEL PUNCHED
& DIMPLED FOR
#12 SCREWS
(2) PER SIDE
NOTES:
1.) TRACK POCKET DESIGNED TO ACCEPT GRANT 1230 / HAGER 9110 ASSEMBLIES (BY OTHERS)
2.) POCKET SLIDER FOR 1-3/4"
3.) SINGLE ELEVATION SHOWN (PAIR SIMILAR)
4.) MATERIAL: 16GA A60 GALVANNEAL
5.) SPECIFY STEEL STUD OR WOOD STUD ANCHORS
STANDARD FRAME HINGE REINF

MATERIAL: HOT ROLLED STEEL
GAUGE: 7
THREE SPOTWELDS PER END
WHI AND UL APPROVED

1-1/2" (TYP)
10" (TYP)
3/16" (TYP)
11/32" (TYP)

ALL DIMENSIONS TYPICAL FOR 4", 4-1/2" AND 5" HINGES
TOP/INTERMEDIATE PIVOTS

MATERIAL: HOT ROLLED STEEL
GAUGE: 7
THREE SPOTWELDS PER END
DRILLED AND TAPPED PER TEMPLATE
DUST BOXES OPTIONAL
ANCHOR HINGE REINFORCEMENT

MATERIAL: HOT ROLLED STEEL
GAUGE: 7
THREE SPOTWELDS PER END
DRILLED AND TAPPED BY OTHERS
HIGH FREQUENCY HINGE REINF

7 GA HINGE REINF
ALL DIMENSIONS TYPICAL FOR 4-1/2'' AND 5'' HINGES

1-1/2'' (TYP)
10'' (TYP)

Hinge Shim
Hinge Cutout

10 GA High Frequency Hinge Reinforcement (2 Per Hinge)

3 Tackweld Beads EA
MIN 1/2'' LONG

3/16'' (TYP)
11/32'' (TYP)

PER TEMPLATE

All dimensions are typical for 4-1/2'' and 5'' hinges.
FULL WIDTH HINGE REINFORCEMENT

MATERIAL: HOT ROLLED STEEL
GAUGE: 7
WELDED TO BOTH RABBETS

VARIABLES
(PER JAMB
DEPTH)

10" (TYP)

DIMENSIONS
TYPICAL FOR 4-1/2"
AND 5" Hinges

AS REQ'D

11/32"
(TYP)

PER
TEMPLATE
FRAME POCKET PIVOT PREP

MATERIAL: HOT ROLLED STEEL
GAUGE: 7
THREE SPOTWELDS PER END
2-1/2" MIN FACE DIM FOR FIRE RATED OPENINGS
DUST BOXES OPTIONAL
STANDARD STRIKE REINFORCEMENTS

MATERIAL: GALVANNEAL
GAUGE: 16
TWO SPOTWELDS PER END

4-7/8" ASA STRIKE REINF
(ANSI A115.1 AND A115.2)
SCREW HOLES EXTRUDED TO ACCOMODATE 12-24 FHMS EQUAL TO 12 GA

2-3/4" T-STRIKE REINF
(ANSI A115.3)
SCREW HOLES EXTRUDED TO ACCOMODATE 8-32 FHMS EQUAL TO 12 GA
OPTIONAL STRIKE REINFORCING TABS

MATERIAL: HOT ROLLED BAR STOCK
GAUGE: 11
TWO SPOTWELDS PER END

SCREW HOLES DRILLED AND TAPPED AS REQ'D
DEADBOLT STRIKE

OPTIONAL 25 GA DUST BOX

SCREW HOLES DRILLED AND TAPPED AS REQ'D
LATCHING STRIKE

48" AFF STANDARD

40-5/16" AFF STANDARD
REVERSIBLE FLUSH BOLT STRIKE

MATERIAL: GALVANNEAL
TWO SPOTWELDS PER END

C/L BETWEEN DOOR EDGES

DOORSIDE RABBET

FLUSH BOLT STRIKE (16 GA)

REINF PLATE (14 GA)

8-32 TAPPED (2PL)
3-3/4"
1-1/8"
ELECTRIC STRIKE

MATERIAL: HOT ROLLED STEEL
GAUGE: 11
TWO SPOTWELDS PER END

16 GA COVER-BOX WITH CONDUIT HOLES BOTH ENDS

SCREW HOLES DRILLED AND TAPPED AS REQ'D

PER TEMPLATE

PER TEMPLATE

PER TEMPLATE
CONDUIT COVERBOX

MATERIAL: GALVANNEAL
GAUGE: 16
TWO SPOTWELDS PER END
TYPICAL AT ELECTRIC HINGE PREPS

TOP SECTION VIEW

CONDUIT COVERBOX

JAMB

Ø 7/8" (2 PL)

AS REQ'D

AS REQUIRED

AS REQ'D
RIM PANIC REINFORCEMENT

MATERIAL: GALVANNEAL
GAUGE: 12
TWO SPOTWELDS PER END

DOORSIDE RABBET

41" TO C/L AFF STANDARD
MATERIAL: GALVANNEAL
GAUGE: 12
TWO SPOTWELDS PER END
REMOVABLE HARDWARE MULLION

MATERIAL: GALVANNEAL
GAUGE: 12
TWO SPOTWELDS PER END

C/L BETWEEN DOOR EDGES

DOORSIDE RABBET

1-3/4"

16"

www.dcihollowmetal.com 11/15/17
STANDARD CLOSER REINFORCEMENTS

MATERIAL: GALVANNEAL
GAUGE: 12
TWO SPOTWELDS PER END

REGULAR ARM AND PARALLEL ARM REINFORCEMENT
(BOTH APPLIED STANDARD)

10 GA CLOSER REINFORCEMENT

UNIVERSAL FULL PROFILE CLOSER REINFORCEMENT

DOUBLE PARALLEL ARM REINFORCEMENT
SILENCERS ARE PUNCHED ONLY UPON REQUEST

3 EA AT SINGLE SWING
2 EA AT PAIR SWING
HOSPITAL STOP

GAUGE: 16
AVAILABLE FOR 45° OR 90°

6" MAX FOR RATED OPENINGS

45°

90° OPTIONAL
CUSTOM FRAME PROFILES

FRAME PROFILES SHOWN MAY HAVE ANY BACKBEND STYLE OR COMBINATION OF BACKBEND STYLES
STANDARD FRAME HARDWARE LOCATIONS

3-HINGES

4-HINGES

11/15/17                         www.dcihollowmetal.com  47
DUTCH FRAME HARDWARE LOCATIONS

DUTCH

11/32" (TYP)

FLOOR LEVEL

DOOR OPENING HEIGHT

10-3/8" (VARIES)

9-3/4"

19-7/16"

23-7/8"

36-5/8"

48"

D.B. STRIKE

STRIKE

PER TEMPLATE

LC

LC

LC

CL

CL

CL

CL

DOOR OPENING

HEIGHT

FLOOR LEVEL

D.B. STRIKE

STRIKE

(DOOR OPENING

HEIGHT)

11/32" (TYP)
STANDARD DOOR HARDWARE LOCATIONS

3-HINGES

4-HINGES

FLOOR LEVEL

FRAME

DOOR THICKNESS

HINGE

1/4" BS (TYP)

D.B. STRIKE (EQUAL)

STRIKE (EQUAL)

DOOR THICKNESS

9-5/8"

48"

40-5/16"

3/4"
DUTCH DOOR HARDWARE LOCATIONS

DUTCH

23-7/8"

9-5/8"

(LC)

19-7/16"

CL

48"

FLOOR LEVEL

3/4"

36-5/8"

CSTRIKE L

D.B. STRIKE LC

HINGE

FRAME

1/4" BS (TYP)

DOOR THICKNESS
HONEYCOMB CORE DOOR

STANDARD SPECIFICATION
MATERIAL: GALVANNEAL
GAUGE: 18

1.) 1-3/4" STANDARD DOOR THICKNESS, OTHER THICKNESSES AVAILABLE.
2.) 16, 14 AND 12 GAUGE AVAILABLE.
3.) G90 GALVANIZED AVAILABLE, STAINLESS STEELS 304 AND 316 AVAILABLE IN #4-SATIN, #2B-MILL OR #8-MIRROR FINISHES.
4.) 1" HONEYCOMB HEX CELLS PERMANENTLY BONDED TO BOTH FACE SHEETS. IMPACT RESISTANT (HONEYCOMB IS CRUSH RESISTANT TO 45 PSI).
5.) RESIN IMPREGNATED HONEYCOMB OPTIONAL
6.) 18 GA TOP AND BOTTOM CHANNELS SPOTWELDED TO FACE SHEETS.
7.) CONTINUOUS WELD SEAMLESS EDGE (STANDARD FOR MILD STEEL - OPEN SEAM AVAILABLE).
OPEN SEAM EDGE (STANDARD FOR STAINLESS STEEL - SEAMLESS AVAILABLE).
8.) HARDWARE REINFORCEMENTS:
3/16" FOR HINGES
12 GA FOR LOCKS
14 GA FOR CLOSER
9.) WHI LABELS AVAILABLE
POLYSTYRENE CORE DOOR

STANDARD SPECIFICATION
MATERIAL: GALVANNEAL
GAUGE: 18

1.) 1-3/4" STANDARD DOOR THICKNESS, OTHER THICKNESSES AVAILABLE.
2.) 16, 14 AND 12 GAUGE AVAILABLE.
3.) G90 GALVANIZED AVAILABLE. STAINLESS STEELS 304 AND 316
   AVAILABLE IN #4-SATIN, #2B-MILL OR #8-MIRROR FINISHES.
4.) 0.7 LB DENSITY POLYSTYRENE CORE PERMANENTLY BONDED TO BOTH
    FACE SHEETS. 1.0 LB DENSITY CORE AVAILABLE.
5.) THERMAL BARRIER FOR 0.7 LB CORE: R-VALUE = 2.39 / U-FACTOR = 0.42
    TESTED PER ASTM C1199/E1423
6.) 18 GA TOP AND BOTTOM CHANNELS SPOTWELDED TO FACE SHEETS.
7.) CONTINUOUS WELD SEAMLESS EDGE (STANDARD FOR MILD STEEL -
    OPEN SEAM AVAILABLE).
    OPEN SEAM EDGE (STANDARD FOR STAINLESS STEEL - SEAMLESS
    AVAILABLE).
8.) HARDWARE REINFORCEMENTS:
    3/16" FOR HINGES
    12 GA FOR LOCKS
    14 GA FOR CLOSER
9.) WHI LABELS AVAILABLE
STANDARD SPECIFICATION
MATERIAL: GALVANNEAL
GAUGE: 18

1.) 1-3/4" STANDARD DOOR THICKNESS, OTHER THICKNESSES AVAILABLE.
2.) 16, 14 AND 12 GAUGE AVAILABLE.
3.) G90 GALVANIZED AVAILABLE. STAINLESS STEELS 304 AND 316 AVAILABLE IN #4-SATIN, #2B-MILL OR #8-MIRROR FINISHES.
4.) 2 LB DENSITY POLYURETHANE CORE PERMANENTLY BONDED TO BOTH FACE SHEETS.
5.) THERMAL BARRIER R-FACTOR: 2.77 TESTED PER SDI-113, ASTM C1199/E1423
6.) 18 GA TOP AND BOTTOM CHANNELS SPOTWELDED TO FACE SHEETS.
7.) CONTINUOUS WELD SEAMLESS EDGE (STANDARD FOR MILD STEEL - OPEN SEAM AVAILABLE).
OPEN SEAM EDGE (STANDARD FOR STAINLESS STEEL - SEAMLESS AVAILABLE).
8.) HARDWARE REINFORCEMENTS:
3/16" FOR HINGES
12 GA FOR LOCKS
14 GA FOR CLOSER
STANDARD STEEL-STIFFENED CORE DOOR

STANDARD SPECIFICATION
MATERIAL: GALVANNEAL
GAUGE: 18

1.) 1-3/4" STANDARD DOOR THICKNESS, OTHER THICKNESSES AVAILABLE.
2.) 16, 14, 12 AND 10 GAUGE AVAILABLE.
3.) G90 GALVANIZED AVAILABLE. STAINLESS STEELS 304 AND 316 AVAILABLE IN #4-SATIN, #2B-MILL OR #8-MIRROR FINISHES.
4.) 20 GA STIFFENERS 6" ON CENTER WITH FIBERGLASS INSULATION BETWEEN. (OTHER GAUGES AVAILABLE)
5.) 18 GA TOP AND BOTTOM CHANNELS SPOTWELDED TO FACE SHEETS. (OTHER GAUGES AVAILABLE)
6.) CONTINOUS WELD SEAMLESS EDGE (STANDARD FOR MILD STEEL - OPEN SEAM AVAILABLE).
OPEN SEAM EDGE (STANDARD FOR STAINLESS STEEL - SEAMLESS AVAILABLE).
7.) HARDWARE REINFORCEMENTS:
   3/16" FOR HINGES
   12 GA FOR LOCKS
   14 GA FOR CLOSER
8.) WHI LABELS AVAILABLE
STANDARD SPECIFICATION
MATERIAL: GALVANNEAL
GAUGE: 18

1.) 1-3/4" STANDARD DOOR THICKNESS, OTHER THICKNESSES AVAILABLE.
2.) 16, 14, 12 AND 10 GAUGE AVAILABLE.
3.) G90 GALVANIZED AVAILABLE. STAINLESS STEELS 304 AND 316 AVAILABLE IN #4-SATIN, #2B-MILL OR #8-MIRROR FINISHES.
4.) 20 GA STIFFENERS 6" ON CENTER WITH FIBERGLASS INSULATION BETWEEN. (OTHER GAUGES AVAILABLE)
5.) 18 GA TOP AND BOTTOM CHANNELS SPOTWELDED TO FACE SHEETS. (OTHER GAUGES AVAILABLE)
6.) CONTINUOUS WELD SEAMLESS EDGE (STANDARD FOR MILD STEEL - OPEN SEAM AVAILABLE).
    OPEN SEAM EDGE (STANDARD FOR STAINLESS STEEL - SEAMLESS AVAILABLE).
7.) HARDWARE REINFORCEMENTS:
    3/16" FOR HINGES
    12 GA FOR LOCKS
    14 GA FOR CLOSER
8.) WHI LABELS AVAILABLE
TEMPERATURE RISE CORE DOOR

STANDARD SPECIFICATION
MATERIAL: GALVANNEAL
GAUGE: 18

1.) 1-3/4" STANDARD DOOR THICKNESS.
2.) 16 AND 14 GAUGE AVAILABLE.
3.) G90 GALVANIZED AVAILABLE.
4.) PROPRIETARY TEMP RISE CORE PERMANENTLY BONDED TO BOTH FACE SHEETS.
5.) 18 GA TOP AND BOTTOM CHANNELS SPOTWELDED TO FACE SHEETS.
6.) CONTINUOUS WELD SEAMLESS EDGE STANDARD (OPEN SEAM AVAILABLE).
7.) HARDWARE REINFORCEMENTS:
   3/16" FOR HINGES
   12 GA FOR LOCKS
   14 GA FOR CLOSER
8.) 60-180 MIN WHI LABELS AVAILABLE FOR 450° AND 250° TEMP RISE AT 30 MIN.
9.) SIZES AVAILABLE UP TO 5'-0" x 12'-0" SINGLE SWING
    10'-0" x 12'-0" PAIR SWING.
BULLET RESISTANT DOOR

STANDARD SPECIFICATION
MATERIAL: GALVANNEAL
GAUGE: 16
UL 752 LEVELS 1 - 8 AVAILABLE

1.) 1-3/4" STANDARD DOOR THICKNESS.
2.) 14 GAUGE AVAILABLE.
3.) G90 GALVANIZED AVAILABLE. STAINLESS STEELS 304 AND 316 AVAILABLE IN #4-SATIN, #2B-MILL OR #8-MIRROR FINISHES.
4.) PROPRIETARY BULLET RESISTANT CORE.
5.) 18 GA FLUSH TOP AND BOTTOM CHANNELS WELDED TO FACE SHEETS.
6.) CONTINUOUS WELD SEAMLESS EDGE STANDARD.
7.) HARDWARE REINFORCEMENTS:
   3/16" FOR HINGES
   12 GA FOR LOCKS
   14 GA FOR CLOSER
8.) SIZES AVAILABLE UP TO 4'-0" x 8'-0" SINGLE SWING.
9.) LEVELS I - III
   APPROXIMATELY 9 LBS/SQ FT
   LITES AVAILABLE UP TO 100 SQ INCHES (GLASS BY OTHERS)
   CYLINDRICAL LOCKS, MORTISE LOCKS, SURFACE MOUNTED AND MORTISE EXIT HARDWARE AVAILABLE
10.) LEVELS IV - VIII
    APPROXIMATELY 22 LBS/SQ FT
    FLUSH DOORS
    CYLINDRICAL LOCKS OR SURFACE MOUNTED EXIT HARDWARE AVAILABLE
STANDARD DOOR EDGE SEAM

BEVELED AND SQUARE EDGES ARE AVAILABLE IN ANY COMBINATION

CONTINUOUSLY WELDED EDGE SEAM
DRESSED SMOOTH
(STANDARD)

SKINS WELDED AT STRESS POINTS
DRESSED AND GROUND SMOOTH
(OPTIONAL)
1.) BEVELED AND SQUARE EDGES ARE AVAILABLE IN ANY COMBINATION
2.) ONLY 18 AND 16 GAUGES AVAILABLE WITH THIS DOOR EDGE
1.) BEVELED, BULL NOSED AND SQUARE EDGE ARE AVAILABLE IN ANY COMBINATION
2.) INTERNAL EDGE CHANNEL 18 GA STANDARD (UP TO 10 GA AVAILABLE)
3.) ALSO AVAILABLE WITH CONTINUOUSLY WELDED EDGE SEAM DRESSED SMOOTH
STANDARD TOP AND BOTTOM CHANNEL

TOP AND BOTTOM CHANNELS SPOT WELDED 2" FROM ENDS 4" ON CENTER TO BOTH SKINS

TOP AND BOTTOM CHANNELS ARE 18 GA STANDARD (OTHER GAUGES AVAILABLE AS AN OPTION)
CAP TOP FLUSH

TOP AND BOTTOM CHANNELS SPOT WELDED 2" FROM ENDS 4" ON CENTER TO BOTH SKINS

CAPping CHANNEL SCREWED-IN (WELDED & FINISHED SMOOTH OPTIONAL)

RECESSED AND CAPping CHANNELS ARE 18 GA STANDARD (OTHER GAUGES AVAILABLE AS AN OPTION)
1.) 1-3/4" DOOR STANDARD, OTHER THICKNESSES AVAILABLE
2.) CAP BOTTOM CHANNEL OF TOP LEAF AND TOP CHANNEL OF BOTTOM LEAF.
3.) ASTRAGAL OPTIONAL
4.) STRIKE PREP IN TOP OF BOTTOM LEAF AND/OR SHELF.
1.) 16 GA GLASS STOP (OTHER GAUGES AVAILABLE)
2.) REMOVABLE STOP IS PUNCHED AND COUNTERSUNK
   2" FROM ENDS AND 12" ON CENTER (MIN 2 PER SIDE)
REINFORCEMENTS: GALVANNEAL
GAUGE: 18
SPOTWELDED TO DOOR SKIN
FREE AIR FLOW: 50% FREE AREA
FLAT BAR ASTRAGAL

MATERIAL: GALVANNEAL
GAUGE: 12

HEIGHT (AS REQUIRED)

Ø 1/4" DRILLED & C'SK

12" (TYP)

(STANDARD SCREW PLACEMENT USING # 8 FHMS)

ASTRAGAL

3/4" Min
MATERIAL: GALVANNEAL
GAUGE: 12

ASTRAGAL APPLICATIONS

ASTRAGAL AT ACTIVE LEAF

ASTRAGAL AT INACTIVE LEAF

(Optional)
ASTRAGAL AT BOTH LEAVES
MATERIAL: HOT ROLLED STEEL
GAUGE: 7
THREE SPOTWELDS PER END
DOUBLE MORTISE AVAILABLE
HINGE SHIM SPOTWELDED TO REINF

ALL DIMENSIONS TYPICAL FOR 4", 4-1/2" AND 5" HINGES

1-1/4" (TYP)

10" (TYP)

1/4" BACKSET (TYP)

NARROW-SKIN

WIDE-SKIN

CUT-OUT PER TEMPLATE

12-24 TAPPED (4 PL)

HINGE DEPTH PER TEMPLATE

REMOVABLE HINGE SHIM

HINGE REINFORCEMENT
POCKET PIVOT DOOR REINFORCEMENT

FULL HEIGHT
16 GA CHANNEL

FULL HEIGHT
12GA REINFORCEMENT

HINGE EDGE

SPOT WELD
REINFORCEMENT: COLD ROLLED STEEL
GAUGE: 16 (EXTRUDED TO 12 GA AT SCREW HOLES)
TWO SPOTWELDS PER END

CYLINDRICAL LOCK REINFORCEMENT
DAYTON# CLB-BV-N158

2-3/4" BACK-SET (TYP)

Ø2-1/8" THRU (FACE PUNCH CYLINDRICAL LOCK PREP.)

POST HOLE PREP (IF REQUIRED) PER TEMPLATE

1-1/8" x 2-1/4" LOCK FACE (TYP)
MORTISE LOCK REINFORCEMENT

REINFORCEMENTS: GALVANNEAL
GAUGE: 16 (EXTRUDED TO 12 GA AT SCREW HOLES)
TWO SPOTWELDS PER END
FACE PREP PER HARDWARE MANUFACTURER’S TEMPLATE
2-1/2" x 1" x 11 GAUGE
DRILLED AND TAPPED FOR 12-24 FHMS
TWO SPOTWELDS PER END

40-5/16" TO C/L (STANDARD)
FINISHED FLOOR
DOOR FLUSH BOLT PREPARATION

2-1/2" x 1" x 11 GAUGE
DRILLED AND TAPPED AS REQ'D
TWO SPOTWELDS PER END
DOOR CLOSER REINFORCEMENT

MATERIAL: GALVANNEAL
GAUGE: 14
WHI APPROVED

SPOTWELD CLOSER REINFORCEMENT TO TOP CHANNEL
APPROX 1"

SPOTWELD 2 SUPPORT ANGLES
AS SHOWN

HINGE EDGE

16"

5"
REINFORCEMENTS: GALVANNEAL
GAUGE: 14
SPOTWELDED TO DOOR SKIN
REINFORCEMENTS: GALVANNEAL
GAUGE: 14
SPOTWELDED TO DOOR SKIN
MORTISE PANIC REINFORCEMENT

PANIC REINFORCEMENT

14 GA. PANIC REINFORCEMENT

MORTISE LOCK REINFORCEMENT
DAYTON# MLB-BV-N1164
(SEE SHEET# 69)

PER MANUFACTURER’S TEMPLATE

4-3/4”

12”
REINFORCEMENTS: GALVANNEAL GAUGE: AS SHOWN BELOW SPOTWELDED TO DOOR SKIN/ TACKWELDED INTO TOP CHANNEL

TOP AND BOTTOM 12 GA REINF DRILLED & TAPPED PER MANUFACTURER'S TEMPATE

14GA PANIC REINFORCEMENT

34" 12"
STANDARD CLEARANCES

DETAIL "A"
- Frame
- Hinge
- Door
- 3/32" (TYP)

DETAIL "B"
- 3/16" (TYP)

DETAIL "C"
- 3/16" (TYP)

DETAIL "D"
- Floor
- 3/4" (TYP)
- 3/32" (TYP)
These requirements apply to all fire rated doors, frames, and windows.

Requirements for the installation of these assemblies are included in the Standard of the National Fire Protection Association for Fire Doors and Fire Windows, NFPA-80 and the Door Components’ installation instructions.

Terminology used in describing these frames follows as closely as possible the American National Standard for Nomenclature for Steel Doors and Steel Door Frames, ANSI A250.7.
STANDARD FRAME PROFILES

Note: Minimum and maximum dimensions shown in this section may be further restricted by frame elevation and wall type.

* 1" min face permitted at masonry, 1-1/4" min at drywall
** 2" throat permitted when door side face is min 2" and opposite face is min 2-5/8"
Standard profile frames may have combinations of the above backbend types.
DRYWALL PRESSURE ANCHOR FRAMES

To Suit Door Thickness

15” max
3-7/8” min

1/2” max
1/4” min

5/8 min

1/2” max
1/4” min

4-5/8” max
2-1/8” min

5/8 min

3-7/8” min
15” max

1” max

3” min
13” max

7/16” min
1” max

1-1/2” min
4” max

3” min
13” max

7/16” min
1” max

1-1/2” min
4” max

GUSSET

HEADER

HEAD TAB

COMPRESSION ANCHOR

PUNCH & DIMPLE FOR #8 SCREW (NOT INCLUDED)

STANDARD BASE ANCHOR

ALTERNATE BASE ANCHOR
NAIL-IN FACE FRAMES

To Suit Door Thickness

1-1/2" min
4" max

Steel, Aluminum or
Wood Plant-On

3/16" Holes
5" From End 12" o.c.

1/2"
Frames may have combinations of the previous backbend types.
Frames may have combinations of the previous backbend types.
MULLIONS AND SILLS

*M 1" minimum at members surrounding glazed openings in sidelight or window frames. 1-1/4" minimum at all transom frames and at members surrounding door openings in sidelight frames.

Mullions

Sills
Approved Methods for Anchoring Mullions and Sills

Standard anchorage for sills is one anchor for every foot with a minimum of two anchors. This can include an A12 mullion base anchor and a standard jamb base anchor for the appropriate wall type. Sill anchors are to be spaced evenly.

Mullions may be run to the top of the sill or to the floor ... mullion or sill anchors to be supplied accordingly.
ANCHORING AT MULLIONS & SILLS

4 Anchors Total

A12 Mullion Base Anchor

Sill Anchor or Punch and Dimple

Up To 48"

4 Anchors Total

A12 Mullion Base Anchor

Sill Anchor or Punch and Dimple

Up To 48"
Hospital stops available for 20 min to 180 min frames

Maximum 6” above the floor line, 45° and 90° only
## SINGLE SWING FRAME LIMITATIONS

### Standard Profile Frames -

<table>
<thead>
<tr>
<th>Specification</th>
<th>Steel/Wood Stud</th>
<th>Masonry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Jamb Opening Size</td>
<td>4'-0&quot; x 10'-0&quot;</td>
<td>4'-0&quot; x 12'-0&quot;</td>
</tr>
<tr>
<td>Minimum Jamb Depth</td>
<td>Per Section Detail</td>
<td>4&quot;</td>
</tr>
<tr>
<td>Maximum Jamb Depth</td>
<td>15&quot;</td>
<td>15&quot;</td>
</tr>
<tr>
<td>Minimum Gage</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Maximum Gage</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Maximum Rating Steel/Wood Stud</td>
<td>3 Hour</td>
<td>1-1/2 Hour</td>
</tr>
<tr>
<td>Maximum Rating Masonry</td>
<td>3 Hour</td>
<td>1-1/2 Hour</td>
</tr>
<tr>
<td>Construction</td>
<td>Knock-Down or Welded</td>
<td>Welded</td>
</tr>
<tr>
<td>Minimum Face</td>
<td>Per Section Detail</td>
<td>1-1/2&quot;</td>
</tr>
</tbody>
</table>

### Drywall Pressure Anchor Frames -

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<td>Maximum Jamb Opening Size</td>
<td>4'-0&quot; x 9'-0&quot;</td>
<td>3'-6&quot; x 7'-6&quot;</td>
</tr>
<tr>
<td>Minimum Jamb Depth</td>
<td>3-7/8&quot;</td>
<td>2-9/16&quot;</td>
</tr>
<tr>
<td>Maximum Jamb Depth</td>
<td>15&quot;</td>
<td>13-1/8&quot;</td>
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<td>12</td>
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<td>1-1/2 Hour</td>
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<td>Maximum Rating Masonry</td>
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</tr>
<tr>
<td>Construction</td>
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</table>

### Nail-In Face Frames -

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</tbody>
</table>
### Standard Profile Frames -

- **Maximum Jamb Opening Size:** 8'-0" x 10'-0"  
  10'-0" x 12'0"
- **Minimum Jamb Depth:** Per Section Detail  
  4"
- **Maximum Jamb Depth:** 15"  
  15"
- **Minimum Gage:** 16  
  OR 16
- **Maximum Gage:** 12  
  12
- **Maximum Rating Steel/Wood Stud:** 3 Hour  
  1-1/2 Hour
- **Maximum Rating Masonry:** 3 Hour  
  1-1/2 Hour
- **Construction:** Knock-Down or Welded  
  Welded
- **Minimum Face:** Per Section Detail  
  1-1/2"

### Drywall Pressure Anchor Frames -

- **Maximum Jamb Opening Size:** 8'-0" x 9'-0"
- **Minimum Jamb Depth:** 3-7/8"
- **Maximum Jamb Depth:** 15"
- **Minimum Gage:** 16
- **Maximum Gage:** 14
- **Maximum Rating Steel/Wood Stud:** 1-1/2 Hour
- **Maximum Rating Masonry:** N/A
- **Construction:** Knock-Down
DOUBLE EGRESS FRAME LIMITATIONS

Double Egress Frames -

<table>
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<th>Maximum</th>
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<td>Minimum Jamb Depth:</td>
<td>3-1/2&quot;</td>
<td>3-1/2&quot;</td>
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<tr>
<td>Maximum Jamb Depth:</td>
<td>14-1/2&quot;</td>
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<td>Welded</td>
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Swing Clear Double Egress Frames -

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<th></th>
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<tbody>
<tr>
<td>Maximum Jamb Opening Size:</td>
<td>8'-0&quot; x 8'-0&quot;</td>
<td></td>
</tr>
<tr>
<td>Minimum Jamb Depth:</td>
<td>2-15/16&quot; Legs, 3-15/16&quot; Head</td>
<td></td>
</tr>
<tr>
<td>Maximum Jamb Depth:</td>
<td>8-7/16&quot; Legs, 15&quot; Head</td>
<td></td>
</tr>
<tr>
<td>Minimum Gage:</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Maximum Gage:</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Maximum Rating Steel/Wood Stud:</td>
<td>1-1/2 Hour</td>
<td></td>
</tr>
<tr>
<td>Maximum Rating Masonry:</td>
<td>1-1/2 Hour</td>
<td></td>
</tr>
<tr>
<td>Construction:</td>
<td>Welded</td>
<td></td>
</tr>
</tbody>
</table>
MULTIPLE OPENING FRAME LIMITATIONS

**Welded Mullions**
(Doors may be hinged on welded mullions only)

**Welded or Removable Mullions**
(Doors may be hinged on welded mullions only)

**Welded Mullions**
(Doors may be hinged on welded mullions only)
MULTIPLE OPENING FRAME LIMITATIONS

Standard Profile Frames -

- Maximum Overall Frame Size: 12'-8" x 8'-4" Outside Dimensions
- Maximum Opening Size: 4'-0" x 8'-0" singles, 8'-0" x 8'-0" pairs
- Minimum Jamb Depth: 4-1/2"
- Maximum Jamb Depth: 10-1/2"
- Minimum Gage: 16
- Maximum Gage: 12
- Maximum Rating Steel/Wood Stud: 1-1/2 Hour
- Maximum Rating Masonry: 1-1/2 Hour
- Construction: Welded
- Mullion: Removable or Welded

Welded Mullions
(Doors may be hinged on welded mullions only)
SINGLE BORROWED LITE LIMITATIONS

¼" Wired Glass

Maximum Opening Width: 54” (20 - 45 min)
Maximum Opening Height: 54” (20 - 45 min)
Maximum Clear Glass Area: 1296 sq inches (20 - 45 min)
Minimum Jamb Depth: 4-1/2”
Maximum Jamb Depth: 15”
Minimum Face: 1”
Minimum Gage: 16
Maximum Gage: 14
Construction: Welded
Glass Stop: Min. 18 Gage 5/8” x 5/8” with #8 screws 4” from ends and 12” on center

Pilkington Wired Glass with Pemko FG3000 Fireglaze (or equal)

Maximum Opening Width: 98” (20 - 45 min)
Maximum Opening Height: 106” (20 - 45 min)
Maximum Clear Glass Area: 4704 sq inches (20 - 45 min)
Minimum Jamb Depth: 5-3/4”
Maximum Jamb Depth: 15”
Minimum Face: 2”
Minimum Gage: 16
Maximum Gage: 14
Construction: Welded
Glass Stop: Min. 18 Gage 5/8” x 5/8” with #8 screws 4” from ends and 9” on center

* 20 minute without hose stream
**FireLite® (or equal)**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Minimum</th>
<th>Average</th>
<th>Maximum</th>
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</thead>
<tbody>
<tr>
<td>Maximum Opening Width</td>
<td>4-3/4&quot;</td>
<td>95&quot;</td>
<td>14-1/2&quot;</td>
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<tr>
<td>Maximum Opening Height</td>
<td>1&quot;</td>
<td>95&quot;</td>
<td>14-1/2&quot;</td>
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<tr>
<td>Maximum Clear Glass Area</td>
<td>16</td>
<td>3325 sq inches</td>
<td>2627 sq inches</td>
</tr>
<tr>
<td>Jamb Depth</td>
<td>1&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Face</td>
<td></td>
<td></td>
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<tr>
<td>Gage</td>
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<td></td>
</tr>
<tr>
<td>Glass Stop</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 20 minute without hose stream
Drywall Pressure Anchor Frames -

\textbf{\frac{1}{4}" Wired Glass}

- Maximum Opening Width: 54" (20 - 45 min)
- Maximum Opening Height: 54" (20 - 45 min)
- Maximum Clear Glass Area: 1296 sq inches (20 - 45 min)
- Minimum Jamb Depth: 4-3/4"
- Maximum Jamb Depth: 15"
- Minimum Face: 1-1/2"
- Minimum Gage: 16
- Maximum Gage: 14
- Construction: Knock-Down
- Glass Stop: Min. 18 Gage 5/8" x 5/8" with #8 screws 4" from ends and 12" on center

\textbf{FireLite® (or equal)}

- Maximum Opening Width: 54" (20 - 45 min)
- Maximum Opening Height: 96" (20 - 45 min)
- Maximum Clear Glass Area: 3325 sq inches (20 - 45 min)
- Minimum Jamb Depth: 4-3/4"
- Maximum Jamb Depth: 15"
- Minimum Face: 1-1/2"
- Minimum Gage: 16
- Maximum Gage: 14
- Construction: Knock-Down
- Glass Stop: Min. 18 Gage 5/8" x 5/8" with #8 screws 4" from ends and 12" on center

* 20 minute without hose stream
SIDE- & MULTI-LITE FRAME LIMITATIONS

¼" Wired Glass

- Maximum Overall Frame Size: 174"x 120"
- Maximum Opening Width: 54" (20 - 45 min)
- Maximum Opening Height: 54" (20 - 45 min)
- Maximum Clear Glass Area: 1296 sq inches (20 - 45 min)
- Minimum Jamb Depth: 4-1/2"
- Maximum Jamb Depth: 15"
- Minimum Face: 1"
- Minimum Gage: 16
- Maximum Gage: 14
- Construction: Welded
- Glass Stop: Min. 18 Gage 5/8" x 5/8" with #8 screws 4" from ends and 12" on center

Pilkington Wired Glass with Pemko FG3000 Fireglaze (or equal)

- Maximum Overall Frame Size: 174"x 136" Drywall
  174"x 144" Masonry
- Maximum Opening Width: 98" (20 - 45 min)
- Maximum Opening Height: 106" (20 - 45 min)
- Maximum Clear Glass Area: 4704 sq inches (20 - 45 min)
- Minimum Jamb Depth: 5-3/4"
- Maximum Jamb Depth: 15"
- Minimum Face: 2"
- Minimum Gage: 16
- Maximum Gage: 14
- Construction: Welded
- Glass Stop: Min. 18 Gage 5/8" x 5/8" with #8 screws 4" from ends and 9" on center

* 20 minute without hose stream
SIDE- & MULTI-LITE FRAME LIMITATIONS

FireLite® (or equal)

Maximum Overall Frame Size: 174" x 120"
Maximum Opening Width: 95" (20 - 60 min)
                                              56½" (90 min)
Maximum Opening Height: 95" (20 - 60 min)
                                             56½" (90 min)
Maximum Clear Glass Area: 3325 sq inches (20 - 60 min)
                                             2627 sq inches (90 min)
Minimum Jamb Depth: 4-3/4"
Maximum Jamb Depth: 15"
Minimum Face: 1"
Minimum Gage: 16
Maximum Gage: 14
Construction: Welded
Glass Stop: Min. 18 Gage 5/8" x 5/8" with
                   #8 screws 4" from ends and 12" on center

* 20 minute without hose stream
WALLBOARD PENETRATION PER NFPA-80

Alternate Flush Mount Method for Steel Stud Walls with No Wallboard Penetration Required.

1/2 in. (13 mm) Minimum wallboard penetration 1/2 in. (13 mm)

Presssed steel door frame with steel stud anchors

Presssed steel door frame with wood stud anchors

Existing wall

Intumescent caulk as required

Jamb punched and dimpled for screws

25 gauge steel studs

Single or double rabbet profile option

1/4 in dia. countersink sheet metal screws 6 in max. from ends and 24 in o.c. max

Wallboard may be notched at hardware boxes while maintaining 1/2" penetration elsewhere around frame perimeter. Exposed seams may be filled with fire caulk.
INSTALLATION OF BUTTED MASONRY FRAMES

- Masonry anchor (TEE or WIRE)
- Frame grouted solid
- Frame butted tight to wall
- Expansion anchor
- Shim at anchor as req’d up to 1/4”
- Fire resistant caulking
If expansion bolt anchors are to be used, the soffit shall be provided with 7/16" dimpled holes located not more than 6" from the top and bottom with intermediate holes spaced no more than 26" on center. The installer is to provide each hole with a minimum 3/8" roundhead bolt.

The bottom bolt acts as the base anchor. As such, adjustable type base anchors are not permitted at these frames as they would conflict with the required location of the bottom bolt.

No expansion bolt anchor shall be set closer to the edge of the wall opening than six times the diameter of the anchor or closer to another anchor than eight times the diameter of the anchor.
Mechanical Field Splices for Oversized Frames
(45 Minute Maximum Rating)

12 GA ANGLE WELDED TO SLEEVE
DRILLED FOR 1/4" CLEARANCE HOLES

12 GA ANGLE WELDED TO JAMB
DRILLED & TAPPED FOR #1/4-20 SCREWS

12 GA SLEEVE WELDED TO JAMB

1/4" THICK REINF WELDED TO JAMB
DRILLED & TAPPED FOR #1/4-20 SCREWS
### FIRE-RATED DOOR TYPES

<table>
<thead>
<tr>
<th>CORES¹</th>
<th>H</th>
<th>P</th>
<th>S</th>
<th>TR-250°</th>
<th>TR-250G</th>
<th>TR-450</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOOR TYPE</td>
<td>RATINGS (MINUTES)</td>
<td>MAXIMUM OPENING SIZE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SINGLE</td>
<td>20 45 60 90</td>
<td>4-0x10-0</td>
<td>4-0x8-0</td>
<td>5-0x12-0</td>
<td>4-0x8-0</td>
<td>4-0x9-0</td>
</tr>
<tr>
<td>SINGLE</td>
<td>180</td>
<td>4-0x10-0</td>
<td>3-0x7-0</td>
<td>4-0x10-0</td>
<td>4-0x8-0</td>
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<tr>
<td>PAIR</td>
<td>20 45 60 90</td>
<td>8-0x10-0</td>
<td>6-0x8-0</td>
<td>10-0x12-0</td>
<td>8-0x8-0</td>
<td>8-0x9-0</td>
</tr>
<tr>
<td>PAIR</td>
<td>180</td>
<td>8-0x10-0</td>
<td>8-0x9-0</td>
<td>8-0x8-0</td>
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<tr>
<td>DOUBLE EGRESS</td>
<td>20 45 60 90 180</td>
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<td>8-0x10-0</td>
<td>8-0x8-0</td>
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<td></td>
</tr>
<tr>
<td>SINGLE LOUVER³</td>
<td>45 60 90</td>
<td>4-0x10-0</td>
<td>5-0x12-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAIR LOUVER³</td>
<td>45 60 90</td>
<td>8-0x10-0</td>
<td>10-0x12-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SINGLE w/ LITE⁴</td>
<td>20 45 60 90</td>
<td>4-0x10-0</td>
<td>4-0x8-0</td>
<td>5-0x12-0</td>
<td>4-0x8-0</td>
<td>4-0x9-0</td>
</tr>
<tr>
<td>PAIR w/ LITE⁴</td>
<td>20 45 60 90</td>
<td>8-0x10-0</td>
<td>6-0x8-0</td>
<td>10-0x12-0</td>
<td>8-0x8-0</td>
<td>8-0x9-0</td>
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<td>DUTCH DOOR</td>
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<td>STC-40</td>
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<tr>
<td>STC-48⁵</td>
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<td>3-2x7-0</td>
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<td>STC-50 - STC-53</td>
<td>20 45 60 90</td>
<td>3-0x7-0</td>
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</tr>
</tbody>
</table>

1. H=HONEYCOMB  P=POLYSTYRENE(EPS) S=STEEL STIFFENED  TR-250°=STANDARD TEMP RISE CORE  TR-250G=SPECIAL TEMP RISE CORE  TR-450=STEEL STIFFENED W/ HIGH DENSITY INSULATION
2. ALL DOORS AVAILABLE 1-3/4" THICK FOR 14, 16, 18 GAUGES
3. SEE LOUVER AND GLAZING SPECIFICATIONS FOR MAXIMUM SIZES FOR THOSE COMPONENTS
4. LIMITED GLAZING AVAILABLE FOR 180 MIN DOORS — SEE GLAZING SPECIFICATIONS OR CALL FOR AVAILABILITY.
5. STC48 AVAILBLE IN PAIRS UP TO 6470 OR SINGLES WITH LITES UP TO 100 SQ INCHES
### Maximum Glass Opening Sizes Permitted for Doors

<table>
<thead>
<tr>
<th>RATING (MINUTES)</th>
<th>MAX WIDTH</th>
<th>MAX HEIGHT</th>
<th>MAX AREA PER LITE</th>
<th>MAX WIDTH</th>
<th>MAX HEIGHT</th>
<th>MAX AREA PER LITE</th>
<th>MAX WIDTH</th>
<th>MAX HEIGHT</th>
<th>MAX AREA PER LITE</th>
<th>MAX WIDTH</th>
<th>MAX HEIGHT</th>
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<tbody>
<tr>
<td>20</td>
<td>36</td>
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<td>2400</td>
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<td>3204</td>
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<td>60</td>
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<td>46</td>
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<td>100</td>
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<td>1716</td>
<td>36</td>
<td>56-1/2</td>
<td>2034</td>
<td>2034</td>
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<tr>
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<tr>
<td>90 TR</td>
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<td>33</td>
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<tr>
<td>180 TR</td>
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<td>-</td>
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</tr>
</tbody>
</table>

**WIRE GLASS**

**PILKINGTON GLASS w/ PEMKO FIREGLAZE** (OR EQUAL)

**FIRELITE** (OR EQUAL)
RATED DOORS WITH LITES

- **TOP RAIL**
  - Section B-B'
  - 5" Min (or as required by hardware)

- **INTERMEDIATE RAILS**
  - Section C-C'
  - 5/8" Min
  - 1-1/4" Min (or as required by hardware)

- **STILES**
  - Section A-A'
  - 5/8" Min
  - 5" Min (or as req'd by hardware)

- **BOTTOM RAIL**
  - Section D-D'
  - 5/8" Min
  - 5" Min (or as req'd by hardware or ADA)
Louvers are NOT permitted in the following:

- 20 Minute Doors
- 3 Hour Doors
- Doors with Exit Devices
- Doors with Lites
- The Top Half of a Door
- Temperature Rise Doors
- Transoms of Frames

Louvers are restricted to use in 45, 60 and 90 min doors where smoke control is not a consideration. They must be listed Fusible Link types and may not exceed 24" x 24".

Per DCI Installation Instructions, the "S" indicated on the label for this door is voided by the use of louvers.

Cutout in door does not need to be channeled when using Anemostat FLDL-UL with HM-Clips.
Per HMMA 850 & NFPA 80:

"The top of the plate shall be a maximum of 16 inches above the bottom of the door unless otherwise tested and labeled. Such plates may be on both faces. No other plates shall be installed."

Exception:

Life Safety Code NFPA 101 permits the following for Health Care Facilities only:
"Nonrated, factory- or field-applied protective plates, unlimited in height, shall be permitted."
Rated up to 3 hours

4'-0" x 10'-0" maximum opening size

Dead latch is permitted in top leaf when not in a means of egress.

Dead bolt (in addition to latches) is permitted when not in a means of egress.
RATED DOORS w/ FLAT BAR ASTRAGALS

1. Overlapping flat bar astragals are not required on standard pairs of doors or double egress doors up to 8'-0"x 10'-0" in size and up to a 3-hour fire rating.

2. Astragals are NOT permitted on pairs of doors with vertical rod exit devices on both leaves, or when rim panic devices are used on both leaves with a hardware mullion.

3. Overlapping flat bar astragals ARE required on all standard pairs over 10'-0" high or when one leaf exceeds 4'-0" in width. (Therefore, exit devices may not be used on standard pairs of doors over 10'-0" high or when either door leaf is over 4'-0” wide)

4. The customer may need to provide additional gasketing/smoke-seal type astragals to comply with UL1784 smoke and draft control requirements where required by code.

**Standard swing pairs of doors with vertical rod devices:**

With two vertical rods, an astragal applied to the pull side of one leaf would disable the leaf without the astragal.

An astragal applied to the push side of one leaf would also disable the leaf with the astragal.

Opening of Door Leaf Blocked by Astragal

Opening of Door Leaf Blocked by Astragal

Astragals **ARE** permitted when a door with a vertical rod device is used with an inactive leaf equipped with flush bolts.

(Where only one leaf is needed to satisfy egress requirements)
UNDERCUTS AT RATED DOORS

Maximum Clearances allowed:

<table>
<thead>
<tr>
<th>Clearance Between Bottom of Door and ...</th>
<th>3/4&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>raised sill *</td>
<td></td>
</tr>
<tr>
<td>floor without sill</td>
<td></td>
</tr>
<tr>
<td>rigid floor tiles</td>
<td></td>
</tr>
</tbody>
</table>

* Life Safety Code, NFPA 101 limits sill height to 1/2” in a means of egress. ADA limits sill height to 1/2” at all accessible doors.
LABEL PLACEMENT GUIDE FOR FRAMES

2 HINGES OR PIVOTS
---------------------------------
MIDDLE OF HINGE JAMB RABBET
(PLUS OR MINUS 8 INCHES)

3 OR 4 HINGES OR PIVOTS
---------------------------------
HINGE JAMB RABBET AT 52” TO 68” FROM BOTTOM OF FRAME

NO HINGES (CONTINUOUS OR SURFACE HINGES)
---------------------------------
DOOR SIDE RABBET OF HEAD
CENTERED IN WIDTH AT SINGLES
CENTERED OVER INACTIVE LEAF AT PAIRS

BORROWED LITE
---------------------------------
ANYWHERE VISIBLE - PREFERABLY ON SIDE JAMB, ON RABBET OPPOSITE GLASS, ABOUT HALFWAY UP
LABEL PLACEMENT GUIDE FOR DOORS

2 HINGES OR PIVOTS
------------------------
MIDDLE OF HINGE EDGE
(PLUS OR MINUS 8 INCHES)

3 OR 4 HINGES OR PIVOT:
------------------------
HINGE EDGE 52” TO 68” FROM BOTTOM OF DOOR

CONTINUOUS OR SURFACE
HINGES OR POCKET PIVOTS
------------------------
TOP OF DOOR AS TIGHT AS POSSIBLE TO THE HINGE EDGE
FOR EITHER STANDARD CHANNEL OR FOR FLUSH AND SEAL

DOOR WITH REMOVABLE TOP CAP & CONTINUOUS OR SURFACE
HINGES OR POCKET PIVOTS
------------------------
LOCK EDGE AT 6” DOWN FROM TOP OF DOOR

LOOSE PANEL
-------------
ON ANY EDGE

WELDED IN FRAME
NO TRANSOM BAR
-------------
ON BOTTOM EDGE
CENTERED IN WIDTH
(PLUS OR MINUS 8 INCHES)

WELDED IN FRAME
WITH TRANSOM BAR
-------------
ON FACE OF PANEL
STOP SIDE - CENTERED IN WIDTH
(PLUS OR MINUS 8 INCHES)

11/15/17 www.dcihollowmetal.com
FIELD PREPS PERMITTED ON RATED HOLLOW METAL FRAMES AND DOORS

THE FOLLOWING IS PERMITTED PER NFPA 80 (2013 EDITION) SECTIONS 4.1.3.2 – 4.1.3.4.

FOR JOB SITE PREPARATION OF SURFACE-APPLIED HARDWARE, FUNCTION HOLES FOR MORTISE LOCKS, AND HOLES FOR LABELED VIEWERS, AND PROTECTION PLATES:

SURFACE-APPLIED HARDWARE SHALL BE APPLIED TO THE FACE OF THE DOOR OR FRAME WITHOUT REMOVING MATERIAL OTHER THAN DRILLING ROUND HOLES.

THE HOLES SHALL NOT BE PERMITTED TO EXCEED A DIAMETER OF 1" WITH THE EXCEPTION OF CYLINDERS.
STC 50 FLUSH DOOR ASSEMBLY

Tested as 3'0"x7'0" with (3) 4-1/2" Hinges, Cylindrical Lock
STC 53 FLUSH DOOR ASSEMBLY

Tested as 3’0”x7’0” with (3) 4-1/2” Hinges, Cylindrical Lock
STC 54 FLUSH DOOR ASSEMBLY

16GA Frame

Factory Applied Bit Coat

Factory Applied Backer

Grout Filled (By Others)

This Joint to be Caulked in the Field (By Others)

DCI Supplied Seal

DCI Supplied Bronze Seal @ Head & Jamb Rabbets Only (3 sides)

DCI Supplied Threshold

STC 54 Flush Door

1/4" Undercut

1/8" High

1/2"

1/2"

Tested as 3'0"x7'0" with (3) 4-1/2" Hinges, Cylindrical Lock
STC 48 FLUSH DOOR PAIR ASSEMBLY

Tested as 6’0”x7’0” with (6) 4-1/2” Hinges, Cylindrical Lock, (2) 6” Manual Flush Bolts
STC 48 Door w/ Vision Lite (Up to 100 Sq In)

- DCI Supplied Bronze Seal @ Head & Jamb Rabbets Only (3 sides)
- DCI Supplied 188 Seal. Mitered and Installed on Stop (3 Sides)
- DCI Supplied Threshold
- Grout Filled (By Others)
- 16GA Frame
- Factory Applied Bit Coat
- Factory Applied Backer
- This Joint to be Caulked in the Field (By Others)
- DCI Supplied Soffit Seal

1/4" Undercut
1/8" High

1/2"

Tested as 3'0"x7'0" with (3) 4-1/2" Hinges, Cylindrical Lock
STC 45 Door w/ Vision Lite
(Up to 720 Sq In)

1/4" Undercut
1/8" High
1/2"

Tested as 3'0"x7'0" with (3) 4-1/2" Hinges, Cylindrical Lock
Maximum Size Tested:

A. 13/16” x 5/8” Glass Stop
B. CR Laurence 1/8” x 3/8” Norseal® V730 Acoustical Sealant Tape (By Others)
C. 5/8” Lam Glass (3/8” + 3/16” with .060” Interlayer) - (By Others)
D. Stay-Soft Glazing Rope - 1/4” Diameter (By Others)
E. 16 GA Frame
F. Factory Applied Bit Coat
G. Factory Applied Backer
H. Grout Filled (By Others)
Maximum Size Tested:

- **A.** 13/16" x 5/8" Glass Stop
- **B.** CR Laurence 1/8" x 3/8" Norseal® V730 Acoustical Sealant Tape (By Others)
- **C.** 5/8" Lam Glass (3/8" + 3/16" with .060" Interlayer) - (By Others)
- **D.** Stay-Soft Glazing Rope - 1/4" Diameter (By Others)
- **E.** 16 GA Frame
- **F.** Factory Applied Bit Coat
- **G.** Factory Applied Backer
- **H.** Grout Filled (By Others)
Maximum Size Tested:

A. 13/16" x 5/8" Glass Stop
B. CR Laurence 1/8" x 3/8" Norseal® V730 Acoustical Sealant Tape (By Others)
C. 5/8" Lam Glass (3/8" + 3/16" with .060" Interlayer) - (By Others)
D. Stay-Soft Glazing Rope - 1/4" Diameter (By Others)
E. 16 GA Frame
F. Factory Applied Bit Coat
G. Factory Installed Insulation
STC 53 WINDOW ASSEMBLY

Maximum Size Tested:

A. 13/16" x 5/8" Glass Stop
B. CR Laurence 1/8" x 3/8" Norseal® V730 Acoustical Sealant Tape (By Others)
C. 5/8" Lam Glass (3/8" + 3/16" with .060" Interlayer) - (By Others)
D. Stay-Soft Glazing Rope - 1/4" Diameter (By Others)
E. 16 GA Frame
F. Factory Applied Bit Coat
G. Factory Installed Insulation
STC 54 WINDOW ASSEMBLY

Maximum Size Tested:

A. 13/16" x 5/8" Glass Stop
B. CR Laurence 1/8" x 3/8" Norseal® V730 Acoustical Sealant Tape (By Others)
C. 5/8" Lam Glass (3/8" + 3/16" with .060" Interlayer) - (By Others)
D. Stay-Soft Glazing Rope - 1/4" Diameter (By Others)
E. 16 GA Frame
F. Factory Applied Bit Coat
G. Factory Installed Insulation
H. Sound/Thermal Break
STC 37 FIRE RATED WINDOW ASSEMBLY

Maximum Size Tested:

- A. 13/16" x 5/8" Glass Stop
- B. 5/16" FireLite Plus® Glazing (By Others)
- C. Rated Glazing Tape (By Others)
- D. 16 GA Frame
- E. Factory Applied Bit Coat
- F. Factory Applied Backer
- G. Grout Filled (By Others)