Shaftwall & Stairwell Systems
Fire protection & sound isolation for shafts & stairwells
Fire protection & sound isolation systems for elevator shafts, stairwells & other shafts

Shaftwall systems are key components to multi-story buildings’ safety systems; preventing fire from entering elevator shafts and providing egress through stairwells should an emergency evacuation become necessary. Though these systems are non-load bearing, they are designed to provide strength necessary to withstand lateral loads and needed fire protection. PABCO® Gypsum produces 3 shaftwall products that can be used in these systems that allow you the flexibility to choose the type of features that the job demands.

Gypsum Shaftwall systems have replaced traditional masonry due to several advantages: lightweight assembly, thinner walls, ease and speed of installation from a single side—no need for scaffolding within the shaft, and a cost effective solution.

### PABCO® Gypsum Shaftwall Products

<table>
<thead>
<tr>
<th>Product</th>
<th>Thickness</th>
<th>Width</th>
<th>Length</th>
<th>Edge Type</th>
<th>Weight</th>
<th>Mold Resistance (ASTM D 3273)</th>
<th>ASTM Standard</th>
<th>UL Core Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1” PABCORE® Shaftliner, Type X</td>
<td>1” (25.4mm)</td>
<td>24” (610mm)</td>
<td>8’ (2428mm) 10’ (3048mm) 12’ (3658mm)</td>
<td>Double Beveled</td>
<td>4.1 lbs/ft²</td>
<td>N/A</td>
<td>C 1396</td>
<td>PG-10</td>
</tr>
<tr>
<td>1” MOLD CURB® Plus Shaftliner, Type X</td>
<td>1” (25.4mm)</td>
<td>24” (610mm)</td>
<td>8’ (2428mm) 10’ (3048mm) 12’ (3658mm)</td>
<td>Double Beveled</td>
<td>4.1 lbs/ft²</td>
<td>10 (Highest Rating)</td>
<td>C 1396</td>
<td>PG-10</td>
</tr>
<tr>
<td>1” PABCO GLASS® Shaftliner, Type X</td>
<td>1” (25.4mm)</td>
<td>24” (610mm)</td>
<td>8’ (2428mm) 12’ (3658mm)</td>
<td>Double Beveled</td>
<td>4.1 lbs/ft²</td>
<td>10 (Highest Rating)</td>
<td>C 1658</td>
<td>PG-10</td>
</tr>
</tbody>
</table>

### Other PABCO® Gypsum Products used in Shaftwall Assemblies

<table>
<thead>
<tr>
<th>Product</th>
<th>Thickness</th>
<th>Width</th>
<th>Length</th>
<th>Edge Type</th>
<th>Weight</th>
<th>Mold Resistance (ASTM D 3273)</th>
<th>ASTM Standard</th>
<th>UL Core Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2” FLAME CURB® Super C</td>
<td>1/2” (12.7mm)</td>
<td>4’ (1219mm)</td>
<td>8’ (2428mm) 9’ (2794mm) 10’ (3048mm) 12’ (3658mm)</td>
<td>Tapered</td>
<td>2.0 lbs/ft²</td>
<td>N/A</td>
<td>C 1396</td>
<td>PG-C</td>
</tr>
<tr>
<td>5/8” FLAME CURB® Type C</td>
<td>5/8” (15.8mm)</td>
<td>4’ (1219mm)</td>
<td>12’ (3658mm)</td>
<td>Tapered</td>
<td>2.4 lbs/ft²</td>
<td>N/A</td>
<td>C 1396</td>
<td>Type C</td>
</tr>
</tbody>
</table>
2 Hour C-T or C-H Shaftwall and Stairwell Systems

Installation Procedures

1. Layout per construction drawings. Secure J-Track as a perimeter framing on floor, sides and ceiling; plumb to ceiling. Attach suitable fasteners 24”o.c. maximum. Apply a bead of flexible sealant to the perimeter.

2. Pre-plan the stud layout 24”o.c. and adjust the spacing at either end so that the terminal stud will not fall closer than 8” from the end.

3. Erect the first PABCORE® Shaftliner or PABCO GLASS® Shaftliner panel (cut ¾” to 1” less than the total height of wall) by inserting between the flanges of the top and bottom J-Track at one end of the wall. Plumb the pane against the web of the J-Track and secure panel with bent out tabs in the track or with 1-5/8” Type S screws 12”o.c. into the wide flange of the track.

4. Fit the C-T or C-H Stud (cut ¾” less than the overall height of the wall) to the edge of the previously installed PABCORE® or PABCO GLASS® Shaftliner panel; allow equal clearance at top and bottom.

5. Install the next Shaftliner panel inside the J-Track and within the tabs of the C-T or C-H Stud. Secure all Shaftliner panels, top and bottom with either tabs in J-Track or with 1-5/8” screws midway between studs.

6. Progressively install succeeding C-T or C-H Stud and Shaftliner panels as described above until wall section is completed. Secure the end panel to the side J-Track with Tabs of 1-5/8” screws 12”o.c.

Notes:

- Where wall heights exceed the available length of the PABCORE® Shaftliner or PABCO GLASS® Shaftliner panel, the panels may be cut and stacked with joints occurring within the top or bottom third of the wall. The shorter panel should be a minimum of 24” length, or sufficient to engage two stud tabs on each panel edge. Horizontal joints must be staggered alternating from top to bottom to avoid adjacent horizontal joints.

- For Doors, Ducts or other large penetrations or openings, install J-Track as perimeter framing as detailed. Use 20-gauge track with longer leg for elevator doors and block (fill) cavity with 12” wide gypsum filler strips for doors exceeding 7’ 0” in height.

- Designs allow the use of J-Track or J-Tabbed Track

Wall Assembly diagram of 2-Hour Shaftwall System
UL Design No. 428, GA WP-7051
1-Hour C-T Stud Shaftwall Assembly—finished one side

<table>
<thead>
<tr>
<th>Fire Rating</th>
<th>STC Rating</th>
<th>Construction Detail</th>
<th>Description</th>
<th>Test Report Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1HR</td>
<td></td>
<td></td>
<td>1-hour fire resistance, non load-bearing, noncombustible Shaft wall partition design to enclose shafts, elevators, ducts, piping, air shafts, and similar construction applications.</td>
<td>Fire Tests: WHI-495-1303</td>
</tr>
<tr>
<td>48 STC</td>
<td></td>
<td></td>
<td>CONSTRUCTION: 1” Shaftliner Panel: 1” PABCORE® Shaftliner Type X, or 1” MOLD CURB® Plus Shaftliner Type X, or 1” PABCO GLASS® Shaftliner Type X Inserted between floor and ceiling J-Track on T section side of 2-1/2”, 4” or 6” C-T studs. Opposite Side Face Layer: 5/8” FLAME CURB® Type C applied at right angles to studs with 1” Type S Screws 12” o.c. Face Layer joints covered with tape and a minimum of 2 coats of joint compound.</td>
<td>Sound Test: RAL TL96-28</td>
</tr>
</tbody>
</table>

**GA File No. WP 6800**
Non Load-Bearing Wall
1 Hour Fire Rating
**Shaftwall System Details**

**2-Hour Shaftwall Assembly—finished one side**

<table>
<thead>
<tr>
<th>Fire Rating</th>
<th>STC Rating</th>
<th>Construction Detail</th>
<th>Description</th>
<th>Test Report Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2HR</td>
<td></td>
<td><img src="image" alt="Diagram" /></td>
<td>2-hour fire resistance, non load-bearing, noncombustible Shaftwall partition design to enclose shafts, elevators, ducts, piping, air shafts, and similar construction applications.</td>
<td>Fire Tests: UL R7094 93NK8151 UL R3660 07NK229922 UL Design U428</td>
</tr>
<tr>
<td>51 STC</td>
<td></td>
<td><img src="image" alt="Diagram" /></td>
<td>Sound Tested Assembly per above with 1-7/8” glass fiber insulation batts in stud cavity.</td>
<td>Sound Test: RAL TL93-181</td>
</tr>
</tbody>
</table>

**STC Sound Tested Assembly**

- **Fire Rating:** 2HR
- **STC Rating:** 51
- **Construction Detail:**
  - 1” PABCORE® Shaftliner Type X, or
  - 1” MOLD CURB® Plus Shaftliner Type X, or
  - 1” PABCO GLASS® Shaftliner Type X
  - Cut 3/4” to 1” less than floor to ceiling height

**STC Sound Tested Assembly Details**

- **CEILING:**
  - 1/2” PABCO FLAME CURB® Super C
  - or 5/8” PABCO FLAME CURB® Type C
- **FLOOR:**
  - 1” PABCORE® Shaftliner Type X, or
  - 1” MOLD CURB® Plus Shaftliner Type X, or
  - 1” PABCO GLASS® Shaftliner Type X

**STC Sound Tested Assembly Diagram**

- **HORIZONTAL SECTION—No Scale**
  - C-T or C-H STUD SPACING: 24”
  - J-TRACK
- **VIRTUAL SECTIONS—No Scale**
  - FINISHED SIDE: 1/2” PABCO FLAME CURB® Super C or 5/8” PABCO FLAME CURB® Type C

**UL Design No. U428**

**GA File No. WP 7051**

Non Load Bearing Wall 2 Hour Fire Rating
## Shaftwall System Details

**U428, GA WP-7051**

**2-Hour Shaftwall Assembly—Soft Body Impact Classification Level 2—finished one side**

Certification of Assembly in Conformance to IBC 403.2.3.1

<table>
<thead>
<tr>
<th>Fire Rating</th>
<th>STC Rating</th>
<th>Construction Detail</th>
<th>Description</th>
<th>Test Report Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2HR</td>
<td></td>
<td><img src="image1" alt="Diagram" /></td>
<td>2-hour fire resistance, non load-bearing, noncombustible Shaftwall partition design to enclose shafts, elevators, ducts, piping, air shafts, and similar construction applications.</td>
<td>Fire Tests: UL R7094 93NK8151 UL R3660 07NK229922 UL Design U428 Soft Body Impact: IBC 403.2.3.1 SB-1402 (9/18/14)</td>
</tr>
<tr>
<td>51 STC</td>
<td><img src="image2" alt="Diagram" /></td>
<td>Sound Tested Assembly per above with 1-7/8” glass fiber insulation batts in stud cavity.</td>
<td></td>
<td>Sound Test: RAL TL93-181</td>
</tr>
</tbody>
</table>

**UL Design No. UL428**

**GA File No. WP 7051**

Non Load Bearing Wall
Soft Body Impact Classification Level 2
2 Hour Fire Rating
Stairwell System Details

U429, GA WP-7052

2-Hour Stairwell Assembly—finished two sides

<table>
<thead>
<tr>
<th>Fire Rating</th>
<th>STC Rating</th>
<th>Construction Detail</th>
<th>Description</th>
<th>Test Report Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2HR</td>
<td>51 STC</td>
<td>1&quot; PABCORE® Shaftliner Type X, or 1&quot; MOLD CURB® Plus Shaftliner Type X, or 1&quot; PABCO GLASS® Shaftliner Type X</td>
<td>2-hour fire resistance, non load-bearing, noncombustible Stairwell enclosure finished both sides. CONSTRUCTION:</td>
<td>Fire Tests: UL R7094 93NK8151 UL Design U429</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inserted between floor and ceiling J-Track on T section side of 2-1/2&quot;, 4” or 6” C-H or C-T studs. Face Layers: 1/2” FLAME CURB® Super C, applied parallel to studs with vertical joints midway between studs and laminated to Shaftliner panel with 4” wide strips of taping compound at wallboard perimeter and vertical centerline. 1-1/2” type G drywall screws 24”o.c. located 1-1/2” back from wallboard edges and at vertical centerline. Opposite Side: 1/2” FLAME CURB® Super C, applied at right angles to studs with 1” Type S screws 24” o.c. UL Design U 429 allows use of 5/8” FLAME CURB® Type C, 4’ wide; in place of 1/2” FLAME CURB® Super C.</td>
<td>Sound Test: RAL TL93-181</td>
<td></td>
</tr>
</tbody>
</table>

Sound Tested Assembly per above with 1-7/8” glass fiber insulation batts in stud cavity.

UL Design No. U429  GA File No. WP 7052  Non Load Bearing Wall 2 Hour Fire Rating
# Stairwell System Details

**U429, GA WP-7084**

## 2-Hour Stairwell Assembly—finished two sides

<table>
<thead>
<tr>
<th>Fire Rating</th>
<th>STC Rating</th>
<th>Construction Detail</th>
<th>Description</th>
<th>Test Report Numbers</th>
</tr>
</thead>
</table>
| 2HR         |            | 2-hour fire resistance, non load-bearing, noncombustible Stairwell enclosure finished both sides. | CONSTRUCTION:  1” Shaftliner Panel:  
1” PABCORE® Shaftliner Type X, or  
1” MOLD CURB® Plus Shaftliner Type X, or  
1” PABCO GLASS® Shaftliner Type X  
Inserted between floor and ceiling J-Track on T section side of 2" or C-T studs  
Face Layer: Face Layer: 1/2” FLAMECURB® Super C applied parallel to studs with 1” Type S Screws 12” o.c.  
Opposite Side: 1/2” FLAMECURB® Super C applied parallel to studs with 1” Type S Screws 12” o.c. Stagger joints each side.  
Outer Layer joints covered with tape and a minimum of 2 coats of joint compound. | Fire Tests:  
UL R7094  
93NK8151  
UL Design U429 |
| 51 STC      |            | Sound Tested Assembly per above with 1-3/8” glass fiber insulation batts in stud cavity. | Sound Test:  
RAL TL93-182  
WEAL 84-108 |

### Vertical Sections—No Scale

1/2” PABC FLAME CURB® Super C

UL Design No. UL429  
GA File No. WP 7084  
Non Load Bearing Wall  
2 Hour Fire Rating
# Horizontal Corridor Systems Details

## 1-Hour Horizontal Assembly—finished one side

<table>
<thead>
<tr>
<th>Fire Rating</th>
<th>Construction Detail</th>
<th>Description</th>
<th>Test Report Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1HR</td>
<td><img src="image1" alt="Diagram" /></td>
<td>1-hour fire resistance, noncombustible horizontal corridor system finished one side. CONSTRUCTION: 1” Shaftliner Panel: 1” PABCORE® Shaftliner Type X, or 1” MOLD CURB® Plus Shaftliner Type X, or 1” PABCO GLASS® Shaftliner Type X. Inserted between J-Track on T section side of 2-1/2” C-T studs. Attach 7/8” furring channels perpendicular to C-T studs on the cavity side with two 3/8” pan head screws at each intersection with studs; spaced 24” o.c. Face Layer: Face Layer: 5/8” FLAMECURB® Type C applied perpendicular to furring channels with 1” Type S Screws 12” o.c. Edge joints of 5/8” FLAMECURB® Type C offset from CH or C-T stud line. Face Layer joints covered with tape and 2 coats of joint compound.</td>
<td>Fire Tests: WHI-495-PSH-0210</td>
</tr>
</tbody>
</table>

### 1 Hour Detail

- **C-T STUD SPACING** 24”
- **FINISHED SIDE**
- **7/8” Furring Channel**
- **5/8” FLAME CURB® Type C**

### 2 Hour Detail

- **C-T STUD SPACING** 24”
- **FINISHED SIDE**
- **1/2” FLAME CURB® Super C**
- **Ready Mix Joint Compound at all facing joints**

## 2-Hour Horizontal Assembly—finished one side

<table>
<thead>
<tr>
<th>Fire Rating</th>
<th>Construction Detail</th>
<th>Description</th>
<th>Test Report Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2HR</td>
<td><img src="image2" alt="Diagram" /></td>
<td>2-hour fire resistance, noncombustible horizontal corridor system finished one side. CONSTRUCTION: 1” Shaftliner Panel: 1” PABCORE® Shaftliner Type X or 1” MOLD CURB® Plus Shaftliner Type X, or 1” PABCO GLASS® Shaftliner Type X. Inserted between J-Track on T section side of 2-1/2” C-T studs. Use 3/8” pan head screws to attach the ends C-T Stud to the 1” flange of the J Track. Secure the gypsum with 1-1/4” Type A drywall screws 12” o.c. into the 2-1/2” flange of the J-Track around the perimeter of the assembly. Face Layer: Face Layer: 1/2” FLAMECURB® Super C applied to 1” Shaftliner. 6” from stud centerline, with 1-1/2” Type G Screws 12” o.c. Opposite side: Base Layer: 1/2” FLAMECURB® Super C secured to studs with 1” Type S drywall screws 12” o.c. Face Layer: 1/2” FLAMECURB® Super C secured to studs with 1-5/8” Type S drywall screws 12” o.c. Staggering joints. Both sides: joints covered with tape and 2 coats of joint compound.</td>
<td>Fire Tests: WHI-495-PSH-055</td>
</tr>
</tbody>
</table>

9 of 16
Details contained in this brochure are representative of general conditions. Specific job conditions may require modification.
Framing Details—Mechanical Penetrations

Details—Mechanical Penetrations

Pan Head Screws on both sides of all metal intersections

Studs 24" o.c.

J-Track

ALTERNATE DUCT NOTES:
Some codes require duct penetrations to be surrounded with same wall surfacing material where rated dampers are required.

Details contained in this brochure are representative of general conditions. Specific job conditions may require modification.
**ATTACHMENT DETAILS**

**DIRECT TO STUD—METAL TO METAL ATTACHMENT**

- 20 Ga. J-Track, 2-1/2”, 4”, or 6” as required
- Optional in lieu of Tabs 1-5/8” screws 12” o.c.
- 1” PABCORE® Shaftliner Type X, or
- 1” MOLD CURB® Plus Shaftliner Type X, or
- 1” PABCO GLASS® Shaftliner Type X

- C-H or C-T Stud, 2-1/2”, 4”, or 6” as required
- 7/8” Furring Channel spaced 24” o.c. attached to C-H or C-T Studs with 3/8” pan head screws at each intersection.
- 5/8” FLAME CURB® Super C
- 1” screws 12” o.c.

Gypsum filler strips 3” wide continuous on each sidewall attachment...

Type x not required; attach to C-H or C-T Studs 24” o.c.

**ATTACHMENT THROUGH GYPSUM BOARD**

- 16 Ga. Steel Bracket (Optional)
- 20 Ga. J-Track, 2-1/2”, 4”, or 6” as required

Optional in lieu of Tabs 1-5/8” screws 12” o.c.

- Approved Fasteners—pan head or hex head washers under screws
- Add 1-1/2” drywall screws 1-1/2” from sidewall 12” o.c.

**OPTIONAL SUPPORT METHOD**

- 2” x 8” x 1/8” Support Bracket attached 4” o.c. (as required)
- 16 Ga. Wire Hangers (as required)
- C-H or C-T Stud, 2-1/2”, 4”, or 6” (as required), 24” o.c.
- Approved Fasteners—pan head or hex head washers under screws
- 10 Ga. J-Track, 2-1/2”, 4”, or 6” (as required)

**JOINT DETAILS**

**TAPPERED JOINT DETAIL**

- C-H or C-T Stud, 2-1/2”, 4”, or 6” as required
- 3” to 12” (between studs)
- 3/8” pan head Type S screws attach both sides
- 7/8” Furring Channel
- Taper Edge Joint

**BUTT JOINT DETAIL**

- C-H or C-T Stud, 2-1/2”, 4”, or 6” as required
- 7/8” Furring Channel
- 1-1/2” back of butt; second piece 54”
**Typical Details**

**FLOOR INDICATOR BOX**
SERVICE PENETRATING DETAILS
(exceeding 16 sq.in. surface area)

24” minimum height attach 1” PABCORE
Shaftliner behind box to 1” PABCORE
Shaftliner in the C-T of C-H Stud with
Type G screw 24” o.c.

Typical Call or Indicator Box.

NOTE: Cavity depth requirements may vary
according to the services being installed.

**HAND RAIL ATTACHMENTS**

Bolt or toggle bolt applied before wallboard on other side.

6”x23½”x16 gauge S.M. Plate

C=T or C-H Stud

**INSIDE CORNER**

Alternate to bending tabs:
Use 1-5/8” Type S screws 12” o.c.

Attach to J-Track prior to installation.

**OUTSIDE CORNER**

Tabs in J-Track

J-L Corner

**HEAD OF WALL**

Sealant

Tabs in J-Track bent out 12” o.c.

C-T or C-H Stud

**BASE OF WALL**

C-T or C-H Stud

Tabs in J-Track bent out 12” o.c.

Sealant

**BACK TO BACK J-TRACK**

J-Track set to beam before application of fireproofing spray on beam.

C-T or C-H Stud

Clip Angle X 20 Ga. Fastened to every C-T or C-H Stud

J-Runners Back to Back

**STEEL BEAM**

Spray fireproofing

14 gauge 10” maximum continuous steel plate

**STEEL BEAM OFFSET**

Details contained in this brochure are representative of general conditions. Specific job conditions may require modification.
<table>
<thead>
<tr>
<th>Framing Depth</th>
<th>Minimum Steel</th>
<th>Design Deflection Limit</th>
<th>Design Height (psf)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>7.5</td>
</tr>
<tr>
<td>2-1/2&quot;</td>
<td>0.0231&quot; 33,000psi</td>
<td>L/120 16'10&quot;</td>
<td>13'8&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L/180 13'8&quot;</td>
<td>11'3&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L/240 11'10&quot;</td>
<td>9'10&quot;</td>
</tr>
</tbody>
</table>
|               |               | L/360 9'10" | 8'3" | 7'3" | 6'2"
| 4"            | 0.0346" 33,000psi | L/120 16'10" | 14'4" | 12'11" | 11'1" |
|               |               | L/180 14'4" | 12'4" | 11'1" | 9'6" |
|               |               | L/240 12'11" | 11'1" | 9'11" | 8'7" |
|               |               | L/360 11'1" | 9'6" | 8'7" | 7'5" |
| 6"            | 0.0451" 50,000psi | L/120 25'7" | 22'2" | 20'0" | 17'4" |
|               |               | L/180 22'2" | 19'2" | 17'4" | 15'1" |
|               |               | L/240 20'0" | 17'4" | 15'8" | 13'7" |
|               |               | L/360 17'4" | 15'1" | 13'7" | 11'10" |
| 6"            | 0.0346" 33,000psi | L/120 30'3" ** | 24'9" ** | 20'6" * | 17'4" |
|               |               | L/240 26'6" | 22'2" | 20'0" | 13'7" |
|               |               | L/360 22'2" | 19'2" | 16'7" | 13'7" |
| 6"            | 0.0451" 50,000psi | L/120 36'5" | 30'8" | 27'3" | 23'2" |
|               |               | L/240 30'8" | 26'0" | 23'2" | 19'9" |
|               |               | L/360 27'3" | 23'2" | 20'8" | 17'8" |

1. * Reduced for End Reaction Capacity.
2. Reduced for Flexural Strength Capacity
3. The values in this table are based on testing per ICC-ES AC86 and ASTM E72 and represent the limiting height capacity for strength using a 1.5 Safety Factor.
4. Minimum base steel thickness is 95% of design thickness.
### Maximum Horizontal Spans for Corridor and Stairwell Soffits

<table>
<thead>
<tr>
<th>Stud Depth</th>
<th>Reference Gauge</th>
<th>Minimum Steel (psi)</th>
<th>Design Thickness</th>
<th>2 Hour (2) 1/2” Type C + (1) 1” Shaftliner</th>
<th>2 Hour (2) 5/8” Type X + (1) 1” Shaftliner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L/120</td>
<td>L/180</td>
</tr>
<tr>
<td>2-1/2”</td>
<td>25</td>
<td>33,000</td>
<td>0.0231”</td>
<td>8’8”</td>
<td>8’8”</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>33,000</td>
<td>0.0346”</td>
<td>10’6”</td>
<td>10’6”</td>
</tr>
<tr>
<td>4”</td>
<td>25</td>
<td>33,000</td>
<td>0.0231”</td>
<td>11’8”</td>
<td>11’8”</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>33,000</td>
<td>0.0346”</td>
<td>14’3”</td>
<td>14’3”</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>50,000</td>
<td>0.0451”</td>
<td>19’1”</td>
<td>16’8”</td>
</tr>
<tr>
<td>6”</td>
<td>20</td>
<td>33,000</td>
<td>0.0346”</td>
<td>18’9”</td>
<td>18’9”</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>50,000</td>
<td>0.0451”</td>
<td>22’9”</td>
<td>22’9”</td>
</tr>
</tbody>
</table>

1. Dead Load of assembly ONLY considered.
2. Not designed to carry any live loads, mechanical equipment, storage loads or lighting.
3. Studs must be one piece, full span.
4. Minimum base steel thickness is 95% of design thickness.

### J-Tabbed Track/J-Runner Framing Components

<table>
<thead>
<tr>
<th>Gauge</th>
<th>Mils</th>
<th>Minimum Thickness (in)</th>
<th>Design Thickness (in)</th>
<th>Width (in)</th>
<th>Length (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>22</td>
<td>0.0219</td>
<td>0.0231</td>
<td>2-1/2”</td>
<td>2-1/4”</td>
</tr>
<tr>
<td>4”</td>
<td>2-1/4”</td>
<td>3”</td>
<td>2-1/4”</td>
<td>3”</td>
<td>3”</td>
</tr>
<tr>
<td>6”</td>
<td>2-1/4”</td>
<td>3”</td>
<td>2-1/4”</td>
<td>3”</td>
<td>3”</td>
</tr>
<tr>
<td>20</td>
<td>33</td>
<td>0.0329</td>
<td>0.0346</td>
<td>2-1/2”</td>
<td>2-1/4”</td>
</tr>
<tr>
<td>4”</td>
<td>2-1/4”</td>
<td>3”</td>
<td>2-1/4”</td>
<td>3”</td>
<td>3”</td>
</tr>
<tr>
<td>6”</td>
<td>2-1/4”</td>
<td>3”</td>
<td>2-1/4”</td>
<td>3”</td>
<td>3”</td>
</tr>
<tr>
<td>18</td>
<td>43</td>
<td>0.0428</td>
<td>0.0451</td>
<td>2-1/2”</td>
<td>2-1/4”</td>
</tr>
<tr>
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<td>2-1/4”</td>
<td>3”</td>
<td>2-1/4”</td>
<td>3”</td>
<td>3”</td>
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<td>2-1/4”</td>
<td>3”</td>
<td>2-1/4”</td>
<td>3”</td>
<td>3”</td>
</tr>
</tbody>
</table>

*Weight based on minimum delivered thickness.

### C-T or C-H Framing Components

<table>
<thead>
<tr>
<th>Stud Depth</th>
<th>Gauge</th>
<th>Design Thickness (in)</th>
<th>Average Weight (lbs/lin ft)*</th>
<th>Area (Sq in)</th>
<th>Lx (in²)</th>
<th>Sx (in³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-1/2”</td>
<td>25</td>
<td>0.0231”</td>
<td>0.0514</td>
<td>0.165</td>
<td>0.164</td>
<td>0.144</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>0.0346”</td>
<td>0.805</td>
<td>0.248</td>
<td>0.241</td>
<td>0.168</td>
</tr>
<tr>
<td>4”</td>
<td>25</td>
<td>0.0231”</td>
<td>0.622</td>
<td>0.199</td>
<td>0.480</td>
<td>0.209</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>0.0346”</td>
<td>0.974</td>
<td>0.298</td>
<td>0.710</td>
<td>0.309</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>0.0451”</td>
<td>1.310</td>
<td>0.386</td>
<td>0.911</td>
<td>0.397</td>
</tr>
<tr>
<td>6”</td>
<td>20</td>
<td>0.0346”</td>
<td>1.200</td>
<td>0.367</td>
<td>1.858</td>
<td>0.547</td>
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<tr>
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<td>0.0451”</td>
<td>1.620</td>
<td>0.467</td>
<td>2.392</td>
<td>0.705</td>
</tr>
</tbody>
</table>

*Weight based on minimum delivered thickness.
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