These gypsum wallboard system details are intended solely as technical support incident to the sale and use of National Gypsum Company products. They may be used as a reference by architects, engineers, other design professionals, contractors, building code officials, or other competent construction industry trade personnel considering the selection, specification and use of National Gypsum Company products in these systems.

Architects, engineers, designers or contractors involved should review these details with the governing code or inspection official at the time of the job submittal to determine if there are any discrepancies with local code or regulatory requirements. In any event, they must NOT be used without a complete evaluation by the owner's design professional to verify the suitability of the system for a given application.

These system details may be printed and/or transferred electronically as needed by the user, subject to terms and limitations of any applicable license agreement. Any unauthorized duplication or reuse of the material contained herein is a violation of law.

These system performance details are the result of tests conducted in accordance with ASTM E90 under controlled laboratory conditions. Actual sound transmission loss of systems constructed in the field may vary from these performance details based upon many factors such as the actual field conditions, specific components used, and installation methods.
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Transmission of Airborne Sound

Airborne sound is acoustical energy generated by a source and transmitted by vibration through the air. The vibrations create sound pressure fluctuations that are detected by a receiver. Sound is characterized by its frequency, which determines the pitch of the sound, and by the intensity of the pressure fluctuations, which determines how loud the sound is perceived to be.

<table>
<thead>
<tr>
<th>Energy Generated</th>
<th>Transmitted</th>
<th>Detected</th>
</tr>
</thead>
<tbody>
<tr>
<td>by a Source</td>
<td>Through a Medium</td>
<td>by a Receiver</td>
</tr>
</tbody>
</table>

Drumstick strikes drumhead creating vibrations transmitted through the air as pressure fluctuations. Ear receives pressure fluctuations and perceives them as sound.

The frequency of sound refers to the number of sound pressure fluctuations or cycles that occur at a fixed point in one second. The unit of measure for frequency is the hertz (Hz), which is one cycle per second. The human auditory system is capable of detecting sound frequencies between 20 Hz and 20,000 Hz, but humans are typically most sensitive to sounds within the range of 125 Hz and 4,000 Hz. Sound frequency is perceived by humans as pitch. The lowest note on a piano has a frequency of 27.5 Hz, while the highest note on the piano is 4,186 Hz.

The intensity of sound, or loudness, is measured in decibels (dB). A quiet whisper might register at 20 dB, compared to about 60 dB for normal conversation, and 75 dB for loud singing. The decibel scale is logarithmic, not linear. A sound level change of 1 to 2 dB will be difficult to perceive while a change of 5 dB will be clearly noticeable. Sound is perceived to double in intensity for every 10 dB increase and quadruple for every 20 dB increase.

Human Sensitivity to Changes in Sound Intensity Levels

<table>
<thead>
<tr>
<th>Rating</th>
<th>Activity</th>
<th>Sound Level (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Painful</td>
<td>Jet Engine</td>
<td>120+</td>
</tr>
<tr>
<td>Very Loud</td>
<td>Industrial Machinery</td>
<td>100</td>
</tr>
<tr>
<td>Loud</td>
<td>Stock Trading Floor</td>
<td>80</td>
</tr>
<tr>
<td>Moderate</td>
<td>Normal Speech</td>
<td>65</td>
</tr>
<tr>
<td>Quiet</td>
<td>Suburban Home</td>
<td>45</td>
</tr>
<tr>
<td>Very Quiet</td>
<td>Barely Audible</td>
<td>25</td>
</tr>
</tbody>
</table>

Sound Transmission Class

The Sound Transmission Class (STC) is a single number rating of the effectiveness of a material or construction assembly to attenuate the transmission of airborne sound. The STC provides an indication of how loud transmitted sound is perceived to be by the listener. Partitions with higher STC values are more effective at reducing sound transmission.

STC values are derived by conducting a test in accordance with ASTM E90, Standard Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions. The test data collected is analyzed using ASTM E413, Classification for Rating Sound Insulation, and results in a single-number acoustical rating. The rating assesses the airborne sound transmission performance at a range of frequencies from 125 Hz to 4000 Hz, which is consistent with the frequency range of the human ear. An STC rating of 50 has been designated as the minimum allowable design rating for unit-to-unit multifamily construction in the International Building Code.

Design Considerations for Acoustical Partitions

The goal of a high STC rated partition is to decrease the amount of sound transmission through the partition. The following five variables can have an impact on the ability of the partition to attenuate the sound transmission.

- **Mass**: Increasing the mass of a partition increases the amount of material airborne sound waves must penetrate to reach the adjoining room and can be accomplished by installing multiple layers of acoustical insulation.
- **Cavity Absorption**: Increasing the thickness of sound-absorbing material such as fiberglass or mineral fiber insulation in the cavity of a partition will increase the amount of sound transmission loss.
- **Stiffness**: Decreasing the stiffness of a partition will increase the amount of sound transmission loss. For this reason metal studs outperform wood studs, and framing that is 24" o.c. outperforms framing that is 16" o.c.

Damping

Damping, or the ability to dissipate the vibrational energy produced by sound waves, reduces the amount of energy to pass through the partition.

Cavity Depth

Increasing the depth of the cavity of the partition can increase the amount of sound transmission loss, especially when the cavity is filled with acoustical insulation.

Stiffness

Decreasing the stiffness of a partition will increase the amount of sound transmission loss.
Guidelines for Optimum Performance and Sound Reduction

- Stagger gypsum board joints from one side of the partition to the other.
- Allow a 1/4” gap along all wall perimeter edges and completely seal 1/4” gap with acoustical sealant.
- Refrain from wall penetrations when possible.
- Limit necessary wall penetrations to one per stud cavity.
- Seal all penetrations with acoustical sealant or putty pads.

SoundBreak XP Family

The Gold Bond BRAND SoundBreak XP family of products incorporates this technology by inserting a viscoelastic polymer between two sheets of high-density gypsum board. The polymer absorbs and dissipates noise-producing vibrational energy by converting it into negligible heat.

SoundBreak XP products can be used alone or in conjunction with other sound reduction strategies for higher STC ratings. Because they can be installed and finished just like traditional gypsum board, requiring no additional labor or materials, it can be a cost-effective solution for reducing sound transmission.

SoundBreak XP products resist the growth of mold when tested in accordance with ASTM D3273 with a score of 10, the best possible score. Heavy abrasion resistant paper and a denser core provide greater resistance to surface abuse and indentation when tested in accordance with ASTM C1629.

Constrained Layer Damping

A new approach in noise reduction is the concept of constrained layer damping, where a viscoelastic material is sandwiched between two stiffer materials. As a result, vibrations on either side of the constraining materials is dissipated by the polymer.

Acoustical Terms and Concepts

Constrained Layer Damping

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SoundBreak XP products can be used alone or in conjunction with other sound reduction strategies for higher STC ratings. Because they can be installed and finished just like traditional gypsum board, requiring no additional labor or materials, it can be a cost-effective solution for reducing sound transmission.

SoundBreak XP products resist the growth of mold when tested in accordance with ASTM D3273 with a score of 10, the best possible score. Heavy abrasion resistant paper and a denser core provide greater resistance to surface abuse and indentation when tested in accordance with ASTM C1629.

Ceiling Attenuation Class

Ceiling Attenuation Class (CAC) is a single number rating of the effectiveness of a ceiling system to reduce airborne sound transmission over a partition through a common plenum. Similar to Sound Transmission Class (STC), CAC is measured in decibels and provides an indication of how loud transmitted sound is perceived to be by the listener. A CAC value equal to the STC value of a partition helps mitigate the sound transmission over the partition when the partition terminates at a ceiling.

CAC sound tests are conducted in accordance with ASTM E1414, Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum. The test data collected is analyzed using ASTM E413, Classification for Rating Sound Insulation, and results in a single-number acoustical rating.

Impact Insulation Class

Impact Insulation Class (IIC) is a single-number rating system of the effectiveness of a floor system at reducing impact sounds such as foot traffic. Floor systems are tested with a tapping machine in accordance with ASTM E492, Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine. Data derived from the test is analyzed using ASTM E989, Standard Classification for Determination of Single-Number Metrics for Impact Noise, and results in a single number rating for the purpose of comparing the sound attenuation of various flooring systems.
Sound Isolation Construction

Increase the STC value of partitions by installing fewer fasteners using National Gypsum’s MaX12 fastener pattern for 1-hour, single-layer, steel stud partitions. UL design V438 allows fasteners to be spaced 12” o.c. in the perimeter and field as opposed to 8” o.c. at the perimeter and 12” o.c. in the field for traditional 1-hour, steel stud partitions.

A traditional 8 ft. by 8 ft. 1-hour, steel stud partition requires 100 screws.

An 8 ft. by 8 ft. 1-hour, steel stud partition constructed with the MaX12 fastener pattern featured in UL design V438 only requires 76 screws.
Steel Stud Partitions with Framing 16" o.c.
Steel Stud Partitions with Framing 16" o.c.

**STC-34**

| Framing: | 3-5/8" steel studs, 20 gauge (20 mil), 16" o.c. |
|-------------------------------|
| Insulation: | 3-1/2" glass fiber |
| Side 1: | None |
| Side 2: | 5/8" Fire-Shield Gypsum Board |

UL Design: Not Rated

**STC-37**

| Framing: | 6" steel studs, 20 gauge (20 mil), 16" o.c. |
|-------------------------------|
| Insulation: | 6" glass fiber |
| Side 1: | None |
| Side 2: | 5/8" Fire-Shield Gypsum Board |

UL Design: Not Rated

**STC-38**

| Framing: | 3-5/8" steel studs, 20 gauge (20 mil), 16" o.c. |
|-------------------------------|
| Insulation: | 3-1/2" glass fiber |
| Side 1: | None |
| Side 2: | 2 layers 5/8" Fire-Shield Gypsum Board |

UL Design: V497 - 1 hour

**STC-42**

| Framing: | 3-5/8" steel studs, 20 gauge (19 mil), 16" o.c. |
|-------------------------------|
| Insulation: | 3-1/2" glass fiber |
| Side 1: | None |
| Side 2: | 3 layers 5/8" Fire-Shield Gypsum Board |

UL Design: V497 - 1 hour

Note: 25 gauge (15 mil) and 20 gauge (18 mil, 19 mil, and 20 mil) studs are equivalent gauge (EQ) studs.
Steel Stud Partitions with Framing 16” o.c.

Figure 5

Figure 6

Figure 7

Figure 8

**STC-44**

<table>
<thead>
<tr>
<th>Framing</th>
<th>Insulation</th>
<th>Side 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5/8” steel studs, 20 gauge (18 mil), 16” o.c.</td>
<td>3-1/2” glass fiber</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 layers 5/8” Fire-Shield Gypsum Board</td>
</tr>
</tbody>
</table>

**STC-40**

<table>
<thead>
<tr>
<th>Framing</th>
<th>Insulation</th>
<th>Side 1</th>
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</thead>
<tbody>
<tr>
<td>3-5/8” steel studs, 25 gauge (18 mil), 16” o.c.</td>
<td>None</td>
<td>5/8” Fire-Shield Gypsum Board</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5/8” Fire-Shield Gypsum Board</td>
</tr>
</tbody>
</table>

**STC-48**

<table>
<thead>
<tr>
<th>Framing</th>
<th>Insulation</th>
<th>Side 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5/8” steel studs, 25 gauge (18 mil), 16” o.c.</td>
<td>2-1/2” glass fiber</td>
<td>5/8” Fire-Shield Gypsum Board</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5/8” Fire-Shield Gypsum Board</td>
</tr>
</tbody>
</table>

**STC-46**

<table>
<thead>
<tr>
<th>Framing</th>
<th>Insulation</th>
<th>Side 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5/8” steel studs, 20 gauge (19 mil), 16” o.c.</td>
<td>3-1/2” glass fiber</td>
<td>5/8” Fire-Shield Gypsum Board</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5/8” Fire-Shield Gypsum Board</td>
</tr>
</tbody>
</table>

UL Design: V497 - 2 hour

UL Design: V438, U465 - 1 hour

UL Design: V438, U465 - 1 hour
### Steel Stud Partitions with Framing 16" o.c.

**STC-40**

| Framing: | 3-5/8" steel studs, 20 gauge (18 mil), 16" o.c. |
| Insulation: | 3-1/2" glass fiber |
| Side 1: | 5/8" Fire-Shield Gypsum Board |
| Side 2: | 5/8" SoundBreak XP Wall Board |
| UL Design: | V438, U465 - 1 hour |

**STC-49**

| Framing: | 3-5/8" steel studs, 25 gauge (18 mil), 16" o.c. |
| Insulation: | 3-1/2" glass fiber |
| Side 1: | 5/8" Fire-Shield Gypsum Board |
| Side 2: | 5/8" SoundBreak XP Wall Board |
| UL Design: | V438, U465 - 1 hour |

**STC-48**

| Framing: | 3-5/8" steel studs, 20 gauge (18 mil), 16" o.c. |
| Insulation: | 3-1/2" glass fiber |
| Side 1: | 5/8" Fire-Shield Gypsum Board |
| Side 2: | 5/8" SoundBreak XP Wall Board |
| UL Design: | V438, U465 - 1 hour |

**STC-50**

<p>| Framing: | 3-5/8&quot; steel studs, 20 gauge (19 mil), 16&quot; o.c. |
| Insulation: | 3-1/2&quot; glass fiber |
| Side 1: | 5/8&quot; SoundBreak XP Wall Board |
| Side 2: | 5/8&quot; SoundBreak XP Wall Board |
| UL Design: | V438, U465 - 1 hour |</p>
<table>
<thead>
<tr>
<th>Material</th>
<th>Description</th>
<th>FRAMING</th>
<th>INSULATION</th>
<th>Side 1</th>
<th>Side 2</th>
<th>UL Design</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STC-45</strong></td>
<td>NGC 2016055</td>
<td>3-5/8&quot;</td>
<td>3-1/2&quot; glass fiber</td>
<td>5/8&quot; SoundBreak XP Wall Board</td>
<td>5/8&quot; SoundBreak XP Wall Board</td>
<td>V438, U465 - 1 hour</td>
</tr>
<tr>
<td><strong>STC-48</strong></td>
<td>NGC 2009059</td>
<td>3-5/8&quot;</td>
<td>3&quot; mineral wool</td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
<td>V438, U465 - 1 hour</td>
</tr>
<tr>
<td><strong>STC-40</strong></td>
<td>NGC 2018037</td>
<td>3-5/8&quot;</td>
<td>7/16&quot; PermaBase Plus Cement Board</td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
<td>W472 - 1 hour</td>
</tr>
<tr>
<td><strong>STC-51</strong></td>
<td>NGC 2017217</td>
<td>3-5/8&quot;</td>
<td>3-1/2&quot; glass fiber</td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
<td>V438, U465 - 1 hour</td>
</tr>
</tbody>
</table>
Steel Stud Partitions with Framing 16" o.c.

**STC-47**

**NGC 2014086**

**Framing:** 3-5/8" steel studs, 16 gauge (54 mil), 16" o.c.

**Insulation:** 3-1/2" glass fiber

**Side 1:** 5/8" Fire-Shield Gypsum Board

**Side 2:** 5/8" Fire-Shield Gypsum Board on RC-1

**UL Design:** V438, U465, W469 - 1 hour

**Figure 17**

**STC-54**

**NGC 2017218**

**Framing:** 3-5/8" steel studs, 20 gauge (19 mil), 16" o.c.

**Insulation:** 3-1/2" glass fiber

**Side 1:** 5/8" SoundBreak XP Wall Board

**Side 2:** 5/8" Fire-Shield Gypsum Board on RC-1

**UL Design:** V438, U465 - 1 hour

**Figure 18**

**STC-51**

**NGC 2014085**

**Framing:** 3-5/8" steel studs, 16 gauge (54 mil), 16" o.c.

**Insulation:** 3-1/2" glass fiber

**Side 1:** 5/8" SoundBreak XP Wall Board

**Side 2:** 5/8" Fire-Shield Gypsum Board on RC-1

**UL Design:** V438, U465, W469 - 1 hour

**Figure 19**

**STC-57**

**NGC 2018191**

**Framing:** 3-5/8" steel studs, 20 gauge (18 mil), 16" o.c.

**Insulation:** 5-1/2" glass fiber

**Side 1:** 5/8" Fire-Shield Gypsum Board

**Side 2:** 5/8" Fire-Shield Gypsum Board on 7/8" furring channel and resilient isolation clips

**UL Design:** V438, U465 - 1 hour

**Figure 20**
**Steel Stud Partitions with Framing 16" o.c.**

**STC-59**
- **Framing:** 3-5/8" steel studs, 20 gauge (18 mil), 16" o.c.
- **Insulation:** 5-1/2" glass fiber
- **Side 1:** 5/8" Fire-Shield Gypsum Board
- **Side 2:** 5/8" SoundBreak XP Wall Board on 7/8" furring channel and resilient isolation clips
- **UL Design:** V438, U465 - 1 hour

**STC-41**
- **Framing:** 4" steel studs, 16 gauge (54 mil), 16" o.c.
- **Insulation:** 3" mineral wool
- **Side 1:** 5/8" Fire-Shield Gypsum Board
- **Side 2:** 5/8" SoundBreak XP Wall Board
- **UL Design:** V438, U465, W469 - 1 hour

**STC-43**
- **Framing:** 4" steel studs, 16 gauge (54 mil), 16" o.c.
- **Insulation:** 3" mineral wool
- **Side 1:** 5/8" SoundBreak XP Wall Board
- **Side 2:** 5/8" SoundBreak XP Wall Board
- **UL Design:** V438, U465, W469 - 1 hour

**STC-44**
- **Framing:** 6" steel studs, 20 gauge (19 mil), 16" o.c.
- **Insulation:** 6" glass fiber
- **Side 1:** 5/8" Fire-Shield Gypsum Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board
- **UL Design:** V438, U465 - 1 hour
Steel Stud Partitions with Framing 16" o.c.

**STC-44 NGC 2018133**

Framing: 6" steel studs, 20 gauge (30 mil), 16" o.c.
Insulation: 6" glass fiber
Side 1: 5/8" Fire-Shield Gypsum Board
Side 2: 5/8" Fire-Shield Gypsum Board

UL Design: V438, U465 - 1 hour

**STC-47 NGC 2018129**

Framing: 6" steel studs, 20 gauge (19 mil), 16" o.c.
Insulation: 6" glass fiber
Side 1: 5/8" Fire-Shield Gypsum Board
Side 2: 5/8" SoundBreak XP Wall Board

UL Design: V438, U465 - 1 hour

**STC-44 NGC 2017169**

Framing: 6" steel studs, 16 gauge (54 mil), 16" o.c.
Insulation: 5-1/2" mineral wool
Side 1: 5/8" Fire-Shield Gypsum Board
Side 2: 5/8" Fire-Shield Gypsum Board

UL Design: V438, U465, W469 - 1 hour

**STC-49 NGC 2015007**

Framing: 6" steel studs, 16 gauge (54 mil), 16" o.c.
Insulation: 6" glass fiber
Side 1: 5/8" Fire-Shield Gypsum Board
Side 2: 5/8" SoundBreak XP Wall Board

UL Design: V438, U465, W469 - 1 hour
### Steel Stud Partitions with Framing 16" o.c.

#### STC-50 NGC 2017031

- **Framing:** 6" steel studs, 16 gauge (54 mil), 16" o.c.
- **Insulation:** 6" glass fiber
- **Side 1:** 5/8" Hi-Impact XP Gypsum Board
- **Side 2:** 5/8" SoundBreak XP Wall Board

UL Design: V438, U465, W469 - 1 hour

---

#### STC-53 NGC 2013026

- **Framing:** 6" steel studs, 20 gauge (20 mil), 16" o.c.
- **Insulation:** 6" glass fiber
- **Side 1:** 5/8" Fire-Shield Gypsum Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board on RC-1

UL Design: V438, U465 - 1 hour

---

#### STC-50 NGC 2015001

- **Framing:** 6" steel studs, 16 gauge (54 mil), 16" o.c.
- **Insulation:** 6" glass fiber
- **Side 1:** 5/8" Fire-Shield Gypsum Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board on RC-1

UL Design: V438, U465, W469 - 1 hour

---

#### STC-57 NGC 2013027

- **Framing:** 6" steel studs, 20 gauge (20 mil), 16" o.c.
- **Insulation:** 6" glass fiber
- **Side 1:** 5/8" SoundBreak XP Wall Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board on RC-1

UL Design: V438, U465 - 1 hour
Steel Stud Partitions with Framing 16" o.c.

**STC-52 NGC 2018108**

- **Framing:** 3-5/8" steel studs, 25 gauge (18 mil), 16" o.c.
- **Insulation:** 2" glass fiber
- **Side 1:** 5/8" Fire-Shield Gypsum Board
- **Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board

UL Design: V438, U465 - 1 hour

**STC-52 NGC 2019029**

- **Framing:** 3-5/8" steel studs, 20 gauge (18 mil), 16" o.c.
- **Insulation:** 3" glass fiber
- **Side 1:** 5/8" SoundBreak XP Wall Board
- **Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board

UL Design: V438, U465 - 1 hour

**STC-55 NGC 2015002**

- **Framing:** 6" steel studs, 16 gauge (54 mil), 16" o.c.
- **Insulation:** 6" glass fiber
- **Side 1:** 5/8" SoundBreak XP Wall Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board on RC-1

UL Design: V438, U465, W469 - 1 hour

**STC-62 NGC 2019029**

- **Framing:** 6" steel studs, 20 gauge (18 mil), 16" o.c.
- **Insulation:** 6" mineral wool
- **Side 1:** 5/8" SoundBreak XP Wall Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board on 7/8" furring channel and resilient isolation clips

UL Design: V438, U465 - 1 hour
Steel Stud Partitions with Framing 16" o.c.

STC-45
Framing: 4" steel studs, 16 gauge (54 mil), 16" o.c.
Insulation: 3" mineral wool
Side 1: 5/8" Fire-Shield Gypsum Board
Side 2: 5/8" SoundBreak XP Wall Board on 5/8" Fire-Shield Gypsum Board
UL Design: V438, U465, W469 - 1 hour

STC-58
Framing: 3-5/8" steel studs, 20 gauge (19 mil), 16" o.c.
Insulation: 3-1/2" glass fiber
Side 1: 5/8" Fire-Shield Gypsum Board on 5/8" SoundBreak XP Wall Board
Side 2: 5/8" Fire-Shield Gypsum Board on RC-1
UL Design: V438, U465 - 1 hour

STC-61
Framing: 3-5/8" steel studs, 20 gauge (18 mil), 16" o.c.
Insulation: 5-1/2" glass fiber
Side 1: 2 layers 5/8" Fire-Shield Gypsum Board
Side 2: 5/8" Fire-Shield Gypsum Board on 7/8" furring channel and resilient isolation clips
UL Design: V438, U465 - 1 hour

STC-63
Framing: 3-5/8" steel studs, 20 gauge (18 mil), 16" o.c.
Insulation: 5-1/2" glass fiber
Side 1: 2 layers 5/8" Fire-Shield Gypsum Board
Side 2: 5/8" SoundBreak XP Wall Board on 7/8" furring channel and resilient isolation clips
UL Design: V438, U465 - 1 hour
Steel Stud Partitions with Framing 16" o.c.

**Figure 41**

**STC-54**

**NGC 2017173**

- **Framing:** 6" steel studs, 16 gauge (54 mil), 16" o.c.
- **Insulation:** 6" glass fiber
- **Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board on RC-1

**UL Design:** V438, U465, W469 - 1 hour

**Figure 43**

**STC-52**

**NGC 2018113**

- **Framing:** 3-5/8" steel studs, 20 gauge (19 mil), 16" o.c.
- **Insulation:** 2-1/2" glass fiber
- **Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board
- **Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board

**UL Design:** V438, U411 - 2 hour

**Figure 42**

**STC-56**

**NGC 2018109**

- **Framing:** 3-5/8" steel studs, 25 gauge (18 mil), 16" o.c.
- **Insulation:** 2-1/2" glass fiber
- **Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board
- **Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board

**UL Design:** V438, U411 - 2 hour

**Figure 44**

**STC-49**

**NGC 2016082**

- **Framing:** 3-5/8" steel studs, 20 gauge (30 mil), 16" o.c.
- **Insulation:** 3-1/2" glass fiber
- **Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board
- **Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board

**UL Design:** V438, U411 - 2 hour
Steel Stud Partitions with Framing 16" o.c.

STC-43 NGC 2018036
Framing: 3-5/8" steel studs, 20 gauge (30 mil), 16" o.c.
Insulation: 3" mineral wool
Side 1: 2 layers 5/8" Fire-Shield Gypsum Board
Side 2: 7/16" PermaBase Plus Cement Board on 5/8" Fire-Shield Gypsum Board
UL Design: W472 - 2 hour

STC-42 NGC 2018035
Framing: 3-5/8" steel studs, 20 gauge (30 mil), 16" o.c.
Insulation: 3" mineral wool
Side 1: 7/16" PermaBase Plus Cement Board on 5/8" Fire-Shield Gypsum Board
Side 2: 7/16" PermaBase Plus Cement Board on 5/8" Fire-Shield Gypsum Board
UL Design: W472 - 2 hour

STC-43 NGC 2018036
Framing: 3-5/8" steel studs, 20 gauge (30 mil), 16" o.c.
Insulation: 3-1/2" glass fiber
Side 1: 5/8" Fire-Shield Gypsum Board on 5/8" SoundBreak XP Wall Board
Side 2: 2 layers 5/8" Fire-Shield Gypsum Board on RC-1
UL Design: V438, U411, W469 - 2 hour

STC-59 NGC 2014084
Framing: 3-5/8" steel studs, 16 gauge (30 mil), 16" o.c.
Insulation: 3-1/2" glass fiber
Side 1: 5/8" Fire-Shield Gypsum Board on 5/8" SoundBreak XP Wall Board
Side 2: 2 layers 5/8" Fire-Shield Gypsum Board on RC-1
UL Design: V438, U411, W469 - 2 hour
Steel Stud Partitions with Framing 16" o.c.

**STC-45**  
NGC 2016049  
| Framing: | 4" steel studs, 16 gauge (54 mil), 16" o.c. |
| Insulation: | 3" mineral wool |
| Side 1: | 2 layers 5/8" Fire-Shield Gypsum Board |
| Side 2: | 2 layers 5/8" Fire-Shield Gypsum Board |

UL Design: V438, U411, W469 - 2 hour

**STC-50**  
NGC 2016048  
| Framing: | 4" steel studs, 16 gauge (54 mil), 16" o.c. |
| Insulation: | 3" mineral wool |
| Side 1: | 2 layers 5/8" Fire-Shield Gypsum Board |
| Side 2: | 5/8" SoundBreak XP Wall Board on 5/8" Fire-Shield Gypsum Board |

UL Design: V438, U411, W469 - 2 hour

**STC-63**  
NGC 2018193  
| Framing: | 3-5/8" steel studs, 20 gauge (18 mil), 16" o.c. |
| Insulation: | 5-1/2" glass fiber |
| Side 1: | 2 layers 5/8" Fire-Shield Gypsum Board |
| Side 2: | 2 layers 5/8" Fire-Shield Gypsum Board on 7/8" furring channel and resilient isolation clips |

UL Design: V438, U411 - 2 hour

**STC-65**  
NGC 2018195  
| Framing: | 3-5/8" steel studs, 20 gauge (18 mil), 16" o.c. |
| Insulation: | 5-1/2" glass fiber |
| Side 1: | 2 layers 5/8" Fire-Shield Gypsum Board |
| Side 2: | 5/8" Fire-Shield Gypsum Board on 5/8" SoundBreak XP Wall Board on 7/8" furring channel and resilient isolation clips |

UL Design: V438, U411 - 2 hour
### Steel Stud Partitions with Framing 16" o.c.

**Figure 53**

**STC-54**

| Framing: 6" steel studs, 20 gauge (30 mil), 16" o.c. |
| Insulation: 6" glass fiber |
| Side 1: 2 layers 5/8" Fire-Shield Gypsum Board |
| Side 2: 2 layers 5/8" Fire-Shield Gypsum Board |

UL Design: V438, U411 - 2 hour

**Figure 54**

**STC-52**

| Framing: 6" steel studs, 16 gauge (54 mil), 16" o.c. |
| Insulation: 6" glass fiber |
| Side 1: 2 layers 5/8" Fire-Shield Gypsum Board |
| Side 2: 2 layers 5/8" Fire-Shield Gypsum Board |

UL Design: V438, U411, W469 - 2 hour

**Figure 55**

**STC-62**

| Framing: 6" steel studs, 20 gauge (18 mil), 16" o.c. |
| Insulation: 6" mineral wool |
| Side 1: 2 layers 5/8" Fire-Shield Gypsum Board |
| Side 2: 5/8" Fire-Shield Gypsum Board on 5/8" SoundBreak XP Wall Board |

UL Design: V438, U411 - 2 hour

**Figure 56**

**STC-60**

| Framing: 6" steel studs, 16 gauge (54 mil), 16" o.c. |
| Insulation: 6" glass fiber |
| Side 1: 2 layers 5/8" Fire-Shield Gypsum Board |
| Side 2: 2 layers 5/8" Fire-Shield Gypsum Board on RC-1 |

UL Design: V438, U411, W469 - 2 hour
<table>
<thead>
<tr>
<th>STC</th>
<th>NGC</th>
<th>Framing</th>
<th>Insulation</th>
<th>Side 1</th>
<th>Side 2</th>
<th>UL Design</th>
<th>UL Design</th>
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</thead>
<tbody>
<tr>
<td>61</td>
<td>2015003</td>
<td>6&quot; steel studs, 16 gauge (54 mil), 16&quot; o.c.</td>
<td>6&quot; glass fiber</td>
<td>5/8&quot; Fire-Shield Gypsum Board on 5/8&quot; SoundBreak XP Wall Board</td>
<td>2 layers 5/8&quot; Fire-Shield Gypsum Board on RC-1</td>
<td>V438, U411, W469 - 2 hour</td>
<td>V438, U411, W469 - 2 hour</td>
</tr>
<tr>
<td>64</td>
<td>2019061</td>
<td>6&quot; steel studs, 20 gauge (30 mil), 16&quot; o.c.</td>
<td>6&quot; mineral wool</td>
<td>5/8&quot; Fire-Shield Gypsum Board on 5/8&quot; SoundBreak XP Wall Board</td>
<td>2 layers 5/8&quot; Fire-Shield Gypsum Board on RC-1</td>
<td>V438, U411, W469 - 2 hour</td>
<td>V438, U411, W469 - 2 hour</td>
</tr>
<tr>
<td>69</td>
<td>2019032</td>
<td>6&quot; steel studs, 20 gauge (18 mil), 16&quot; o.c.</td>
<td>6&quot; mineral wool</td>
<td>5/8&quot; Fire-Shield Gypsum Board on 5/8&quot; SoundBreak XP Wall Board</td>
<td>2 layers 5/8&quot; Fire-Shield Gypsum Board on 7/8&quot; furring channel and resilient isolation clips</td>
<td>V438, U411, W469 - 2 hour</td>
<td>V438, U411, W469 - 2 hour</td>
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<tr>
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<td>3-1/2&quot; glass fiber</td>
<td>2 layers 5/8&quot; Fire-Shield Gypsum Board</td>
<td>3 layers 5/8&quot; Fire-Shield Gypsum Board</td>
<td>V438, U411 - 2 hour</td>
<td>V438, U411 - 2 hour</td>
</tr>
</tbody>
</table>
### STC-51 NGC 2016086

**Framing:** 3-5/8" steel studs, 20 gauge (30 mil), 16" o.c.

**Insulation:**
- Side 1: 2 layers 5/8" Fire-Shield Gypsum Board
- Side 2: 5/8" SoundBreak XP Wall Board on 2 layers 5/8" Fire-Shield Gypsum Board

**UL Design:** V438, U411 - 2 hour

---

### STC-67 NGC 2018196

**Framing:** 3-5/8" steel studs, 20 gauge (18 mil), 16" o.c.

**Insulation:**
- Side 1: 2 layers 5/8" Fire-Shield Gypsum Board
- Side 2: 2 layers 5/8" Fire-Shield Gypsum Board on 5/8" SoundBreak XP Wall Board on 7/8" furring channel and resilient isolation clips

**UL Design:** V438, U411 - 2 hour

---

### STC-51 NGC 2016088

**Framing:** 3-5/8" steel studs, 20 gauge (30 mil), 16" o.c.

**Insulation:**
- Side 1: 3 layers 5/8" Fire-Shield Gypsum Board
- Side 2: 3 layers 5/8" Fire-Shield Gypsum Board

**UL Design:** V438 - 3 hour
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
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<tr>
<td>64</td>
<td>STC-44 NGC 2018159</td>
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<tr>
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<td>3-5/8&quot; steel studs, 25 gauge (15 mil), 16&quot; o.c.</td>
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<tr>
<td></td>
<td>Insulation: 3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td></td>
<td>Side 1: 5/8&quot; High Strength Fire-Shield 60 Gypsum Board</td>
</tr>
<tr>
<td></td>
<td>Side 2: 5/8&quot; High Strength Fire-Shield 60 Gypsum Board</td>
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<tr>
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<td>3-5/8&quot; steel studs, 20 gauge (18 mil), 16&quot; o.c.</td>
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<td></td>
<td>Insulation: 3-1/2&quot; glass fiber</td>
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<tr>
<td></td>
<td>Side 1: 5/8&quot; High Strength Fire-Shield 60 Gypsum Board</td>
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<tr>
<td></td>
<td>Side 2: 5/8&quot; High Strength Fire-Shield 60 Gypsum Board</td>
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<td>Insulation: 3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td></td>
<td>Side 1: 5/8&quot; High Strength Fire-Shield 60 Gypsum Board</td>
</tr>
<tr>
<td></td>
<td>Side 2: 5/8&quot; High Strength Fire-Shield 60 Gypsum Board on RC-1</td>
</tr>
<tr>
<td></td>
<td>UL Design: V438, U465 - 1 hour</td>
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<thead>
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<th>Figure</th>
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<tbody>
<tr>
<td>67</td>
<td>STC-48 NGC 2018167</td>
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<tr>
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<td>Insulation: 3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td></td>
<td>Side 1: 5/8&quot; High Strength Fire-Shield 60 Gypsum Board</td>
</tr>
<tr>
<td></td>
<td>Side 2: 5/8&quot; High Strength Fire-Shield 60 Gypsum Board on RC-1</td>
</tr>
<tr>
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<td>UL Design: V438, U465 - 1 hour</td>
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</tbody>
</table>
Steel Stud Partitions with Framing 16” o.c.

**Figure 68**

**STC-35 NGC 2014011**

Framing: 3-5/8” steel studs, 20 gauge (20 mil), 16” o.c.
Insulation: None
Side 1: 5/8” High Strength Fire-Shield 30 Gypsum Board
Side 2: 5/8” High Strength Fire-Shield 30 Gypsum Board

UL Design: V438, U411 - 1 hour

**Figure 69**

**STC-50 NGC 2018160**

Framing: 3-5/8” steel studs, 25 gauge (15 mil), 16” o.c.
Insulation: 3-1/2” glass fiber
Side 1: 2 layers 5/8” High Strength Fire-Shield 60 Gypsum Board
Side 2: 2 layers 5/8” High Strength Fire-Shield 60 Gypsum Board

UL Design: V438, U411 - 2 hour

**Figure 70**

**STC-48 NGC 2018170**

Framing: 3-5/8” steel studs, 20 gauge (18 mil), 16” o.c.
Insulation: 3-1/2” glass fiber
Side 1: 2 layers High Strength 5/8” Fire-Shield 60 Gypsum Board
Side 2: 2 layers High Strength 5/8” Fire-Shield 60 Gypsum Board

UL Design: V438, U411 - 2 hour

**Figure 71**

**STC-35 NGC 2014011**

Framing: 3-5/8” steel studs, 20 gauge (20 mil), 16” o.c.
Insulation: None
Side 1: 5/8” High Strength Fire-Shield 30 Gypsum Board
Side 2: 5/8” High Strength Fire-Shield 30 Gypsum Board

UL Design: W411 - 1/2 hour
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<tr>
<th>STC-38</th>
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<tr>
<td><strong>Insulation:</strong></td>
<td>3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td><strong>Side 1:</strong></td>
<td>5/8&quot; High Strength Fire-Shield 30 Gypsum Board</td>
</tr>
<tr>
<td><strong>Side 2:</strong></td>
<td>5/8&quot; High Strength Fire-Shield 30 Gypsum Board</td>
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<tr>
<td><strong>UL Design:</strong></td>
<td>W411 - 1/2 hour</td>
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<tr>
<td><strong>Insulation:</strong></td>
<td>3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td><strong>Side 1:</strong></td>
<td>5/8&quot; High Strength Fire-Shield 30 Gypsum Board</td>
</tr>
<tr>
<td><strong>Side 2:</strong></td>
<td>5/8&quot; High Strength Fire-Shield 30 Gypsum Board</td>
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<tr>
<td><strong>UL Design:</strong></td>
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<tr>
<td><strong>Insulation:</strong></td>
<td>3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td><strong>Side 1:</strong></td>
<td>5/8&quot; High Strength Fire-Shield 30 Gypsum Board</td>
</tr>
<tr>
<td><strong>Side 2:</strong></td>
<td>5/8&quot; High Strength Fire-Shield 30 Gypsum Board on RC-1</td>
</tr>
<tr>
<td><strong>UL Design:</strong></td>
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<td><strong>Framing:</strong></td>
<td>3-5/8&quot; steel studs, 20 gauge (20 mil), 16&quot; o.c.</td>
</tr>
<tr>
<td><strong>Insulation:</strong></td>
<td>3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td><strong>Side 1:</strong></td>
<td>2 layers 5/8&quot; High Strength Fire-Shield 30 Gypsum Board</td>
</tr>
<tr>
<td><strong>Side 2:</strong></td>
<td>2 layers 5/8&quot; High Strength Fire-Shield 30 Gypsum Board</td>
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<td><strong>UL Design:</strong></td>
<td>W411 - 1 hour</td>
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</tbody>
</table>
Steel Stud Partitions with Framing 24" o.c.
Steel Stud Partitions with Framing 24" o.c.

Figure 76

STC-44
NGC 2018047
Framing: 3-5/8" steel studs, 20 gauge (19 mil), 24" o.c.
Insulation: None
Side 1: None
Side 2: 4 layers 5/8" Fire-Shield Gypsum Board
UL Design: V497 - 2 hour

Note: 25 gauge (15 mil) and 20 gauge (18 mil, 19 mil, and 20 mil) studs are equivalent gauge (EQ) studs.

Figure 77

STC-34
NGC 2018049
Framing: 3-5/8" steel studs, 20 gauge (19 mil), 24" o.c.
Insulation: None
Side 1: None
Side 2: 3 layers 5/8" Fire-Shield Gypsum Board
UL Design: V497 - 1 hour

Figure 78

STC-36
NGC 2018054
Framing: 3-5/8" steel studs, 20 gauge (19 mil), 24" o.c.
Insulation: None
Side 1: None
Side 2: 4 layers 5/8" Fire-Shield Gypsum Board
UL Design: V497 - 2 hour

Figure 79

STC-42
NGC 2018048
Framing: 3-5/8" steel studs, 20 gauge (19 mil), 24" o.c.
Insulation: 3-1/2" glass fiber
Side 1: None
Side 2: 3 layers 5/8" Fire-Shield Gypsum Board
UL Design: V497 - 1 hour
### Steel Stud Partitions with Framing 24" o.c.

#### STC-42 NGC 2385

- **Framing:** 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.
- **Insulation:** None
- **Side 1:** 5/8" Fire-Shield Gypsum Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board

**UL Design:** V438, U465 - 1 hour

#### STC-44 NGC 2013015

- **Framing:** 3-5/8" steel studs, 20 gauge (20 mil), 24" o.c.
- **Insulation:** 3-1/2" glass fiber
- **Side 1:** 5/8" Fire-Shield Gypsum Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board

**UL Design:** V438, U465 - 1 hour

#### STC-47 NGC 2016104

- **Framing:** 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.
- **Insulation:** 3-1/2" glass fiber
- **Side 1:** 5/8" Fire-Shield Gypsum Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board

**UL Design:** V438, U465 - 1 hour

#### STC-39 NGC 2017040

- **Framing:** 3-1/2" steel studs, 20 gauge (33 mil), 24" o.c.
- **Insulation:** 3" glass fiber
- **Side 1:** 5/8" Fire-Shield Gypsum Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board

**UL Design:** V438, U465, W469 - 1 hour
Steel Stud Partitions with Framing 24\" o.c.

**STC-55**

**OL14-0404**

Framing: 3-5/8\" steel studs, 20 gauge (20 mil), 24\" o.c.

Insulation: 3-1/2\" glass fiber

Side 1: 5/8\" Fire-Shield Gypsum Board

Side 2: 5/8\" SoundBreak XP Wall Board

UL Design: V438, U465 - 1 hour

**STC-54**

**RAL-TL07-389**

Framing: 3-5/8\" steel studs, 25 gauge (18 mil), 24\" o.c.

Insulation: 3" mineral wool

Side 1: 5/8\" Fire-Shield Gypsum Board

Side 2: 5/8\" SoundBreak XP Wall Board

UL Design: V438, U465 - 1 hour

**STC-47**

**NGC 2017009**

Framing: 3-5/8\" steel studs, 25 gauge (18 mil), 24\" o.c.

Insulation: 3" mineral wool

Side 1: 1/2\" Fire-Shield C Gypsum Board

Side 2: 1/2\" Fire-Shield C Gypsum Board

UL Design: V438, V401 - 1 hour

**STC-53**

**NGC 2017102**

Framing: 3-5/8\" steel studs, 25 gauge (15 mil), 24\" o.c.

Insulation: 3-1/2\" glass fiber

Side 1: 5/8\" Fire-Shield Gypsum Board

Side 2: 5/8\" Fire-Shield Gypsum Board on RC-1

UL Design: V438, U465 - 1 hour
**Steel Stud Partitions with Framing 24" o.c.**

**STC-51 NGC 2016017**
- Framing: 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.
- Insulation: 3-1/2" glass fiber
- Side 1: 5/8" Fire-Shield Gypsum Board
- Side 2: 5/8" Fire-Shield Gypsum Board on RC-1
- UL Design: V438, U465 - 1 hour

**STC-54 NGC 2016016**
- Framing: 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.
- Insulation: 3" mineral wool
- Side 1: 5/8" Fire-Shield C Gypsum Board
- Side 2: 5/8" Fire-Shield C Gypsum Board on RC-1
- UL Design: V438, U465 - 1 hour

**STC-50 NGC 2013019**
- Framing: 3-5/8" steel studs, 20 gauge (20 mil), 24" o.c.
- Insulation: 3-1/2" glass fiber
- Side 1: 5/8" Fire-Shield Gypsum Board
- Side 2: 5/8" Fire-Shield Gypsum Board on RC-1
- UL Design: V438, U465 - 1 hour

**STC-56 NGC 2016018**
- Framing: 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.
- Insulation: 3-1/2" glass fiber
- Side 1: 5/8" SoundBreak XP Wall Board
- Side 2: 5/8" Fire-Shield Gypsum Board on RC-1
- UL Design: V438, U465 - 1 hour
Steel Stud Partitions with Framing 24" o.c.

**STC-54 NGC 2013020**
- **Framing:** 3-5/8" steel studs, 20 gauge (20 mil), 24" o.c.
- **Insulation:** 3-1/2" glass fiber
- **Side 1:** 5/8" SoundBreak XP Wall Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board on RC-1
- **UL Design:** V438, U465 - 1 hour

**STC-49 NGC 2017116**
- **Framing:** 6" steel studs, 25 gauge (15 mil), 24" o.c.
- **Insulation:** 6" glass fiber
- **Side 1:** 5/8" Fire-Shield Gypsum Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board
- **UL Design:** V438, U465 - 1 hour

**STC-57 NGC 2017115**
- **Framing:** 6" steel studs, 25 gauge (15 mil), 24" o.c.
- **Insulation:** 6" glass fiber
- **Side 1:** 5/8" Fire-Shield Gypsum Board
- **Side 2:** 5/8" SoundBreak XP Wall Board
- **UL Design:** V438, U465 - 1 hour

**STC-58 NGC 2017114**
- **Framing:** 6" steel studs, 25 gauge (15 mil), 24" o.c.
- **Insulation:** 6" glass fiber
- **Side 1:** 5/8" SoundBreak XP Wall Board
- **Side 2:** 5/8" SoundBreak XP Wall Board
- **UL Design:** V438, U465 - 1 hour
Steel Stud Partitions with Framing 24" o.c.

**STC-52**  
Framing: 6" steel studs, 25 gauge (18 mil), 24" o.c.  
Insulation: 6" glass fiber

Side 1: 5/8" Fire-Shield C Gypsum Board  
Side 2: 5/8" Fire-Shield C Gypsum Board on RC-1

UL Design: V438, U465 - 1 hour

**STC-53**  
Framing: 6" steel studs, 25 gauge (15 mil), 24" o.c.  
Insulation: 6" glass fiber

Side 1: 5/8" Fire-Shield Gypsum Board  
Side 2: 5/8" Fire-Shield Gypsum Board on RC-1

UL Design: V438, U465 - 1 hour

**STC-52**  
Framing: 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.  
Insulation: 2-1/2" glass fiber

Side 1: 5/8" Fire-Shield Gypsum Board  
Side 2: 2 layers 5/8" Fire-Shield Gypsum Board

UL Design: V438, U465 - 1 hour

**STC-57**  
Framing: 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.  
Insulation: 3-1/2" glass fiber

Side 1: 5/8" Fire-Shield Gypsum Board  
Side 2: 5/8" Fire-Shield Gypsum Board on 1/2" SoundBreak XP Wall Board

UL Design: V438, U465 - 1 hour
### Steel Stud Partitions with Framing 24" o.c.

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<thead>
<tr>
<th>STC-57</th>
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<tr>
<td><strong>Insulation:</strong></td>
<td>3-1/2&quot; glass fiber</td>
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<tr>
<td><strong>Side 1:</strong></td>
<td>2 layers 5/8&quot; Fire-Shield Gypsum Board</td>
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<td><strong>Side 2:</strong></td>
<td>5/8&quot; Fire-Shield Gypsum Board on RC-1</td>
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<td><strong>UL Design:</strong></td>
<td>V438, U465 - 1 hour</td>
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<tr>
<td><strong>Insulation:</strong></td>
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<tr>
<td><strong>Side 1:</strong></td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
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<tr>
<td><strong>Side 2:</strong></td>
<td>5/8&quot; Fire-Shield Gypsum Board on 5/8&quot; SoundBreak XP Wall Board</td>
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<td><strong>UL Design:</strong></td>
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<tr>
<td><strong>Insulation:</strong></td>
<td>3&quot; mineral wool</td>
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<tr>
<td><strong>Side 1:</strong></td>
<td>3/4&quot; Ultra-Shield FS Gypsum Board</td>
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<tr>
<td><strong>Side 2:</strong></td>
<td>3/4&quot; Ultra-Shield FS Gypsum Board</td>
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<tr>
<td><strong>UL Design:</strong></td>
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<td><strong>Insulation:</strong></td>
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<tr>
<td><strong>Side 1:</strong></td>
<td>3/4&quot; Ultra-Shield FS Gypsum Board</td>
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<tr>
<td><strong>Side 2:</strong></td>
<td>3/4&quot; Ultra-Shield FS Gypsum Board on RC-1</td>
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<tr>
<td><strong>UL Design:</strong></td>
<td>W432 - 2 hour</td>
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</table>
Steel Stud Partitions with Framing 24" o.c.

**STC-52 NGC 2016024**

- **Framing:** 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.
- **Insulation:** 3" glass fiber
- **Side 1:** 5/8" Fire-Shield Gypsum Board
- **Side 2:** 3 layers 5/8" Fire-Shield Gypsum Board

UL Design: V449 - 2 hour

---

**STC-56 NGC 2018112**

- **Framing:** 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.
- **Insulation:** 3 1/2" glass fiber
- **Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board
- **Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board

UL Design: V438, U411 - 2 hour

---

**STC-56 NGC 2018058**

- **Framing:** 3-5/8" steel studs, 20 gauge (19 mil), 24" o.c.
- **Insulation:** 3 1/2" glass fiber
- **Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board
- **Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board

UL Design: V438, U411 - 2 hour

---

**STC-50 NGC 2017041**

- **Framing:** 3-1/2" steel studs, 20 gauge (33 mil), 24" o.c.
- **Insulation:** 3" glass fiber
- **Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board
- **Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board

UL Design: V438, U411, W469 - 2 hour
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<tr>
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<tr>
<td>Insulation:</td>
<td>3-1/2&quot; glass fiber</td>
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<tr>
<td>Side 1:</td>
<td>2 layers 5/8&quot; Fire-Shield Gypsum Board</td>
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<tr>
<td>Side 2:</td>
<td>5/8&quot; Fire-Shield Gypsum Board on 5/8&quot; SoundBreak XP Wall Board</td>
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<tr>
<td>UL Design:</td>
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<tr>
<td>Insulation:</td>
<td>3-1/2&quot; glass fiber</td>
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<tr>
<td>Side 1:</td>
<td>2 layers 5/8&quot; Fire-Shield Gypsum Board</td>
</tr>
<tr>
<td>Side 2:</td>
<td>5/8&quot; Fire-Shield Gypsum Board on 5/8&quot; SoundBreak XP Wall Board</td>
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<tr>
<td>UL Design:</td>
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<tbody>
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<tr>
<td>Insulation:</td>
<td>3 1/2&quot; glass fiber</td>
</tr>
<tr>
<td>Side 1:</td>
<td>2 layers 1/2&quot; Fire-Shield C Gypsum Board</td>
</tr>
<tr>
<td>Side 2:</td>
<td>2 layers 1/2&quot; Fire-Shield C Gypsum Board</td>
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<tr>
<td>UL Design:</td>
<td>V438, U412 - 2 hour</td>
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<tbody>
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<td>Framing:</td>
<td>3-5/8&quot; steel studs, 25 gauge (15 mil), 24&quot; o.c.</td>
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<tr>
<td>Insulation:</td>
<td>3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td>Side 1:</td>
<td>2 layers 5/8&quot; Fire-Shield Gypsum Board</td>
</tr>
<tr>
<td>Side 2:</td>
<td>2 layers 5/8&quot; Fire-Shield Gypsum Board on RC-1</td>
</tr>
<tr>
<td>UL Design:</td>
<td>V438, U411 - 2 hour</td>
</tr>
</tbody>
</table>
Steel Stud Partitions with Framing 24" o.c.

**STC-57  NGC 2017119**
- **Framing:** 6" steel studs, 25 gauge (15 mil), 24" o.c.
- **Insulation:** 6" glass fiber
- **Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board
- **Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board

**UL Design:** V438, U411 - 2 hour

**STC-63  NGC 2017118**
- **Framing:** 8" steel studs, 18 gauge (54 mil), 24" o.c.
- **Insulation:** 6" glass fiber
- **Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board
- **Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board on RC-1

**UL Design:** V438, U411 - 2 hour

**STC-61  NRCC B-3456.2**
- **Framing:** 6" steel studs, 25 gauge (18 mil), 24" o.c.
- **Insulation:** 6" glass fiber
- **Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board on 5/8" SoundBreak XP Wall Board

**UL Design:** V438, U411 - 2 hour

**STC-57  NGC 2009035**
- **Framing:** 8" steel studs, 18 gauge (54 mil), 24" o.c.
- **Insulation:** 6-1/4" glass fiber
- **Side 1:** 3 layers Fire-Shield Gypsum Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board on 5/8" SoundBreak XP Wall Board

**UL Design:** V438, U411, W469 - 2 hour
**Steel Stud Partitions with Framing 24” o.c.**

**STC-66**

Framing: 6” steel studs, 18 gauge (43 mil), 24” o.c., staggered in 8” track

Insulation: 6-1/4” glass fiber

Side 1: 3 layers Fire-Shield Gypsum Board

Side 2: 5/8” Fire-Shield Gypsum Board on 5/8” SoundBreak XP Wall Board

UL Design: V438, U411, W469 - 2 hour

**STC-55**

Framing: 1-5/8” steel studs, 25 gauge (18 mil), 24” o.c.

Insulation: 1-1/2” glass fiber

Side 1: 2 layers 3/4” Ultra-Shield FS Gypsum Board

Side 2: 2 layers 3/4” Ultra-Shield FS Gypsum Board

UL Design: W455 - 3 hour

**STC-59**

Framing: 3-5/8” steel studs, 25 gauge (18 mil), 24” o.c.

Insulation: 3-1/2” glass fiber

Side 1: 3 layers 5/8” Fire-Shield Gypsum Board

Side 2: 3 layers 5/8” Fire-Shield Gypsum Board

UL Design: V438 - 3 hour

**STC-62**

Framing: 3-5/8” steel studs, 25 gauge (18 mil), 24” o.c.

Insulation: 3-1/2” glass fiber

Side 1: 3 layers 5/8” Fire-Shield Gypsum Board

Side 2: 5/8” SoundBreak XP Wall Board on 2 layers 5/8” Fire-Shield Gypsum Board

UL Design: V438 - 3 hour
### Steel Stud Partitions with Framing 24" o.c.

#### STC-59  \( \text{NGC 2017012} \)

- **Framing:** 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.
- **Insulation:** 3-1/2" glass fiber
- **Side 1:** 3 layers 1/2" Fire-Shield C Gypsum Board
- **Side 2:** 3 layers 1/2" Fire-Shield C Gypsum Board
- **UL Design:** U435, V438 - 3 hour

#### STC-61  \( \text{NGC 2016100} \)

- **Framing:** 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.
- **Insulation:** 3-1/2" glass fiber
- **Side 1:** 4 layers 5/8" Fire-Shield Gypsum Board
- **Side 2:** 4 layers 5/8" Fire-Shield Gypsum Board
- **UL Design:** V438 - 4 hour

#### STC-62  \( \text{NGC 2017013} \)

- **Framing:** 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.
- **Insulation:** 3-1/2" glass fiber
- **Side 1:** 4 layers 1/2" Fire-Shield C Gypsum Board
- **Side 2:** 4 layers 1/2" Fire-Shield C Gypsum Board
- **UL Design:** U435, V438 - 4 hour
Steel Stud Partitions with Framing 24" o.c.

**STC-45**

| Framing: | 3-5/8" steel studs, 25 gauge (15 mil), 24" o.c. |
| Insulation: | 3-1/2" glass fiber |
| Side 1: | 5/8" High Strength Fire-Shield 60 Gypsum Board |
| Side 2: | 5/8" High Strength Fire-Shield 60 Gypsum Board |

UL Design: V438, U465 - 1 hour

**NGC 2018155**

Figure 123

**STC-45**

| Framing: | 3-5/8" steel studs, 20 gauge (18 mil), 24" o.c. |
| Insulation: | 3-1/2" glass fiber |
| Side 1: | 5/8" High Strength Fire-Shield 60 Gypsum Board |
| Side 2: | 5/8" High Strength Fire-Shield 60 Gypsum Board |

UL Design: V438, U465 - 1 hour

**NGC 2018165**

Figure 124

**STC-50**

| Framing: | 3-5/8" steel studs, 25 gauge (15 mil), 24" o.c. |
| Insulation: | 3-1/2" glass fiber |
| Side 1: | 5/8" High Strength Fire-Shield 60 Gypsum Board |
| Side 2: | 5/8" High Strength Fire-Shield 60 Gypsum Board on RC-1 |

UL Design: V438, U465 - 1 hour

**NGC 2018157**

Figure 125

**STC-49**

| Framing: | 3-5/8" steel studs, 20 gauge (18 mil), 24" o.c. |
| Insulation: | 3-1/2" glass fiber |
| Side 1: | 5/8" High Strength Fire-Shield 60 Gypsum Board |
| Side 2: | 5/8" High Strength Fire-Shield 60 Gypsum Board on RC-1 |

UL Design: V438, U465 - 1 hour

**NGC 2018166**

Figure 126
Steel Stud Partitions with Framing 24" o.c.

**STC-49**
- Framing: 3-5/8" steel studs, 20 gauge (18 mil), 24" o.c.
- Insulation: 3-1/2" glass fiber
- Side 1: 5/8" High Strength Fire-Shield 60 Gypsum Board
- Side 2: 2 layers 5/8" High Strength Fire-Shield 60 Gypsum Board
- UL Design: V438, U465 - 1 hour

**STC-51**
- Framing: 3-5/8" steel studs, 20 gauge (18 mil), 24" o.c.
- Insulation: 3-1/2" glass fiber
- Side 1: 2 layers High Strength 5/8" Fire-Shield 60 Gypsum Board
- Side 2: 2 layers High Strength 5/8" Fire-Shield 60 Gypsum Board
- UL Design: V438, U441 - 2 hour

**STC-52**
- Framing: 3-5/8" steel studs, 25 gauge (15 mil), 24" o.c.
- Insulation: 3-1/2" glass fiber
- Side 1: 2 layers High Strength 5/8" Fire-Shield 60 Gypsum Board
- Side 2: 2 layers High Strength 5/8" Fire-Shield 60 Gypsum Board on RC-1
- UL Design: V438, U411 - 2 hour
Steel Stud Partitions with Framing 24" o.c.

**Figure 130**

**STC-36 NGC 2014006**

Framing: 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.
Insulation: None
Side 1: 5/8" High Strength Fire-Shield 30 Gypsum Board
Side 2: 5/8" High Strength Fire-Shield 30 Gypsum Board

UL Design: W411 - 1/2 hour

**Figure 131**

**STC-46 NGC 2014005**

Framing: 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.
Insulation: 3-1/2" glass fiber
Side 1: 5/8" High Strength Fire-Shield 30 Gypsum Board
Side 2: 5/8" High Strength Fire-Shield 30 Gypsum Board

UL Design: W411 - 1/2 hour

**Figure 132**

**STC-49 NGC 2014007**

Framing: 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.
Insulation: 3-1/2" glass fiber
Side 1: 5/8" High Strength Fire-Shield 30 Gypsum Board
Side 2: 5/8" High Strength Fire-Shield 30 Gypsum Board on RC-1

UL Design: W411 - 1/2 hour

**Figure 133**

**STC-54 NGC 2014008**

Framing: 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.
Insulation: 3-1/2" glass fiber
Side 1: 2 layers 5/8" High Strength Fire-Shield 30 Gypsum Board
Side 2: 2 layers 5/8" High Strength Fire-Shield 30 Gypsum Board

UL Design: W411 - 1 hour
Steel Stud Chase Walls
Steel Stud Chase Walls

STC-57  NGC 2015101
Framing: Double row 2-1/2" steel studs, 25 gauge (15 mil), 16" o.c., braced with spacer bar
Insulation: 3-1/2" glass fiber both sides
Side 1: 5/8" Fire-Shield Gypsum Board
Side 2: 5/8" Fire-Shield Gypsum Board
UL Design: V488 - 1 hour

STC-60  NGC 2015103
Framing: Double row 2-1/2" steel studs, 25 gauge (15 mil), 16" o.c., braced with spacer bar
Insulation: 3-1/2" glass fiber both sides
Side 1: 5/8" Fire-Shield Gypsum Board
Side 2: 5/8" SoundBreak XP Wall Board
UL Design: V488 - 1 hour
### Steel Stud Chase Walls

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<thead>
<tr>
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<tbody>
<tr>
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<tr>
<td><strong>Insulation:</strong></td>
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</tr>
<tr>
<td><strong>Side 1:</strong></td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
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<tr>
<td><strong>Side 2:</strong></td>
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<tbody>
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<tr>
<td><strong>Insulation:</strong></td>
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</tr>
<tr>
<td><strong>Side 1:</strong></td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
</tr>
<tr>
<td><strong>Side 2:</strong></td>
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<tr>
<td><strong>Insulation:</strong></td>
<td>3-1/2&quot; glass fiber both sides</td>
</tr>
<tr>
<td><strong>Side 1:</strong></td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
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<tr>
<td><strong>Side 2:</strong></td>
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<td><strong>Insulation:</strong></td>
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<tr>
<td><strong>Side 1:</strong></td>
<td>2 layers 5/8&quot; Fire-Shield Gypsum Board</td>
</tr>
<tr>
<td><strong>Side 2:</strong></td>
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<td><strong>UL Design:</strong></td>
<td>V488 - 2 hour</td>
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</table>
Steel Stud Chase Walls

**Figure 142**

**STC-67**  
NGC 2018085

**Framing:** Double row 3-5/8" steel studs, 20 gauge (19 mil), 16" o.c., braced with spacer bar

**Insulation:** 3-1/2" glass fiber both sides

**Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board  
**Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board  
**UL Design:** V488 - 2 hour

---

**Figure 143**

**STC-63**  
NGC 2019038

**Framing:** Double row 3-5/8" steel studs, 16 gauge (54 mil), 16" o.c., braced with spacer bar

**Insulation:** 3-1/2" glass fiber both sides

**Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board  
**Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board  
**UL Design:** V488 - 2 hour

---

**Figure 144**

**STC-66**  
NGC 2019037

**Framing:** Double row 3-5/8" steel studs, 16 gauge (54 mil), 16" o.c., braced with spacer bar

**Insulation:** 3-1/2" glass fiber both sides

**Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board  
**Side 2:** 5/8" SoundBreak XP Wall Board on 5/8" Fire-Shield Gypsum Board  
**UL Design:** V488 - 2 hour
Steel Stud Chase Walls

**STC-56**

- **NGC 2015108**
  - **Framing:** Double row 2-1/2" steel studs, 25 gauge (15 mil), 24" o.c., braced with spacer bar
  - **Insulation:** 3-1/2" glass fiber both sides
  - **Side 1:** 5/8" Fire-Shield Gypsum Board
  - **Side 2:** 5/8" Fire-Shield Gypsum Board
  - **UL Design:** V488 - 1 hour

**STC-60**

- **NGC 2015107**
  - **Framing:** Double row 2-1/2" steel studs, 25 gauge (15 mil), 24" o.c., braced with gypsum board gussets
  - **Insulation:** 3-1/2" glass fiber both sides
  - **Side 1:** 5/8" Fire-Shield Gypsum Board
  - **Side 2:** 5/8" SoundBreak XP Wall Board
  - **UL Design:** V488 - 1 hour

**STC-59**

- **NGC 2008036**
  - **Framing:** Double row 2-1/2" steel studs, 25 gauge (18 mil), 24" o.c. staggered
  - **Insulation:** 3" mineral wool
  - **Side 1:** 5/8" Fire-Shield Gypsum Board
  - **Side 2:** 5/8" SoundBreak XP Wall Board
  - **UL Design:** V488 - 1 hour

**STC-52**

- **RAL-TL76-155**
  - **Framing:** Double row 1-5/8" steel studs, 25 gauge (18 mil)
  - **Insulation:** 24" o.c., braced with gypsum board gussets
  - **Side 1:** 5/8" Fire-Shield Gypsum Board
  - **Side 2:** 5/8" Fire-Shield Gypsum Board
  - **UL Design:** U420 - 1 hour
Steel Stud Chase Walls

**STC-60**

- **Framing:** Double row 2-1/2" steel studs, 25 gauge (15 mil), 24" o.c., braced with spacer bar
- **Insulation:** 3-1/2" glass fiber both sides
- **Side 1:** 5/8" Fire-Shield Gypsum Board
- **Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board
- **UL Design:** V488 - 1 hour

---

**STC-57**

- **Framing:** Double row 1-5/8" steel studs, 25 gauge (18 mil), 24" o.c., braced with gypsum board gussets
- **Insulation:** 3-1/2" glass fiber
- **Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board
- **Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board
- **UL Design:** U420 - 2 hour

---

**STC-64**

- **Framing:** Double row 2-1/2" steel studs, 25 gauge (15 mil), 24" o.c., braced with spacer bar
- **Insulation:** 3-1/2" glass fiber both sides
- **Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board
- **Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board
- **UL Design:** V488 - 2 hour
Shaftwall Partitions
Shaftwall Partitions

**STC-34  NGC 2001001**
- Framing: 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.
- Insulation: None
- Side 1: 1" Fire-Shield Shaftliner
- Side 2: 5/8" Fire-Shield Gypsum Board
- UL Design: U499, W419 - 1 hour

**STC-37  NGC 2001003**
- Framing: 2-1/2" steel CH studs, 25 gauge (22 mil), 24" o.c.
- Insulation: None
- Side 1: 1" Fire-Shield Shaftliner
- Side 2: 5/8" Fire-Shield Gypsum Board
- UL Design: U499, W419 - 1 hour

**STC-42  NGC 2016033**
- Framing: 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.
- Insulation: 1-1/2" glass fiber
- Side 1: 1" Fire-Shield Shaftliner
- Side 2: 5/8" Fire-Shield Gypsum Board
- UL Design: U499, W419 - 1 hour

**STC-44  NGC 2015035**
- Framing: 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.
- Insulation: 1-1/2" glass fiber
- Side 1: 1" Fire-Shield Shaftliner
- Side 2: 5/8" SoundBreak XP Wall Board
- UL Design: U499, W419 - 1 hour
Shaftwall Partitions

**STC-43 NGC 2019008**
- **Framing:** 2-1/2" steel CT studs, 18 gauge (43 mil), 24" o.c.
- **Insulation:** 1-1/2" glass fiber
- **Side 1:** 1" Fire-Shield Shaftliner
- **Side 2:** 5/8" Fire-Shield Gypsum Board

UL Design: U499, W419 - 1 hour

**STC-40 NGC 2001005**
- **Framing:** 2-1/2" steel CH studs, 25 gauge (22 mil), 24" o.c.
- **Insulation:** 1-1/2" glass fiber
- **Side 1:** 1" Fire-Shield Shaftliner
- **Side 2:** 5/8" Fire-Shield Gypsum Board

UL Design: U499, W419 - 1 hour

**STC-42 NGC 2542**
- **Framing:** 2-1/2" steel l-studs, 25 gauge (22 mil), 24" o.c.
- **Insulation:** 1-1/2" glass fiber
- **Side 1:** 1" Fire-Shield Shaftliner
- **Side 2:** 5/8" Fire-Shield Gypsum Board

UL Design: U499, W419 - 1 hour

**STC-44 NGC 2016036**
- **Framing:** 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.
- **Insulation:** 1-1/2" glass fiber
- **Side 1:** 1" Fire-Shield Shaftliner
- **Side 2:** 5/8" Fire-Shield Gypsum Board on RC-1

UL Design: U499, W419 - 1 hour
Shaftwall Partitions

STC-47 NGC 2015038
Framing: 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 1" Fire-Shield Shaftliner
Side 2: 5/8" SoundBreak XP Wall Board on RC-1
UL Design: U499, W419 - 1 hour

Figure 160

STC-48 NGC 2541
Framing: 2-1/2" steel I-studs, 25 gauge (22 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 1" Fire-Shield Shaftliner
Side 2: 5/8" Fire-Shield Gypsum Board on RC-1
UL Design: U499, W419 - 1 hour

Figure 161

STC-47 NGC 2015044
Framing: 4" steel CH studs, 25 gauge (22 mil), 24" o.c.
Insulation: 3" glass fiber
Side 1: 1" Fire-Shield Shaftliner
Side 2: 5/8" Fire-Shield Gypsum Board
UL Design: U499, W419 - 1 hour

Figure 162

STC-47 NGC 2019011
Framing: 4" steel CT studs, 18 gauge (43 mil), 24" o.c.
Insulation: 3" glass fiber
Side 1: 1" Fire-Shield Shaftliner
Side 2: 5/8" Fire-Shield Gypsum Board
UL Design: U499, W419 - 1 hour

Figure 163
**Shaftwall Partitions**

**STC-51 NGC 2015047**

- **Framing:** 4" steel CH studs, 25 gauge (22 mil), 24" o.c.
- **Insulation:** 3" glass fiber
- **Side 1:** 1" Fire-Shield Shaftliner
- **Side 2:** 5/8" Fire-Shield Gypsum Board on RC-1

UL Design: U499, W419 - 1 hour

**STC-53 NGC 2019014**

- **Framing:** 6" steel CT studs, 20 gauge (33 mil), 24" o.c.
- **Insulation:** 5" glass fiber
- **Side 1:** 1" Fire-Shield Shaftliner
- **Side 2:** 5/8" Fire-Shield Gypsum Board

UL Design: U499, W419 - 1 hour

**STC-59 NGC 2019017**

- **Framing:** 6" steel CT studs, 20 gauge (33 mil), 24" o.c.
- **Insulation:** 5" glass fiber
- **Side 1:** 1" Fire-Shield Shaftliner
- **Side 2:** 5/8" Fire-Shield Gypsum Board on 7/8" furring channel and resilient isolation clips

UL Design: U499, W419 - 1 hour

**STC-61 NGC 2019019**

- **Framing:** 6" steel CT studs, 20 gauge (33 mil), 24" o.c.
- **Insulation:** 5" glass fiber
- **Side 1:** 1" Fire-Shield Shaftliner
- **Side 2:** 5/8" SoundBreak XP Wall Board on 7/8" furring channel and resilient isolation clips

UL Design: U499, W419 - 1 hour
Shaftwall Partitions

**STC-39 NGC 2001002**

- **Framing:** 2-1/2" steel CH studs, 25 gauge (22 mil), 24" o.c.
- **Insulation:** None
- **Side 1:** 1" Fire-Shield Shaftliner
- **Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board
- **UL Design:** U497, W419 - 2 hour

**STC-40 NGC 2001004**

- **Framing:** 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.
- **Insulation:** None
- **Side 1:** 1" Fire-Shield Shaftliner
- **Side 2:** 2 layers 5/8" Fire-Shield Gypsum Board
- **UL Design:** U497, W419 - 2 hour

**STC-51 NGC 2015043**

- **Framing:** 4" steel CT studs, 25 gauge (22 mil), 24" o.c.
- **Insulation:** 3" mineral wool
- **Side 1:** 1" Fire-Shield Shaftliner
- **Side 2:** 3/4" Ultra-Shield Gypsum Board on RC-1
- **UL Design:** W441, W419 - 2 hour

**STC-54 NGC 2015042**

- **Framing:** 4" steel CT studs, 25 gauge (22 mil), 24" o.c.
- **Insulation:** 3" mineral wool
- **Side 1:** 1" Fire-Shield Shaftliner
- **Side 2:** 3/4" Ultra-Shield Gypsum Board on RC-1
- **UL Design:** W441, W419 - 2 hour

Figure 168

Figure 169

Figure 170

Figure 171
Shaftwall Partitions

Figure 172

STC-47 NGC 2016035
Framing: 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 1" Fire-Shield Shaftliner
Side 2: 2 layers 5/8" Fire-Shield Gypsum Board

UL Design: U497, W419 - 2 hour

Figure 173

STC-46 NGC 2019007
Framing: 2-1/2" steel CT studs, 18 gauge (43 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 1" Fire-Shield Shaftliner
Side 2: 2 layers 5/8" Fire-Shield Gypsum Board

UL Design: U497, W419 - 2 hour

Figure 174

STC-47 NGC 2019009
Framing: 2-1/2" steel CT studs, 18 gauge (43 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 1" Fire-Shield Shaftliner
Side 2: 2 layers 1/2" Fire-Shield C Gypsum Board

UL Design: U497, W419 - 2 hour

Figure 175

STC-49 NGC 2017006
Framing: 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 1" Fire-Shield Shaftliner
Side 2: 2 layers 1/2" Fire-Shield C Gypsum Board

UL Design: U497, W419 - 2 hour
Shaftwall Partitions

STC-51 NGC 2015037
Framing: 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 1" Fire-Shield Shaftliner
Side 2: 5/8" Fire-Shield Shaftliner on 5/8" SoundBreak XP Wall Board
UL Design: U497, W419 - 2 hour

STC-46 NGC 2001006
Framing: 2-1/2" steel CH studs, 25 gauge (22 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 1" Fire-Shield Shaftliner
Side 2: 2 layers 5/8" Fire-Shield Shaftliner Gypsum Board
UL Design: U497, W419 - 2 hour

STC-48 NGC 2507
Framing: 2-1/2" steel l-studs, 25 gauge (22 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 1" Fire-Shield Shaftliner
Side 2: 2 layers 5/8" Fire-Shield Shaftliner Gypsum Board
UL Design: U497, W419 - 2 hour

STC-51 NGC 2016038
Framing: 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 1" Fire-Shield Shaftliner
Side 2: 2 layers 5/8" Fire-Shield Shaftliner Gypsum Board on RC-1
UL Design: U497, W419 - 2 hour
STC-52  NGC 2017007
Framing: 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 1" Fire-Shield Shaftliner
Side 2: 2 layers 1/2" Fire-Shield C Gypsum Board on RC-1
UL Design: U497, W419 - 2 hour

STC-53  NGC 2015039
Framing: 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 1" Fire-Shield Shaftliner
Side 2: 5/8" Fire-Shield Gypsum Board on
5/8" SoundBreak XP Wall Board on RC-1
UL Design: U497, W419 - 2 hour

STC-51  NGC 2540
Framing: 2-1/2" steel I-studs, 25 gauge (22 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 1" Fire-Shield Shaftliner
Side 2: 2 layers 5/8" Fire-Shield Gypsum Board on RC-1
UL Design: U497, W419 - 2 hour

STC-51  NGC 2019012
Framing: 4" steel CT studs, 18 gauge (43 mil), 24" o.c.
Insulation: 3" glass fiber
Side 1: 1" Fire-Shield Shaftliner
Side 2: 2 layers 5/8" Fire-Shield Gypsum Board
UL Design: U497, W419 - 2 hour
**Shaftwall Partitions**

STC-50  
NGC 2019010  
- Framing: 4" steel CT studs, 18 gauge (43 mil), 24" o.c.  
- Insulation: 3" glass fiber  
- Side 1: 1" Fire-Shield Shaftliner  
- Side 2: 2 layers 1/2" Fire-Shield C Gypsum Board  
- UL Design: U497, W419 - 2 hour

STC-51  
NGC 2019013  
- Framing: 6" steel CT studs, 20 gauge (33 mil), 24" o.c.  
- Insulation: 5" glass fiber  
- Side 1: 1" Fire-Shield Shaftliner  
- Side 2: 2 layers 5/8" Fire-Shield Gypsum Board  
- UL Design: U497, W419 - 2 hour

STC-53  
NGC 2019015  
- Framing: 6" steel CT studs, 20 gauge (33 mil), 24" o.c.  
- Insulation: 5" glass fiber  
- Side 1: 1" Fire-Shield Shaftliner  
- Side 2: 2 layers 1/2" Fire-Shield C Gypsum Board  
- UL Design: U497, W419 - 2 hour

STC-61  
NGC 2019016  
- Framing: 6" steel CT studs, 20 gauge (33 mil), 24" o.c.  
- Insulation: 5" glass fiber  
- Side 1: 1" Fire-Shield Shaftliner  
- Side 2: 2 layers 5/8" Fire-Shield Gypsum Board on 7/8" furring channel and resilient isolation clips  
- UL Design: U497, W419 - 2 hour
Shaftwall Partitions

**STC-48**

Framing: 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 5/8" Fire-Shield Gypsum Board on 1" Fire-Shield Shaftliner
Side 2: 5/8" SoundBreak XP Wall Board
UL Design: U498, W419 - 2 hour

**STC-48**

Framing: 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 1/2" Fire-Shield C Gypsum Board on 1" Fire-Shield Shaftliner
Side 2: 1/2" Fire-Shield C Gypsum Board
UL Design: U498, W419 - 2 hour

**STC-53**

Framing: 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 5/8" Fire-Shield Gypsum Board on 1" Fire-Shield Shaftliner
Side 2: 5/8" SoundBreak XP Wall Board
UL Design: U498, W419 - 2 hour

**STC-48**

Framing: 2-1/2" steel I-studs, 25 gauge (22 mil), 24" o.c.
Insulation: 1-1/2" glass fiber
Side 1: 5/8" Fire-Shield Gypsum Board on 1" Fire-Shield Shaftliner
Side 2: 5/8" Fire-Shield Gypsum Board
UL Design: U498, W419 - 2 hour
**Shaftwall Partitions**

**STC-55 NGC 2015041**

**Framing:** 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.

**Insulation:** 1-1/2" glass fiber

**Side 1:** 5/8" SoundBreak XP Wall Board on 1" Fire-Shield Shaftliner

**Side 2:** 5/8" Fire-Shield Gypsum Board on RC-1

**UL Design:** U498, W419 - 2 hour

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**STC-53 NGC 2017008**

**Framing:** 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.

**Insulation:** 1-1/2" glass fiber

**Side 1:** 1/2" Fire-Shield C Gypsum Board on 1" Fire-Shield Shaftliner

**Side 2:** 1/2" Fire-Shield C Gypsum Board on RC-1

**UL Design:** U498, W419 - 2 hour

---

**STC-52 NGC 2538**

**Framing:** 2-1/2" steel I-studs, 25 gauge (22 mil), 24" o.c.

**Insulation:** 1-1/2" glass fiber

**Side 1:** 5/8" Fire-Shield Gypsum Board on 1" Fire-Shield Shaftliner

**Side 2:** 5/8" Fire-Shield Gypsum Board on RC-1

**UL Design:** U498, W419 - 2 hour

---

**STC-56 NGC 2015040**

**Framing:** 2-1/2" steel CT studs, 25 gauge (22 mil), 24" o.c.

**Insulation:** 1-1/2" glass fiber

**Side 1:** 5/8" SoundBreak XP Wall Board on 1" Fire-Shield Shaftliner

**Side 2:** 5/8" SoundBreak XP Wall Board on RC-1

**UL Design:** U498, W419 - 2 hour

---

**Figure 192**

**Figure 193**

**Figure 194**

**Figure 195**
<table>
<thead>
<tr>
<th>STC-50</th>
<th>NGC 2016039</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Framing:</strong></td>
<td>2-1/2” steel CT studs, 25 gauge (22 mil), 24” o.c.</td>
</tr>
<tr>
<td><strong>Insulation:</strong></td>
<td>1-1/2” glass fiber</td>
</tr>
<tr>
<td><strong>Side 1:</strong></td>
<td>1” Fire-Shield Shaftliner</td>
</tr>
<tr>
<td><strong>Side 2:</strong></td>
<td>3 layers 5/8” Fire-Shield C Gypsum Board</td>
</tr>
<tr>
<td><strong>UL Design:</strong></td>
<td>W414, W419 - 3 hour</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STC-58</th>
<th>NGC 2016040</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Framing:</strong></td>
<td>4” steel CT studs, 25 gauge (22 mil), 24” o.c.</td>
</tr>
<tr>
<td><strong>Insulation:</strong></td>
<td>3” glass fiber</td>
</tr>
<tr>
<td><strong>Side 1:</strong></td>
<td>1” Fire-Shield Shaftliner</td>
</tr>
<tr>
<td><strong>Side 2:</strong></td>
<td>2 layers 5/8” Fire-Shield C Gypsum Board on 7/8” rigid furring channels 16” o.c. on 3 layers 5/8” Fire-Shield C Gypsum Board</td>
</tr>
<tr>
<td><strong>UL Design:</strong></td>
<td>V451, W419 - 4 hour</td>
</tr>
</tbody>
</table>
Wood Stud Partitions with Framing 16" o.c.
# Wood Stud Partitions with Framing 16" o.c.

**STC-39 NGC 2009047**

<table>
<thead>
<tr>
<th>Framing:</th>
<th>2x4 wood studs, 16&quot; o.c.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation:</td>
<td>3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td>Side 1:</td>
<td>1/2&quot; Gold Bond Gypsum Board</td>
</tr>
<tr>
<td>Side 2:</td>
<td>1/2&quot; SoundBreak XP Wall Board</td>
</tr>
</tbody>
</table>

UL Design: Not Rated

Figure 200

---

**STC-43 NGC 2009040**

<table>
<thead>
<tr>
<th>Framing:</th>
<th>2x4 wood studs, 16&quot; o.c.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation:</td>
<td>None</td>
</tr>
<tr>
<td>Side 1:</td>
<td>1/2&quot; Gold Bond Gypsum Board</td>
</tr>
<tr>
<td>Side 2:</td>
<td>1/2&quot; SoundBreak XP Wall Board on 1/2&quot; Gold Bond Gypsum Board</td>
</tr>
</tbody>
</table>

UL Design: Not Rated

Figure 201

---

**STC-34 NGC 2161**

<table>
<thead>
<tr>
<th>Framing:</th>
<th>2x4 wood studs, 16&quot; o.c.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation:</td>
<td>None</td>
</tr>
<tr>
<td>Side 1:</td>
<td>1/2&quot; Fire-Shield C Gypsum Board</td>
</tr>
<tr>
<td>Side 2:</td>
<td>1/2&quot; Fire-Shield C Gypsum Board</td>
</tr>
</tbody>
</table>

UL Design: U317 - 45 minutes

Figure 198

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**STC-35 NGC 2403**

<table>
<thead>
<tr>
<th>Framing:</th>
<th>2x4 wood studs, 16&quot; o.c.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation:</td>
<td>None</td>
</tr>
<tr>
<td>Side 1:</td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
</tr>
<tr>
<td>Side 2:</td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
</tr>
</tbody>
</table>

UL Design: U305 - 1 hour

Figure 199
Wood Stud Partitions with Framing 16" o.c.

**STC-36 NGC 2008029**

<table>
<thead>
<tr>
<th>Framing:</th>
<th>2x4 wood studs, 16&quot; o.c.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation:</td>
<td>3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td>Side 1:</td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
</tr>
<tr>
<td>Side 2:</td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
</tr>
</tbody>
</table>

UL Design: U305 - 1 hour

**STC-42 NGC 2009020**

<table>
<thead>
<tr>
<th>Framing:</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Insulation:</td>
<td>3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td>Side 1:</td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
</tr>
<tr>
<td>Side 2:</td>
<td>5/8&quot; SoundBreak XP Wall Board</td>
</tr>
</tbody>
</table>

UL Design: U305 - 1 hour

**STC-45 NGC 2009019**

<table>
<thead>
<tr>
<th>Framing:</th>
<th>2x4 wood studs, 16&quot; o.c.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation:</td>
<td>3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td>Side 1:</td>
<td>5/8&quot; SoundBreak XP Wall Board</td>
</tr>
<tr>
<td>Side 2:</td>
<td>5/8&quot; SoundBreak XP Wall Board</td>
</tr>
</tbody>
</table>

UL Design: U305 - 1 hour

**STC-42 NGC 2015085**

<table>
<thead>
<tr>
<th>Framing:</th>
<th>2x4 wood studs, 16&quot; o.c.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation:</td>
<td>3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td>Side 1:</td>
<td>5/8&quot; SoundBreak XP Wall Board</td>
</tr>
<tr>
<td>Side 2:</td>
<td>5/8&quot; Fire-Shield Gypsum Board on 15/32&quot; plywood</td>
</tr>
</tbody>
</table>

UL Design: U344, U305 - 1 hour
STC-46 NGC 2015084
Framing: 2x4 wood studs, 16" o.c.
Insulation: 3-1/2" glass fiber
Side 1: 5/8" SoundBreak XP Wall Board on RC-1
Side 2: 5/8" Fire-Shield Gypsum Board on 15/32" plywood
UL Design: U344, U305 - 1 hour

STC-51 NGC 2011071
Framing: 2x4 wood studs, 16" o.c.
Insulation: 3-1/2" glass fiber
Side 1: 5/8" Fire-Shield Gypsum Board
Side 2: 5/8" Fire-Shield Gypsum Board on RC-1
UL Design: U305 - 1 hour

STC-54 NGC 2011066
Framing: 2x4 wood studs, 16" o.c.
Insulation: 3-1/2" glass fiber
Side 1: 5/8" SoundBreak XP Wall Board
Side 2: 5/8" Fire-Shield Gypsum Board on RC-1
UL Design: U305 - 1 hour

STC-38 NGC 2008032
Framing: 2x6 wood studs, 16" o.c.
Insulation: 5-1/2" glass fiber
Side 1: 5/8" Fire-Shield Gypsum Board
Side 2: 5/8" Fire-Shield Gypsum Board
UL Design: U305 - 1 hour
**Wood Stud Partitions with Framing 16" o.c.**

**STC-42  NGC 2009008**

Framing: 2x6 wood studs, 16" o.c.
Insulation: 5-1/2" glass fiber
Side 1: 5/8" Fire-Shield Gypsum Board
Side 2: 5/8" SoundBreak XP Wall Board

UL Design: U305 - 1 hour

**STC-44  NGC 2009012**

Framing: 2x6 wood studs, 16" o.c.
Insulation: 5-1/2" glass fiber
Side 1: 5/8" SoundBreak XP Wall Board
Side 2: 5/8" SoundBreak XP Wall Board

UL Design: U305 - 1 hour

**STC-57  NGC 2010081**

Framing: 2x6 wood studs, 16" o.c.
Insulation: 5-1/2" glass fiber
Side 1: 5/8" SoundBreak XP Wall Board
Side 2: 5/8" Fire-Shield Gypsum Board on RC-1

UL Design: U305 - 1 hour

**STC-58  NGC 2010080**

Framing: 2x6 wood studs, 16" o.c.
Insulation: 5-1/2" glass fiber
Side 1: 5/8" SoundBreak XP Wall Board
Side 2: 5/8" Hi-Impact XP Gypsum Board on RC-1

UL Design: U305 - 1 hour
Wood Stud Partitions with Framing 16" o.c.

**STC-55**

Framing: 2x4 wood studs, 16" o.c.
Insulation: 3-1/2" fiber glass
Side 1: 2 layers 5/8" Fire-Shield Gypsum Board
Side 2: 5/8" Fire-Shield Gypsum Board on RC-1

UL Design: U305 - 1 hour

**STC-58**

Framing: 2x4 wood studs, 16" o.c.
Insulation: 3-1/2" glass fiber
Side 1: 5/8" Fire-Shield Gypsum Board on
      5/8" SoundBreak XP Wall Board
Side 2: 5/8" Fire-Shield Gypsum Board on RC-1

UL Design: U305 - 1 hour

**STC-40**

Framing: 2x4 wood studs, 16" o.c.
Insulation: None
Side 1: 2 layers 5/8" Fire-Shield Gypsum Board
Side 2: 2 layers 5/8" Fire-Shield Gypsum Board

UL Design: U301 - 2 hour
Wood Stud Partitions with Framing 16" o.c.

**STC-41**
- **Framing:** 2x4 wood studs, 16" o.c.
- **Insulation:** 3-1/2" glass fiber
- Side 1: 2 layers 5/8" Fire-Shield Gypsum Board
- Side 2: 2 layers 5/8" Fire-Shield Gypsum Board
- UL Design: U301 - 2 hour

**STC-58**
- **Framing:** 2x4 wood studs, 16" o.c.
- **Insulation:** 3-1/2" glass fiber
- Side 1: 2 layers 5/8" Fire-Shield Gypsum Board on RC-1
- Side 2: 2 layers 5/8" Fire-Shield Gypsum Board on RC-1
- UL Design: U301 - 2 hours

**STC-61**
- **Framing:** 2x4 wood studs, 16" o.c.
- **Insulation:** 3-1/2" glass fiber
- Side 1: 5/8" Fire-Shield Gypsum Board on 5/8" SoundBreak XP Wall Board
- Side 2: 2 layers 5/8" Fire-Shield Gypsum Board on RC-1
- UL Design: U301 - 2 hours

**STC-45**
- **Framing:** 2x4 wood studs, 16" o.c.
- **Insulation:** 3-1/2" glass fiber
- Side 1: 5/8" Fire-Shield on 5/8" SoundBreak XP
- Side 2: 5/8" Fire-Shield on 5/8" SoundBreak XP
- UL Design: U301 - 2 hour
Wood Stud Partitions with Framing 16” o.c.

**STC-33**  
**NGC 2014046**  
Framing: 2x4 wood studs, 16” o.c.  
Insulation: None  
Side 1: 5/8” High Strength Fire-Shield 30 Gypsum Board  
Side 2: 5/8” High Strength Fire-Shield 30 Gypsum Board  
UL Design: W411 - 1/2 hour  

**STC-45**  
**NGC 2014044**  
Framing: 2x4 wood studs, 16” o.c.  
Insulation: 3-1/2” glass fiber  
Side 1: 5/8” High Strength Fire-Shield 30 Gypsum Board  
Side 2: 5/8” High Strength Fire-Shield 30 Gypsum Board on RC-1  
UL Design: W411 - 1/2 hour  

**STC-34**  
**NGC 2014045**  
Framing: 2x4 wood studs, 16” o.c.  
Insulation: 3-1/2” glass fiber  
Side 1: 5/8” High Strength Fire-Shield 30 Gypsum Board  
Side 2: 5/8” High Strength Fire-Shield 30 Gypsum Board  
UL Design: W411 - 1/2 hour
Wood Stud Partitions with Framing 24" o.c.
Wood Stud Partitions with Framing 24" o.c.

**Figure 225**

**STC-42**

**NGC 2012065**

**Framing:** 2x4 wood studs, 24" o.c.
**Insulation:** 3-1/2" glass fiber
**Side 1:** 1/2" Gold Bond Gypsum Board
**Side 2:** 1/2" SoundBreak XP Wall Board

**UL Design:** Not Rated

**Figure 226**

**STC-49**

**NGC 2009027**

**Framing:** 2x4 wood studs, 24" o.c.
**Insulation:** 3-1/2" glass fiber
**Side 1:** 1/2" Gold Bond Gypsum Board
**Side 2:** 1/2" SoundBreak XP Wall Board

**UL Design:** Not Rated

**Figure 227**

**STC-51**

**NGC 2009028**

**Framing:** 2x4 wood studs, 24" o.c.
**Insulation:** 3-1/2" fiber glass
**Side 1:** 1/2" SoundBreak XP Wall Board
**Side 2:** 1/2" SoundBreak XP Wall Board on 1/2" Gold Bond Gypsum Board

**UL Design:** Not Rated

**Figure 228**

**STC-51**

**NGC 2009029**

**Framing:** 2x4 wood studs, 24" o.c.
**Insulation:** 3-1/2" glass fiber
**Side 1:** 1/2" SoundBreak XP Wall Board
**Side 2:** 1/2" SoundBreak XP Wall Board on 1/2" Gold Bond Gypsum Board

**UL Design:** Not Rated
Wood Stud Partitions with Framing 24" o.c.

**STC-38 NGC 2404**

<table>
<thead>
<tr>
<th>Framing:</th>
<th>2x4 wood studs, 24&quot; o.c.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation:</td>
<td>None</td>
</tr>
<tr>
<td>Side 1:</td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
</tr>
<tr>
<td>Side 2:</td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
</tr>
</tbody>
</table>

UL Design: U309 - 1 hour

**STC-50 NGC 2009015**

<table>
<thead>
<tr>
<th>Framing:</th>
<th>2x4 wood studs, 24&quot; o.c.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation:</td>
<td>3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td>Side 1:</td>
<td>5/8&quot; Fire-Shield Gypsum Board</td>
</tr>
<tr>
<td>Side 2:</td>
<td>5/8&quot; SoundBreak XP Wall Board</td>
</tr>
</tbody>
</table>

UL Design: U309 - 1 hour

**STC-53 RAL-TL07-145**

<table>
<thead>
<tr>
<th>Framing:</th>
<th>2x4 wood studs, 24&quot; o.c.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation:</td>
<td>3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td>Side 1:</td>
<td>5/8&quot; SoundBreak XP Wall Board</td>
</tr>
<tr>
<td>Side 2:</td>
<td>5/8&quot; SoundBreak XP Wall Board</td>
</tr>
</tbody>
</table>

UL Design: U309 - 1 hour

**STC-50 NRCC TL-93-196**

<table>
<thead>
<tr>
<th>Framing:</th>
<th>2x4 wood studs, 24&quot; o.c.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation:</td>
<td>3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td>Side 1:</td>
<td>5/8&quot; Fire-Shield C Gypsum Board</td>
</tr>
<tr>
<td>Side 2:</td>
<td>5/8&quot; Fire-Shield C Gypsum Board on RC-1</td>
</tr>
</tbody>
</table>

UL Design: U309 - 1 hour
Wood Stud Partitions with Framing 24" o.c.

**STC-50**
- **Framing:** 2x6 wood studs, 24" o.c.
- **Insulation:** 5-1/2" glass fiber
- **Side 1:** 5/8" Fire-Shield Gypsum Board
- **Side 2:** 5/8" SoundBreak XP Wall Board
- **UL Design:** U309 - 1 hour

**STC-54**
- **Framing:** 2x4 wood studs, 24" o.c.
- **Insulation:** 3-1/2" glass fiber
- **Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board on 5/8" SoundBreak XP Wall Board
- **GA File:** WP 4135 - 2 hour

**STC-53**
- **Framing:** 2x6 wood studs, 24" o.c.
- **Insulation:** 5-1/2" glass fiber
- **Side 1:** 2 layers 5/8" Fire-Shield Gypsum Board
- **Side 2:** 5/8" Fire-Shield Gypsum Board on 5/8" SoundBreak XP Wall Board
- **GA File:** WP 4135 - 2 hour
Wood Stud Chase Walls
### Wood Stud Chase Walls

<table>
<thead>
<tr>
<th>STC-45 NGC 2375</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Framing:</strong> 2x4 wood studs, 16&quot; o.c., staggered on 2x6 wood plate</td>
</tr>
<tr>
<td><strong>Insulation:</strong> 3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td><strong>Side 1:</strong> 5/8&quot; Fire-Shield Gypsum Board</td>
</tr>
<tr>
<td><strong>Side 2:</strong> 5/8&quot; Fire-Shield Gypsum Board</td>
</tr>
<tr>
<td><strong>UL Design:</strong> U340 - 1 hour</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STC-53 NGC 2376</th>
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</thead>
<tbody>
<tr>
<td><strong>Framing:</strong> 2x4 wood studs, 16&quot; o.c., staggered on 2x6 wood plate</td>
</tr>
<tr>
<td><strong>Insulation:</strong> 3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td><strong>Side 1:</strong> 2 layers 5/8&quot; Fire-Shield Gypsum Board</td>
</tr>
<tr>
<td><strong>Side 2:</strong> 2 layers 5/8&quot; Fire-Shield Gypsum Board</td>
</tr>
<tr>
<td><strong>GA File:</strong> WP 5530 - 2 hour</td>
</tr>
</tbody>
</table>

### Additional Details

- **STC-53 NGC 2011003**
  - Framing: 2x4 wood studs, 16" o.c., staggered on 2x6 wood plate
  - Insulation: 5-1/2" glass fiber
  - Side 1: 5/8" Fire-Shield Gypsum Board
  - Side 2: 5/8" SoundBreak XP Wall Board
  - UL Design: U340 - 1 hour

- **STC-53 NGC 2009045**
  - Framing: 2x4 wood studs, 16" o.c., staggered on 2x6 wood plate
  - Insulation: 3-1/2" glass fiber
  - Side 1: 1/2" Gold Bond Gypsum Board
  - Side 2: 1/2" SoundBreak XP Wall Board on 1/2" Gold Bond Gypsum Board
  - UL Design: Not Rated
Wood Stud Chase Walls

STC-51 NGC 2191

Framing: Double row 2x4 wood studs, 16” o.c.
Insulation: 3-1/2” glass fiber one side
Side 1: 5/8” Fire-Shield Gypsum Board
Side 2: 5/8” Fire-Shield Gypsum Board

UL Design: U341 - 1 hour

Figure 240

STC-54 NGC 2198

Framing: Double row 2x4 wood studs, 16” o.c.
Insulation: 3-1/2” glass fiber both sides
Side 1: 5/8” Fire-Shield Gypsum Board
Side 2: 5/8” Fire-Shield Gypsum Board

UL Design: U341 - 1 hour

Figure 241

STC-58 NGC 3056

Framing: Double row 2x4 wood studs, 16” o.c. staggered
Insulation: 3-1/2” glass fiber
Side 1: 2 layers 5/8” Fire-Shield Gypsum Board
Side 2: 2 layers 5/8” Fire-Shield Gypsum Board

GA File: WP 3725 - 2 hour

Figure 242

STC-64 RAL TL07-147

Framing: Double row 2x4 wood studs, 16” o.c. staggered
Insulation: 3-1/2” glass fiber one side
Side 1: 5/8” Fire-Shield Gypsum Board
Side 2: 5/8” SoundBreak XP Wall Board on 5/8” Fire-Shield Gypsum Board

UL Design: U341 - 1 hour

Figure 243
Area Separation Fire Walls
**Area Separation Fire Walls**

**STC-35**  
Fire Wall: 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs  
Framing: None  
Insulation: None  
Side 1: 6" wide 1/2" Fire-Shield C gypsum board battens  
Side 2: 6" wide 1/2" Fire-Shield C gypsum board battens  
UL Design: U347 - 2 hour

**STC-61**  
Fire Wall: 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs; 3/4" air space  
Framing: 2x4 wood studs, 16" o.c. each side  
Insulation: 3-1/2" glass fiber each side  
Side 1: 1/2" Gold Bond Gypsum Board  
Side 2: 1/2" Gold Bond Gypsum Board  
UL Design: U347 - 2 hour

**STC-65**  
Fire Wall: 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs  
Framing: 2x4 wood studs, 16" o.c. each side  
Insulation: 3-1/2" glass fiber each side  
Side 1: 1/2" SoundBreak XP Wall Board  
Side 2: 1/2" SoundBreak XP Wall Board  
UL Design: U347 - 2 hour

**STC-41**  
Fire Wall: 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs; 3/4" air space  
Framing: 2x4 wood studs, 16" o.c. each side  
Insulation: None  
Side 1: 1/2" High Strength LITE Gypsum Board  
Side 2: 1/2" High Strength LITE Gypsum Board  
UL Design: U347 - 2 hour
Area Separation Fire Walls

**STC-67**

**NRCC B-3451.1**

- **Fire Wall:** 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs; 3/4" air space
- **Framing:** 2x4 wood studs, 16" o.c. each side
- **Insulation:** 3-1/2" glass fiber each side
- **Side 1:** 5/8" SoundBreak XP Wall Board
- **Side 2:** 5/8" SoundBreak XP Wall Board
- **UL Design:** U347 - 2 hour

**STC-54**

**NGC 2012087**

- **Fire Wall:** 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs; 3/4" air space
- **Framing:** 2x4 wood studs, 16" o.c. each side
- **Insulation:** 3-1/2" glass fiber each side
- **Side 1:** 1/2" High Strength LITE Gypsum Board
- **Side 2:** 1/2" High Strength LITE Gypsum Board
- **UL Design:** U347 - 2 hour

**STC-62**

**NGC 2012079**

- **Fire Wall:** 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs; 3/4" air space
- **Framing:** 2x4 wood studs, 16" o.c. each side
- **Insulation:** 3-1/2" glass fiber each side
- **Side 1:** 1/2" High Strength LITE Gypsum Board
- **Side 2:** 1/2" High Strength LITE Gypsum Board on RC-1
- **UL Design:** U347 - 2 hour

**STC-59**

**NGC 2012078**

- **Fire Wall:** 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs; 3/4" air space
- **Framing:** 2x4 wood studs, 16" o.c. each side
- **Insulation:** 3-1/2" glass fiber each side
- **Side 1:** 1/2" High Strength LITE Gypsum Board
- **Side 2:** 1/2" High Strength LITE Gypsum Board
- **UL Design:** U347 - 2 hour
Area Separation Fire Walls

**STC-57**
Fire Wall: 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs; 3/4" air space
Framing: 2x4 wood studs, 16" o.c. each side
Insulation: 3-1/2" glass fiber each side
Side 1: 5/8" High Strength Fire-Shield 30 Gypsum Board
Side 2: 5/8" High Strength Fire-Shield 30 Gypsum Board
UL Design: U347 - 2 hour

**STC-44**
Fire Wall: 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs; 3/4" air space
Framing: 2x4 wood studs, 24" o.c. each side
Insulation: None
Side 1: 1/2" High Strength LITE Gypsum Board
Side 2: 1/2" High Strength LITE Gypsum Board
UL Design: U347 - 2 hour
**STC-38 NGC 2017015**

**Fire Wall:** 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs; 1 layer 5/8" Fire-Shield C Gypsum Board each side

**Framing:** 2x4 wood studs, 16" o.c. each side

**Insulation:** None

**Side 1:** None

**Side 2:** None

**UL Design:** W454 - 3 hour

**STC-43 NGC 2017016**

**Fire Wall:** 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs; 1 layer 5/8" Fire-Shield C Gypsum Board each side

**Framing:** 2x4 wood studs, 16" o.c. each side

**Insulation:** 3-1/2" glass fiber one side

**Side 1:** None

**Side 2:** None

**UL Design:** W454 - 3 hour

**STC-46 NGC 2017017**

**Fire Wall:** 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs; 1 layer 5/8" Fire-Shield C Gypsum Board each side

**Framing:** 2x4 wood studs, 16" o.c. each side

**Insulation:** 3-1/2" glass fiber each side

**Side 1:** None

**Side 2:** None

**UL Design:** W454 - 3 hour

**STC-46 NGC 2017027**

**Fire Wall:** 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs; 1 layer 5/8" Fire-Shield C Gypsum Board each side

**Framing:** 2x4 wood studs, 16" o.c. each side

**Insulation:** None

**Side 1:** 1/2" Gold Bond Gypsum Board

**Side 2:** 1/2" Gold Bond Gypsum Board

**UL Design:** W454 - 3 hour
### Area Separation Fire Walls

#### Figure 258

**STC-54**

- **Fire Wall:** 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs; 1 layer 5/8" Fire-Shield C Gypsum Board each side
- **Framing:** 2x4 wood studs, 16" o.c. each side
- **Insulation:** 3-1/2" glass fiber one side
- **Side 1:** 1/2" Gold Bond Gypsum Board
- **Side 2:** 1/2" Gold Bond Gypsum Board
- **UL Design:** W454 - 3 hour

#### Figure 259

**STC-58**

- **Fire Wall:** 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs; 1 layer 5/8" Fire-Shield C Gypsum Board each side
- **Framing:** 2x4 wood studs, 16" o.c. each side
- **Insulation:** 3-1/2" glass fiber each side
- **Side 1:** 1/2" Gold Bond Gypsum Board
- **Side 2:** 1/2" Gold Bond Gypsum Board
- **UL Design:** W454 - 3 hour

#### Figure 260

**STC-53**

- **Fire Wall:** 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs; 1 layer 5/8" Fire-Shield C Gypsum Board each side
- **Framing:** 2x4 wood studs, 16" o.c. each side
- **Insulation:** None
- **Side 1:** 1/2" Fire-Shield C Gypsum Board
- **Side 2:** 1/2" Fire-Shield C Gypsum Board
- **UL Design:** W454 - 3 hour

#### Figure 261

**STC-61**

- **Fire Wall:** 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield Shaftliner between studs; 1 layer 5/8" Fire-Shield C Gypsum Board each side
- **Framing:** 2x4 wood studs, 16" o.c. each side
- **Insulation:** 3-1/2" glass fiber one side
- **Side 1:** 1/2" Fire-Shield C Gypsum Board
- **Side 2:** 1/2" Fire-Shield C Gypsum Board
- **UL Design:** W454 - 3 hour
Area Separation Fire Walls

**STC-62 NGC 2017019**

**Fire Wall:** 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield
Shafliner between studs; 1 layer 5/8"
Fire-Shield C Gypsum Board each side

**Framing:** 2x4 wood studs, 16" o.c. each side

**Insulation:** 3-1/2" glass fiber each side

**Side 1:** 1/2" Fire-Shield C Gypsum Board
**Side 2:** 1/2" Fire-Shield C Gypsum Board

**UL Design:** W454 - 3 hour

---

**STC-56 NGC 2017022**

**Fire Wall:** 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield
Shafliner between studs; 1 layer 5/8"
Fire-Shield C Gypsum Board each side

**Framing:** 2x4 wood studs, 16" o.c. each side

**Insulation:** 3-1/2" glass fiber each side

**Side 1:** 1/2" High Strength LITE Gypsum Board
**Side 2:** 1/2" High Strength LITE Gypsum Board

**UL Design:** W454 - 3 hour

---

**STC-68 NGC 2017018**

**Fire Wall:** 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield
Shafliner between studs; 1 layer 5/8"
Fire-Shield C Gypsum Board each side

**Framing:** 2x4 wood studs, 16" o.c. each side

**Insulation:** 3-1/2" glass fiber each side

**Side 1:** 5/8" SoundBreak XP Wall Board
**Side 2:** 5/8" SoundBreak XP Wall Board

**UL Design:** W454 - 3 hour

---

**STC-58 NGC 2017023**

**Fire Wall:** 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield
Shafliner between studs; 1 layer 5/8"
Fire-Shield C Gypsum Board each side

**Framing:** 2x4 wood studs, 16" o.c. each side

**Insulation:** 3-1/2" glass fiber each side

**Side 1:** 1/2" High Strength LITE Gypsum Board
**Side 2:** 1/2" High Strength LITE Gypsum Board on RC-1

**UL Design:** W454 - 3 hour
Area Separation Fire Walls

Figure 266

STC-65 NGC 2017024

Fire Wall: 2" H-studs, 24" o.c. with 2 layers 1" Fire-Shield
Shaftliner between studs: 1 layer 5/8"
Fire-Shield C Gypsum Board each side
Framing: 2x4 wood studs, 16" o.c. each side
Insulation: 3-1/2" glass fiber each side
Side 1: 1/2" High Strength LITE Gypsum Board
Side 2: 5/8" SoundBreak XP Wall Board on RC-1
UL Design: W454 - 3 hour
SoundBreak XP
RetroFit Partitions
**STC-36**  
FGC 2012049

- **Framing:** 2x4 wood studs, 16” o.c.
- **Insulation:** None
- **Side 1:** 1/2” Gold Bond Gypsum Board
- **Side 2:** 5/16” Gold Bond SoundBreak XP Retrofit on 1/2” Gold Bond Gypsum Board
- **UL Design:** Not Rated

---

**STC-40**  
FGC 2012050

- **Framing:** 2x4 wood studs, 16” o.c.
- **Insulation:** 3-1/2” glass fiber
- **Side 1:** 1/2” Gold Bond Gypsum Board
- **Side 2:** 5/16” Gold Bond SoundBreak XP Retrofit on 1/2” Gold Bond Gypsum Board
- **UL Design:** Not Rated

---

**STC-39**  
FGC 2012067

- **Framing:** 2x4 wood studs, 24” o.c.
- **Insulation:** None
- **Side 1:** 1/2” Gold Bond Gypsum Board
- **Side 2:** 5/16” Gold Bond SoundBreak XP Retrofit on 1/2” Gold Bond Gypsum Board
- **UL Design:** Not Rated

---

**STC-45**  
FGC 2012066

- **Framing:** 2x4 wood studs, 24” o.c.
- **Insulation:** 3-1/2” glass fiber
- **Side 1:** 1/2” Gold Bond Gypsum Board
- **Side 2:** 5/16” Gold Bond SoundBreak XP Retrofit on 1/2” Gold Bond Gypsum Board
- **UL Design:** Not Rated
SoundBreak XP Retrofit Partitions

Figure 271

**STC-52**  
NGC 2013031  
Framing: 3-5/8" steel studs, 25 gauge (18 mil), 16" o.c.  
Insulation: 3-1/2" glass fiber  
Side 1: 5/8" Fire-Shield Gypsum Board  
Side 2: 5/16" Gold Bond SoundBreak XP Retrofit on 5/8" Fire-Shield Gypsum Board  
UL Design: V438, U465

Figure 272

**STC-53**  
NGC 2013041  
Framing: 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.  
Insulation: 3-1/2" glass fiber  
Side 1: 5/8" Fire-Shield Gypsum Board  
Side 2: 5/16" Gold Bond SoundBreak XP Retrofit on 5/8" Fire-Shield Gypsum Board  
UL Design: V438, U465

Figure 273

**STC-58**  
NGC 2016026  
Framing: 3-5/8" steel studs, 25 gauge (18 mil), 24" o.c.  
Insulation: 3-1/2" glass fiber  
Side 1: 2 layers 5/8" Fire-Shield Gypsum Board  
Side 2: 5/16" Gold Bond SoundBreak XP Retrofit on 2 layers 5/8" Fire-Shield Gypsum Board  
UL Design: V438, U411 - 2 hour
Floor-Ceiling Assemblies
Floor-Ceiling Assemblies

**Figure 274**

| STC-37 | NGC 4024
<table>
<thead>
<tr>
<th>IIC-66 (carpet and pad)</th>
<th>NGC 5033</th>
</tr>
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<tbody>
<tr>
<td>Framing:</td>
<td>2x10 wood joists, 16&quot; o.c.</td>
</tr>
<tr>
<td>Insulation:</td>
<td>None</td>
</tr>
<tr>
<td>Floor:</td>
<td>3/8&quot; plywood on 1/2&quot; plywood subfloor</td>
</tr>
<tr>
<td>Ceiling:</td>
<td>1/2&quot; Fire-Shield C Gypsum Board</td>
</tr>
<tr>
<td>UL Design:</td>
<td>L522 - 1 hour</td>
</tr>
</tbody>
</table>

**Figure 275**

| STC-45 | NGC 4107
<table>
<thead>
<tr>
<th>IIC-63 (carpet and pad)</th>
<th>NGC 5165</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>Insulation:</td>
<td>None</td>
</tr>
<tr>
<td>Floor:</td>
<td>3/8&quot; plywood on 1/2&quot; plywood subfloor</td>
</tr>
<tr>
<td>Ceiling:</td>
<td>1/2&quot; Fire-Shield C Gypsum Board on RC-1</td>
</tr>
<tr>
<td>UL Design:</td>
<td>L502 - 1 hour</td>
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</table>

**Figure 276**

| STC-58 | NGC 5018017
<table>
<thead>
<tr>
<th>IIC-59</th>
<th>NGC 7018007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Framing:</td>
<td>2x10 wood joists, 16&quot; o.c.</td>
</tr>
<tr>
<td>Insulation:</td>
<td>3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td>Floor:</td>
<td>Engineered wood on foam mat on 1&quot; gypsum underlayment on 1/4&quot; random filament sound control mat on 5/8&quot; plywood</td>
</tr>
<tr>
<td>Ceiling:</td>
<td>3/4&quot; SoundBreak XP Ceiling Board on RC-1</td>
</tr>
<tr>
<td>UL Design:</td>
<td>M514 - 1 hour</td>
</tr>
</tbody>
</table>

**Figure 277**

| STC-58 | NGC 5018018
<table>
<thead>
<tr>
<th>IIC-60</th>
<th>NGC 7018008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Framing:</td>
<td>2x10 wood joists, 16&quot; o.c.</td>
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<tr>
<td>Insulation:</td>
<td>3-1/2&quot; glass fiber</td>
</tr>
<tr>
<td>Floor:</td>
<td>Vinyl tile on foam mat on 1&quot; gypsum underlayment on 1/4&quot; random filament sound control mat on 5/8&quot; plywood</td>
</tr>
<tr>
<td>Ceiling:</td>
<td>3/4&quot; SoundBreak XP Ceiling Board on RC-1</td>
</tr>
<tr>
<td>UL Design:</td>
<td>M514 - 1 hour</td>
</tr>
</tbody>
</table>
Floor-Ceiling Assemblies

Figure 278

<table>
<thead>
<tr>
<th>STC-58</th>
<th>NGC 5018019</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIC-78</td>
<td>NGC 7018009</td>
</tr>
</tbody>
</table>

Framing: 2x10 wood joists, 16" o.c.
Insulation: 3-1/2" glass fiber
Floor: Carpet on foam mat on 1" gypsum underlayment on 1/4" random filament sound control mat on 5/8" plywood
Ceiling: 3/4" SoundBreak XP Ceiling Board on RC-1
UL Design: M514 - 1 hour

Figure 279

<table>
<thead>
<tr>
<th>STC-59</th>
<th>NGC 5019008</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIC-61</td>
<td>NGC 7019008</td>
</tr>
</tbody>
</table>

Framing: 2x10 wood joists, 16" o.c.
Insulation: 3-1/2" glass fiber
Floor: Engineered wood on foam mat on 1" gypsum underlayment on 1/4" random filament sound control mat on 15/32" plywood
Ceiling: 3/4" SoundBreak XP Ceiling Board on 7/8" furring channel and resilient isolation clips
UL Design: M514 - 1 hour

Figure 280

<table>
<thead>
<tr>
<th>STC-58</th>
<th>NGC 5019007</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIC-65</td>
<td>NGC 7019007</td>
</tr>
</tbody>
</table>

Framing: 2x10 wood joists, 16" o.c.
Insulation: 3-1/2" glass fiber
Floor: Vinyl tile on foam mat on 1" gypsum underlayment on 1/4" random filament sound control mat on 15/32" plywood
Ceiling: 3/4" SoundBreak XP Ceiling Board on RC-1
UL Design: M514 - 1 hour

Figure 281

<table>
<thead>
<tr>
<th>STC-58</th>
<th>NGC 5019076</th>
</tr>
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<tbody>
<tr>
<td>IIC-61</td>
<td>NGC 7019100</td>
</tr>
</tbody>
</table>

Framing: 12" wood I-joists, 24" o.c.
Insulation: 3-1/2" glass fiber
Floor: Engineered wood on foam mat on 3/4" gypsum underlayment on 1/8" random filament sound control mat on 3/4" OSB
Ceiling: 2 layers 1/2" Fire-Shield C Gypsum Board on RC-1
UL Design: M546 - 1 hour
### STC-58
**Framing:** 18" wood trusses, 24" o.c.
**Insulation:** 3-1/2" glass fiber
**Floor:** Engineered wood on foam mat on 3/4" gypsum underlayment on 5/8" plywood
**Ceiling:** 5/8" Fire-Shield C Gypsum Board on RC-1
**UL Design:** M546 - 1 hour

### STC-57
**Framing:** 18" wood trusses, 24" o.c.
**Insulation:** 3-1/2" glass fiber
**Floor:** Engineered wood on foam mat on 1" gypsum underlayment on 1/4" random filament sound control mat on 23/32" OSB
**Ceiling:** 3/4" SoundBreak XP Ceiling Board on RC-1
**UL Design:** M545 - 1 hour

### STC-55
**Framing:** 12" wood I-joists, 24" o.c.
**Insulation:** 3-1/2" glass fiber
**Floor:** Vinyl tile on foam mat on 3/4" gypsum underlayment on 1/8" random filament sound control mat on 3/4" OSB
**Ceiling:** 2 layers 1/2" Fire-Shield C Gypsum Board on RC-1
**UL Design:** M546 - 1 hour

### STC-59
**Framing:** 12" wood I-joists, 24" o.c.
**Insulation:** 3-1/2" glass fiber
**Floor:** Carpet on foam mat on 3/4" gypsum underlayment on 1/8" random filament sound control mat on 3/4" OSB
**Ceiling:** 2 layers 1/2" Fire-Shield C Gypsum Board on RC-1
**UL Design:** M546 - 1 hour
Floor-Ceiling Assemblies

Figure 286

**STC-59**  
**IIC-57**  
**NGC 5018078**  
**NGC 7018106**  
**Framing:** 18" wood trusses, 24" o.c.  
**Insulation:** 3-1/2" glass fiber  
**Floor:** Vinyl tile on foam mat on 1" gypsum  
underlay on 1/4" random filament sound  
control mat on 23/32" OSB  
**Ceiling:** 3/4" SoundBreak XP Ceiling Board on RC-1  
**UL Design:** M545 - 1 hour

Figure 287

**STC-58**  
**IIC-79**  
**NGC 5018080**  
**NGC 7018108**  
**Framing:** 18" wood trusses, 24" o.c.  
**Insulation:** 3-1/2" glass fiber  
**Floor:** Carpet on foam mat on 1" gypsum  
underlay on 1/4" random filament sound  
control mat on 23/32" OSB  
**Ceiling:** 3/4" SoundBreak XP Ceiling Board on RC-1  
**UL Design:** M545 - 1 hour

Figure 288

**STC-60**  
**IIC-61**  
**NGC 5018118**  
**NGC 7018160**  
**Framing:** 18" wood trusses, 24" o.c.  
**Insulation:** 18" glass fiber  
**Floor:** Engineered wood on foam mat on 1" gypsum  
underlay on 1/4" random filament sound  
control mat on 23/32" OSB  
**Ceiling:** 3/4" SoundBreak XP Ceiling Board on 7/8"  
furring channel and resilient isolation clips  
**UL Design:** M545 - 1 hour

Figure 289

**STC-60**  
**IIC-61**  
**NGC 5018119**  
**NGC 7018161**  
**Framing:** 18" wood trusses, 24" o.c.  
**Insulation:** 18" glass fiber  
**Floor:** Vinyl tile on foam mat on 1" gypsum  
underlay on 1/4" random filament sound  
control mat on 23/32" OSB  
**Ceiling:** 3/4" SoundBreak XP Ceiling Board on 7/8"  
furring channel and resilient isolation clips  
**UL Design:** M545 - 1 hour
**Floor-Ceiling Assemblies**

**STC-52**  
Framing: 18" wood trusses, 24" o.c.  
Insulation: None  
Floor: Vinyl flooring on 1" gypsum underlayment on 3/4" OSB  
Ceiling: 5/8" Fire-Shield C Gypsum Board on suspended ceiling grid system  
UL Design: L558, L563 - 1 hour  
Figure 292

**STC-50**  
Framing: 18" wood trusses, 24" o.c.  
Insulation: 3-1/2" glass fiber  
Floor: Vinyl flooring on 1" gypsum underlayment on 3/4" OSB  
Ceiling: 5/8" Fire-Shield C Gypsum Board on suspended ceiling grid system  
UL Design: L558, L563 - 1 hour  
Figure 293

**STC-58**  
Framing: 18" wood trusses, 24" o.c.  
Insulation: 3-1/2" glass fiber  
Floor: Vinyl flooring on 3/4" gypsum underlayment on 0.18" rubber underlayment on 3/4" OSB  
Ceiling: 5/8" SoundBreak XP Wall Board on 5/8" Fire-Shield C Gypsum Board on RC-1  
UL Design: L558, L563 - 1 hour  
Figure 294

**STC-53**  
Framing: 10J2 bar joists, 24" o.c.  
Insulation: None  
Floor: 2-1/2" concrete on 3/8" rib lath or steel deck  
Ceiling: 1/2" Fire-Shield C Gypsum Board on 7/8" steel furring channel  
UL Design: G514 - 2 hour  
Figure 295
Floor-Ceiling Assemblies

**Figure 294**

**IIC-55**

- **Framing:** 18" wood trusses, 24" o.c.
- **Insulation:** 3-1/2" glass fiber
- **Floor:** Engineered wood on foam mat on 1" gypsum underlayment on 1/4" random filament sound control mat on 23/32" OSB
- **Ceiling:** 5/8" High Strength Fire-Shield 60 Gypsum Board

**UL Design:** M550 - 1 hour

**Figure 295**

**IIC-58**

- **Framing:** 18" wood trusses, 24" o.c.
- **Insulation:** 3-1/2" glass fiber
- **Floor:** Vinyl Tile on foam mat on 1" gypsum underlayment on 1/4" random filament sound control mat on 23/32" OSB
- **Ceiling:** 5/8" High Strength Fire-Shield 60 Gypsum Board

**UL Design:** M550 - 1 hour

**Figure 296**

**IIC-76**

- **Framing:** 18" wood trusses, 24" o.c.
- **Insulation:** 3-1/2" glass fiber
- **Floor:** Carpet on foam mat on 1" gypsum underlayment on 1/4" random filament sound control mat on 23/32" OSB
- **Ceiling:** 5/8" High Strength Fire-Shield 60 Gypsum Board

**UL Design:** M550 - 1 hour

**Figure 297**

**IIC-60**

- **Framing:** 18" wood trusses, 24" o.c.
- **Insulation:** 18" glass fiber
- **Floor:** Vinyl Tile on foam mat on 1" gypsum underlayment on 1/4" random filament sound control mat on 23/32" OSB
- **Ceiling:** 5/8" High Strength Fire-Shield 60 Gypsum Board

**UL Design:** M550 - 1 hour
Roof-Ceiling Assemblies
## Roof-Ceiling Assemblies

<table>
<thead>
<tr>
<th>Figure 298</th>
<th>OITC-27</th>
<th>NGC 5018008</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Framing:</strong></td>
<td>12K3 bar joists 48” o.c.</td>
<td></td>
</tr>
<tr>
<td><strong>Roof:</strong></td>
<td>Membrane roof on 1/2” DEXcell FA Glass-Mat</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Roof Board on 3” Insulation on 5/8” DEXcell</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FA Glass-Mat Roof Board on steel deck</td>
<td></td>
</tr>
<tr>
<td><strong>Ceiling:</strong></td>
<td>None</td>
<td></td>
</tr>
<tr>
<td><strong>Insulation:</strong></td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Figure 299</th>
<th>OITC-44</th>
<th>NGC 5018003</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Framing:</strong></td>
<td>12K3 bar joists 48” o.c.</td>
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</tr>
<tr>
<td><strong>Roof:</strong></td>
<td>Membrane roof on 1/2” DEXcell FA Glass-Mat</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Roof Board on 3” Insulation on 5/8” DEXcell</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FA Glass-Mat Roof Board on steel deck</td>
<td></td>
</tr>
<tr>
<td><strong>Ceiling:</strong></td>
<td>1/2” Fire-Shield C Gypsum Board on 1-1/2” rigid furring channels</td>
<td></td>
</tr>
<tr>
<td><strong>Insulation:</strong></td>
<td>3-1/2” glass fiber</td>
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</table>

<table>
<thead>
<tr>
<th>Figure 300</th>
<th>OITC-46</th>
<th>NGC 5018006</th>
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</tr>
<tr>
<td><strong>Roof:</strong></td>
<td>Membrane roof on 1/2” DEXcell FA Glass-Mat</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Roof Board on 3” Insulation on 5/8” DEXcell</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FA Glass-Mat Roof Board on steel deck</td>
<td></td>
</tr>
<tr>
<td><strong>Ceiling:</strong></td>
<td>1/2” Fire-Shield C Gypsum Board on RC-1 on 1-1/2” rigid furring</td>
<td></td>
</tr>
<tr>
<td><strong>Insulation:</strong></td>
<td>3-1/2” glass fiber</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Figure 301</th>
<th>OITC-46</th>
<th>NGC 5018009</th>
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<tbody>
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<td><strong>Framing:</strong></td>
<td>12K3 bar joists 48” o.c.</td>
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</tr>
<tr>
<td><strong>Roof:</strong></td>
<td>Membrane roof on 1/2” DEXcell FA Glass-Mat</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Roof Board on 3” Insulation on 5/8” DEXcell</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FA Glass-Mat Roof Board on steel deck</td>
<td></td>
</tr>
<tr>
<td><strong>Ceiling:</strong></td>
<td>1/2” Fire-Shield C Gypsum Board on 1-1/2” rigid furring channels on 1” steel channels suspended from joists</td>
<td></td>
</tr>
<tr>
<td><strong>Insulation:</strong></td>
<td>3-1/2” glass fiber</td>
<td></td>
</tr>
</tbody>
</table>
Framing: 12K3 bar joists 48” o.c.
Roof: Membrane roof on 1/2” DEXcell FA Glass-Mat
      Roof Board on 3” Insulation on 5/8” DEXcell
      FA Glass-Mat Roof Board on steel deck
Ceiling: 2 layers 5/8” Fire-Shield Gypsum Board on
        1-1/2” rigid furring channels on 1” steel
        channels suspended from joists
Insulation: 5-1/2” mineral wool
Ceiling Attenuation
Class Assemblies
Ceiling Attenuation Class Assemblies

CAC-41 NGC 6000001
Ceiling: Suspended ceiling grid with 2’ x 4’ x 5/16"
Gridstone Hi-Strength Ceiling Panels
Insulation: None

Figure 303

CAC-46 NGC 6098001
Ceiling: Suspended ceiling grid with 2’ x 4’ x 1/2"
Gridstone Ceiling Panels
Insulation: None

Figure 304

CAC-44 NGC 6013012
Ceiling: Suspended ceiling grid with 2’ x 2’ x 1/2"
Gridstone Ceiling Panels
Insulation: None

Figure 305

CAC-51 NGC 6013013
Ceiling: Suspended ceiling grid with 2’ x 2’ x 1/2"
Gridstone Ceiling Panels
Insulation: 3 1/2” glass fiber 48” on each side of partition

Figure 306
Ceiling Attenuation Class Assemblies

CAC-53 NGC 6013014
Ceiling: Suspended ceiling grid with 2' x 2' x 1/2" Gridstone Ceiling Panels
Insulation: 3-1/2" glass fiber full coverage over ceiling

CAC-53 NGC 6017015
Ceiling: Suspended drywall grid with 5/8" Fire-Shield Gypsum Board
Insulation: None

CAC-56 NGC 6017014
Ceiling: Suspended drywall grid with 5/8" Fire-Shield Gypsum Board
Insulation: 3 1/2" glass fiber 48" on each side of partition

CAC-57 NGC 6017016
Ceiling: Suspended drywall grid with 5/8" Fire-Shield Gypsum Board
Insulation: None
Plenum: 5/8" Fire-Shield Gypsum Board on 3-5/8" steel studs
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National Gypsum Company
2001 Rexford Road
Charlotte, NC 28211
Phone: (704) 365-7300
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Technical Information
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(800) 628-4662
Fax: (800) FAX-NGC
(800) 329-8421

You’ve got the questions ... we’ve got the answers.
From left, the technical service team: Mark Chapman, Sam Halverson and Jim Farrell.