Drywall
Steel-Framed Systems

Wall Partition & Ceiling Suspension Systems
Lightweight fire and sound-resistant assemblies provide an economical solution for single, double and multi-layer drywall partitions in commercial, residential and institutional applications.
This brochure explains:

- Where drywall partitions and ceiling systems are used.
- How to select and specify the appropriate components.
- The components of drywall partitions and ceiling systems.

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Drywall Partition System

Stud and Track

Components for drywall stud and track products are roll-formed from hot-dipped galvanized steel (corrosion resistant) and are available in a variety of sizes and thicknesses. The system is made from materials that comply to ASTM C645 and C527, with a minimum G40 coating or equivalent. Studs and tracks are produced in 3-meter length unless otherwise specified.
Drywall Ceiling System

Furring Channel, Perimeter Angle, Primary Channel

Drywall ceiling suspension products are roll-formed from hot dipped galvanized steel (corrosion resistant) and are available in a variety of thicknesses. The system is made from materials that comply to ASTM C645 and C527, with a minimum G40 coating or equivalent. All Drywall ceiling channels are produced in 3 meter length unless otherwise specified.

Drywall Ceiling Assembly

Furring Channel, Perimeter Angle, Primary Channel

Used for ceiling suspension, drywall ceiling framing is available in the following sizes: 22x69mm, 25x25mm and 12x38mm.
Applications

These systems are adaptable to virtually any type of new construction, including commercial, residential, institutional and industrial. They are also useful in renovation to provide smooth, durable interior surfaces. Fire-resistant assemblies are also available.

These partitions provide efficient sound insulation at all frequencies. The multilayer designs provide exceptional isolation at low, middle and high frequencies, making them ideal for isolating loud music, mechanical equipment and amplified speech sound sources. STC ratings are up to 62 for multilayer, 55 for double-layer, and 55 for single-layer resilient partitions, and 54 for single-layer. They are lightweight and thin, allowing for the most efficient use of materials and space.
## Components

### 1- Track
(U-Shaped Profile)

![Track Cross Section](image)

<table>
<thead>
<tr>
<th>Item Code</th>
<th>Description</th>
<th>Thickness (mm)</th>
<th>Length (mm)</th>
<th>Zinc Coating</th>
<th>Packaging</th>
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<tbody>
<tr>
<td>TR350</td>
<td>Wall Track 50x30</td>
<td>50</td>
<td>3000</td>
<td>G40-G60</td>
<td>Bundle</td>
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<tr>
<td>TR364</td>
<td>Wall Track 64x30</td>
<td>64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TR372/75</td>
<td>Wall Track 72/75x30</td>
<td>72/75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TR392</td>
<td>Wall Track 92x30</td>
<td>92</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TR3100</td>
<td>Wall Track 100x30</td>
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<tr>
<td>TR3125</td>
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<tr>
<td>TR3150</td>
<td>Wall Track 150x30</td>
<td>150</td>
<td></td>
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</table>

### 2- Stud
(C-Shaped Profile)

![Stud Cross Section](image)

<table>
<thead>
<tr>
<th>Item Code</th>
<th>Description</th>
<th>Thickness (mm)</th>
<th>Length (mm)</th>
<th>Zinc Coating</th>
<th>Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST3550</td>
<td>Wall Stud 50x36</td>
<td>48.8</td>
<td>3000</td>
<td>G40-G60</td>
<td>Bundle</td>
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<tr>
<td>ST3564</td>
<td>Wall Stud 64x36</td>
<td>62.8</td>
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<tr>
<td>ST3572/75</td>
<td>Wall Stud 72/75x36</td>
<td>70.8/73.8</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>ST3592</td>
<td>Wall Stud 92x36</td>
<td>90.8</td>
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<td></td>
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</tr>
<tr>
<td>ST35100</td>
<td>Wall Stud 100x36</td>
<td>98.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST35125</td>
<td>Wall Stud 125x36</td>
<td>123.8</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>ST35150</td>
<td>Wall Stud 150x36</td>
<td>148.8</td>
<td></td>
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</tbody>
</table>
## Components

3- **Furring Channel** (Omega-Shaped Profile)

![Cross Section of Furring Channel](image)

<table>
<thead>
<tr>
<th>Components</th>
<th>Dimensions (mm)</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item Code</td>
<td>Description</td>
<td>Thickness</td>
</tr>
<tr>
<td>FC2269</td>
<td>Furring Channel (22x69)</td>
<td>0.45 - 1.50mm</td>
</tr>
</tbody>
</table>

4- **Perimeter Angle** (L-Shaped Profile)

![Cross Section of Perimeter Angle](image)

<table>
<thead>
<tr>
<th>Components</th>
<th>Dimensions (mm)</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item Code</td>
<td>Description</td>
<td>Thickness</td>
</tr>
<tr>
<td>PA2525</td>
<td>Perimeter Angle 25 x 25 L-Profile</td>
<td>0.45 - 1.0mm</td>
</tr>
</tbody>
</table>

5- **Primary Channel** (U-Shaped Profile)

![Cross Section of Primary Channel](image)

<table>
<thead>
<tr>
<th>Components</th>
<th>Dimensions (mm)</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item Code</td>
<td>Description</td>
<td>Thickness</td>
</tr>
<tr>
<td>PC1238</td>
<td>Primary U Channel (12 x 38)</td>
<td>0.50 - 1.0mm</td>
</tr>
</tbody>
</table>
# Installation

## How to Build with Steel Stud and Track

<table>
<thead>
<tr>
<th>Attach track to floor and ceiling</th>
<th>Use straight snips for cutting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw lengths of track to the floor and ceiling. Tracks are slightly wider than studs, so studs snap right in.</td>
<td>To trim to correct length, cut both side flanges of a steel stud, using straight-cut aviation snips. Then bend one flange up and cut across the stud’s web.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Screw stud to track</th>
<th>Use bushings for electric cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Join studs to tracks by clamping the two members tightly with a C-clamp locking pliers and driving a pan-head screw in the middle where they meet.</td>
<td>Secure electrical cable along the center line of each stud with plastic ties screwed to the studs. Pop a plastic bushing into each knockout to keep the cable from rubbing against the sharp edges.</td>
</tr>
</tbody>
</table>

- Drive the screws at medium speed.
- Choose a clutch setting strong enough to drive the screw home, but not so strong that it strips the screw hole and weakens the joint.
Installation

- Add wood nailers as needed for doors, windows and cabinets.
- Hang drywall or sheathing using 3.1 cm self-tapping drywall screws spaced every 20.3 cm along edges (where two sheets meet on a stud) and 30.5 cm on center elsewhere.
- Check local building codes. They may require screws placed closer together, and having too many screws is preferable to having to add more after the inspector comes.

Installation - Stud

- For standard installation insert the studs into the top and floor tracks and twist to lock as shown. The friction fit will hold the stud in place.
- Non-fire rated partitions—allow a 10mm gap between the top of the stud and inside face of the track, as illustrated.

Safety First

- Don't try nailing trim into steel studs. It will not hold. Instead, use specially designed trim screws for the job.
- Cut steel is sharp—wear gloves.
- Always wear eye protection when cutting steel and when driving screws. A screw may jump off the power screwdriver and can cause eye injuries.
- Make sure that architect's or designer's plans aren't drawn for wood dimensions.
To attach plasterboard to light gauge steel studs, a slightly different technique is required compared to conventional timber studs. Use the following instructions to ensure correct installation.

**Correct Method**

As the face of a steel stud can deflect initially, using the correct sequence to attach the board is important. Attach the first board to the open side of the stud. The face will deflect slightly, then will pull tight against the board. Support the stud to avoid twisting and fully screw the board to this stud before continuing. The next sheet can now be screwed to the closed side of the stud. Deflection will be minimal as the first sheet helps keep a rigid assembly and the result is a correct flat joint.

**Incorrect Method**

If a board is screwed to the closed side first, then the face is able to deflect when the next board is screwed to the open side. This can permanently bend the face, resulting in a lipped joint.

**Plasterboard Fixing Sequence**

The boards shall be fixed in the sequence shown A B C D. When installing the first side (A and B), fasten the board at the edges only (1 & 2). The centre must not be fastened until the second side (C & D) have been installed. Locate board joints on each side of the wall on alternate studs. Screws shall be fastened in sequence 1-6. Correct sequence will minimize any misalignment problems and result in a higher quality finish.
**Spliced Studs**

When heights greater than standard pre-cut lengths are required, using the 'boxing' feature single studs can be spliced together to extend to the required height. Minimum overlap: 3 x depth of stud, for example,

- 98.8mm stud = 300 mm overlap
- 63.8mm stud = 200 mm overlap

- Rivets: 4mm dia. mild steel, 3 per face (total 6)

Splices must be within 25% of wall height, and splices should be alternated top and bottom. Splices may be used in fire rated walls, provided steel rivets are used (not aluminium).

**Nogging**

- **Single Nogging**
  - Where specific load requirements or fixtures are needed, an individual nog can be formed from the track profile to fill between the studs. Cut and trim as shown and fix with 3mm diameter rivets. The maximum height tables do not allow for heavy loads to be attached to the walls such as TV's, cantilevered benches / bookcases / toilets etc. Where such equipment must be hung off a wall, specifically designed supports are required. Please contact USG Interiors for this assistance.

- **Continuous Nogging**
  - For certain applications such as towel rails, pictures and suspended ceiling perimeter fixing etc, continuous nogging may be required. Use the track, cut, notch and fix as shown. This will normally link 5-6 studs at 600mm centres. Double sided can also be achieved if required by repeating on the other stud face.

**Control Joints**

Control joints shall be provided at 9m centres in partitions. Top and bottom track may be continuous through control joints. For construction refer Winstone Wallboards Gib*, Interior Solutions Site Guide February 1998 and CLC's Appraisal 21/09/98.
What are the advantages of USGME products?

USG products offer several advantages:

- Meet or exceed all international code requirements (ISO - EN - ASTM).
- Fully compatible with all standard gypsum boards.
- Installation - Knurled flanges for easier attachment of facing materials.
- Flexural tensile strength.
- Easy to cut using tin snips.
- Mineral wool can be easily installed to upgrade sound insulation.
- Durability of flexural tensile strength and load bearing capacity against moisture.
- Resistance and reaction to fire.
- Improved safety by reducing sharp edges and lips.
- Sound absorption (less noise transmission through walls and ceiling).
- A better, quieter building.
- Large range of sizes available.
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Product Information
See usg.com/me for the most up-to-date product information.

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Safety First!
Follow good safety/industrial hygiene practices during installation, wear appropriate personal protective equipment before specification and installation.