

The Steel Network, Inc.

MidWall™

Partial Wall Framing



Material Composition

MidWall: ASTM A1003/A1003M Structural Grade 50 (340) Type H, ST50H (ST340H), 50ksi (340MPa) minimum yield strength, 65ksi (450MPa) minimum tensile strength, G90 (Z275) hot-dipped galvanized coating. Material Thickness = 118mil (10 gauge, 0.1242" design thickness) for 250MW and 362MW. Material Thickness = 97mil (12 gauge, 0.1017" design thickness) for 600 MW.

MidWall Plate: ASTM A36/A36M: 36ksi (250MPa) minimum yield strength, 58-80ksi (400-550MPa) tensile strength, 1/2" minimum thickness.



US Patent #8,387,321

MidWall Allowable Loads

Wall Width (in)	MidWall™ Member	Maximum Point Load @ 48" (ASD), lbs	Maximum Base Moment, lbs-in
2 1/2	250MW	128	6,150
3-5/8	362MW	332	15,940
6	600MW	407	19,540

Notes

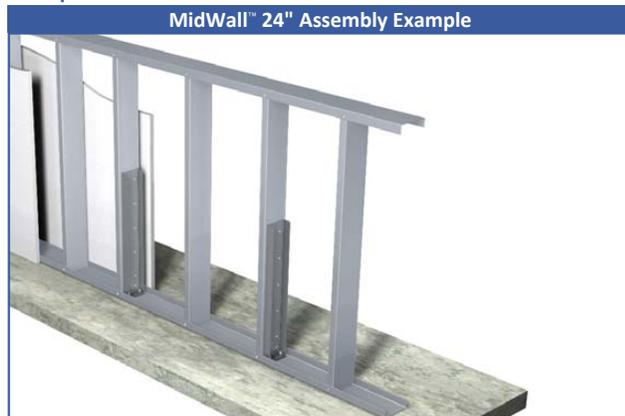
- MidWall is designed to support out-of-plane loading in cantilevered partial wall systems that are unsupported at the top track.
- Out-of-plane loads are transferred to the floor system through plate nested in the flanges of the member with two 3/8" diameter fasteners (or one 1/2" diameter fastener for 250MW) used for the connection.
- MidWall may be used in place of standard framing members, or in conjunction with them to frame the wall.

Nomenclature

MidWall is currently available in two heights and three depths. Product nomenclature lists the member depth first followed by the height in inches

Example: 6" web depth, 24" tall MidWall
Designate: 600MW-24

Example Details



MidWall 24" is generally used in interior half walls of less than 48" in height. Attach MidWall 24" to a 54mil stud with #12 screws through all pre-drilled guide holes. Other studs in the walls are typical infill studs. Maximum spacing between MidWall connectors is 36" o.c. (see table on following page). Contact TSN Technical Services at (888) 474-4876 for design recommendations.



MidWall 48" is used in interior half walls equal to or more than 48" in height. Use one MidWall 48" as a substitute for a stud at the specified spacing, or attach to a 54mil stud with #12 screws through all pre-drilled guide holes. Maximum spacing between MidWall connectors is 36" o.c.



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Design Information

Criteria:
IBC 2009
Refer to Section 1607.7.1

Applications:

- Handrails and Guards
- Interior Half Walls
- Parapets
- Ribbon Windows

Handrails and Guards:

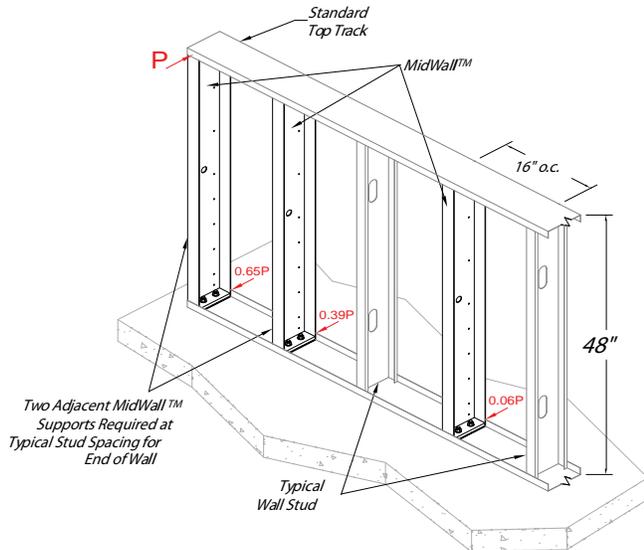
- 50 lb/ft applied in any direction at the top of wall
- 200 lbs applied in any direction at any point at the top of the wall

Parapets & Ribbon Windows:

- Design Wind Pressure

Interior Half Walls:

- Design internal pressure



Design Procedure

The top track spanning between MidWall members acts as a load distribution member capable of distributing localized loads to multiple MidWall members. It is recommended to design the track in these applications. Refer to the diagram above for an example of the distribution of the point load, P, to adjacent MidWall supports. At the end of the wall, MidWall is required at adjacent stud spacings. Designed spacing begins after two adjacent end supports.

Max Applied Tension in One Anchor (lbs)	250 MidWall™ 1/2" Anchorage Options (4,000 psi minimum concrete strength)
500	1/2" Wedge-Bolt, 2" Embed. (Powers); 1/2" Carbon Steel HUS-H Screw Anchor Mechanical, 2" Embed. (Hilti)
1,000	1/2" Wedge-Bolt, 2 1/2" Embed. (Powers); 1/2" Carbon Steel Kwik Bolt 3 Expansion Anchor, 2 1/4" Embed. (Hilti) 1/2" Trubolt Wedge, 2 1/4" Embed. (Red Head)
1,500	1/2" Carbon and Stainless Steel Power-Bolt, 2 1/2" Embed. (Powers) 1/2" Carbon Steel Kwik Bolt 3 Expansion Anchor, 3 1/2" Embed. (Hilti)

Max Applied Tension in One Anchor (lbs)	362/600 MidWall™ 3/8" Anchorage Options (4,000 psi minimum concrete strength)
1,500	3/8" Wedge-Bolt, 3" Embed. (Powers); 3/8" Carbon Steel Kwik Bolt 3 Expansion Anchor, 3 1/2" Embed. (Hilti)
2,000	3/8" Wedge-Bolt, 3 1/2" Embed. (Powers); 3/8" HAS-E Standard (ISO 898 Class 5.8) w/ HIT-HY 150 MAX Adhesive, 3 3/8" Embed. (Hilti); 3/8" ASTM A307 Threaded Rod w/ A7 Adhesive, 3 3/8" Embed. (Red Head)
2,500	3/8" Wedge-Bolt, 3 1/2" Embed. (Powers); 3/8" HAS-E Standard (ISO 898 Class 5.8) w/ HIT-HY 150 MAX Adhesive, 3 3/8" Embed. (Hilti); 3/8" ASTM A193 GR. B7 Threaded Rod w/ A7 Adhesive, 3 3/8" Embed. (Red Head)
3,000	3/8" HAS SS (AISI 304/316 SS) w/ HIT-HY 150 MAX Adhesive, 3 3/8" Embed. (Hilti)

