MidWall™

Partial Wall Framing

The Steel Network, Inc.
www.steelnetwork.com
1-888-474-4876

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, ½" 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 ½	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 ½" 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" Assembly Example

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" Assembly Example

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.

Design Information

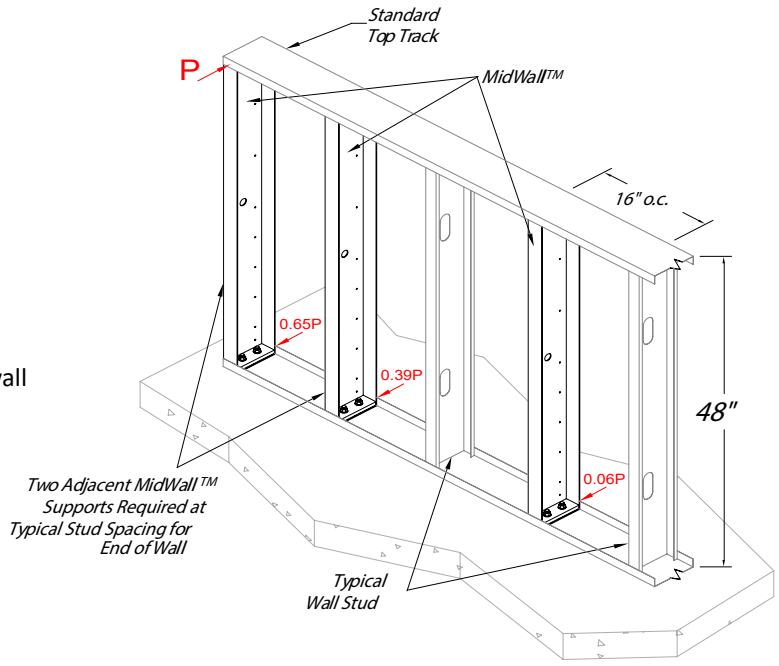
Criteria:
IBC 2021
Refer to Section 1607.9.1

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 (T_u) on One Anchor (lbs)(LRFD)	250 MidWall™ ½" Anchorage Options (4,000 psi Minimum Normal Weight Cracked Concrete)
900	½" Screw-Bolt+, 2 ½" Nominal Embedment (Dewalt)
	½" Kwik HUS-EZ, 2 ¼" Nominal Embedment (Hilti)
1,200	½" Screw-Bolt+, 2 ½" Nominal Embedment (Dewalt)
	½" Kwik HUS-EZ, 2 ¼" Nominal Embedment (Hilti)
1,600	½" Screw-Bolt+, 3" Nominal Embedment (Dewalt)
	½" Kwik HUS-EZ, 3" Nominal Embedment (Hilti)

Max Applied Tension (T_u) on One Anchor (lbs)(LRFD)	362/600 MidWall™ 3/8" Anchorage Options (4,000 psi Minimum Normal Weight Cracked Concrete)
1,800	(2) ⅜" Screw-Bolt+, 3 ¼" Nominal Embedment (Dewalt)
	(2) ⅜" Kwik Bolt TZ2 - CS, 3" Nominal Embedment (Hilti)
2,200	(2) ⅜" Screw-Bolt+, 3 ¼" Nominal Embedment (Dewalt)
	(2) ⅜" Kwik Bolt TZ2 - CS, 3" Nominal Embedment (Hilti)
2,400	(2) ⅜" HAS-E Threaded Rod w/ HIT-HY 200 V3 Epoxy, 3" Effective Embedment (Hilti)
3,200	(2) ⅜" HAS-E Threaded Rods w/ HIT-HY 200 V3 Epoxy, 4" Effective Embedment (Hilti)