

SECTION 09 22 16 -NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Section Includes:
 - 1. Non-load-bearing steel framing systems for interior gypsum board assemblies.
 - 2. Suspension systems for interior gypsum ceilings, soffits, and grid systems.
- C. Related Requirements:
 - 1. Section 05 40 00 "Cold-Formed Metal Framing" for exterior and interior load-bearing and exterior non-load-bearing wall studs; floor joists; roof rafters and ceiling joists; and roof trusses.
 - 2. Section 05 50 00 "Metal Fabrications" for steel reinforcing used with partial height partitions.
 - 3. Section 07 21 00 "Thermal Insulation" for insulation installed within studs and insulation installed with Z-shaped furring members.
 - 4. Section 09 21 16 "Gypsum Board Shaft Wall Assemblies" for non-load-bearing metal shaft-wall framing, gypsum panels, and other components of shaft-wall assemblies.
 - 5. Section 09 29 00 "Gypsum Board".

1.2 ACTION SUBMITTALS

- A. Coordination: Submit related product data/shop drawings, specified in another Section simultaneously for approval.
 - 1. Gypsum board product data for gypsum board to be used as part of non-structural metal framing.
 - 2. Gypsum board shaft wall product data for shaft walls related to non-structural metal framing.
- B. Product Data: Submit manufacturer's product data, typical installation details and other data for each type of product listed to show compliance with the requirements

1.3 INFORMATION SUBMITTALS

- A. Span and Deflection Design Criteria: Provide height to load deflection charts showing studs supplied conform to deflection limit scheduled and allowed per ASTM C 754.
 - 1. Mark on chart(s) showing all major partitions scheduled conformance with criteria.

2. Submit manufacturer's certification of stud size, thickness, and spacing complying with performance requirements and selections made by architect are correct for application shown.
 - B. Delegated Design: Engage a qualified professional engineer, as defined in Section 014 0 00 "Quality Requirements," to design non-structural framing.
 - C. Evaluation Reports: For fire-stop tracks, from ICC-ES.
- 1.4 QUALITY ASSURANCE
- A. Installer's Qualifications: Firm and individuals with a minimum of 5 consecutive years experience in the installation of specified products on projects similar in material, design, complexity and extent to this Project, and whose work has resulted in applications with a record of successful in-service performance.
 - B. Single-Source Responsibility for Steel Framing: Obtain steel framing members for gypsum board assemblies from a single manufacturer acceptable to the gypsum board manufacturer.
- 1.5 HANDLING
- A. Delivery: Protect materials from excessive moisture in shipment, storage, and handling.
 - B. Storage: Store off ground, either in a dry, ventilated, enclosed space or protected with suitable waterproof coverings.
 - C. Handling: Protect non-structural framing members from rusting and damage.
- 1.6 SEQUENCING
- A. Coordinate placement of concealed internal wall reinforcement, such as backing plates, for items to be attached to metal support systems.
 - B. Coordinate installation of ceiling and soffit suspension systems with installation of overhead structural assemblies to ensure that inserts and other provisions for anchorage to building structure have been installed to receive ceiling hangers that will develop their full strength and at spacing required to support ceilings.
 - C. Furnish concrete inserts, and other devices indicated, to other trades for installation well in advance of time needed for coordination with other construction.

PART 2 - PRODUCTS

2.1 DESCRIPTIONS -GENERAL

- A. Performance Requirements: Provide metal framing assemblies to withstand the loads prescribed within the specified deflection limits.

1. Deflection Limit per ASTM C 754: Allowing for 5 lbf/sq. ft (24 Pa) lateral load.
 - a. Typical Finishes: L/240.
 - b. Tile, Plaster or Similar Finishes: L/360.
 2. Where partition heights exceed stud manufacturer's recommended spans, and to resist deflection limits or seismic forces, provide one of the following:
 - a. Heavier stud gage.
 - b. Closer stud spacing.
 - c. Deeper stud size (space permitting, as determined by Architect).
 - d. Above-ceiling bracing, anchored to structure above.
- B. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
1. Conform to applicable code for fire rated assemblies. Construct assemblies to achieve fire resistance ratings indicated on Drawings in accordance with UL, GA, or other acceptable tested approved assemblies. Where no test number is referenced, utilize and submit a tested approved assembly that achieves the fire rating required by the Drawings, including the Life Safety Plan.
 2. Assemblies listed do not necessarily indicate all assemblies that may be used in this project. Contractor may propose alternate UL listed assemblies that meet the same requirements to the Architect for consideration. Contractor may not substitute assemblies without written authorization by the Architect.
 3. Drawings, keys or written descriptions located in the Contract Documents to describe fire rated assemblies for beams, floors, roofs, columns, walls, partitions and through-penetration fire-stop systems do not necessarily call out each and every specific requirement of the designated UL listed assembly identified. It is the Contractor's responsibility to become thoroughly familiar with the corresponding requirements published in the most recent issue of the Underwriters Laboratories Inc. Fire Resistance Directory and construct the fire rated assemblies in strict accordance with those requirements.
 4. Prescribed UL Design Numbers which may be called for on this Project and may be required as determined during the construction process if existing conditions dictate. The list of assemblies below is not intended to represent all rated conditions designated in whole of the Contract Documents or those that may be considered viable alternates (where approved by Architect). UL listed fire rated assemblies include, but are not limited to the following:
 - a. Wall Systems: Refer to Drawings.
 - b. Through-Penetrations Fire-stop Systems: Refer to Section 07 84 13 "Penetration Fire-stopping."
 - c. Fire-Resistive Joint Systems: Refer to Section 08 84 46 "Fire-Resistant Joint Sealants."
- C. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to

ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 FRAMING SYSTEMS

- A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated.
 - 2. Protective Coating: ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized, unless otherwise indicated.
- B. Studs and Runners: ASTM C 645.
 - 1. Steel Studs and Runners:
 - a. Minimum Base Metal Thickness: 0.018 inches (0.45 mm) unless otherwise indicated or required to comply with span and deflection design criteria, before application of protective coating.
 - b. Depth: 3-5/8 inches (92.1 mm) unless otherwise indicated or required to comply with span and deflection design criteria.
- C. Slip-Type Head Joints: Where indicated, provide one of the following:
 - 1. Double-Runner System: ASTM C 645 top runners, inside runner with 2-inch- (51-mm-) deep flanges in thickness not less than indicated for studs and fastened to studs, and outer runner sized to friction fit inside runner.
 - 2. Proprietary Deflection Track/Clips: Steel sheet top runner and clip system manufactured to prevent cracking of gypsum board applied to interior partitions resulting from deflection of structure above; in thickness indicated for studs and in width to accommodate depth of studs.
 - a. Products: Subject to compliance with requirements, provide one of the following:
 - 1) Dietrich Metal Framing, "Fast Stop" clips, 0.064 inches (1.63 mm) thick, used in conjunction with 0.033 inch (0.8 mm) thick deep leg track.
 - 2) Marino / WARE WSC-DEFLEX Series slide clips, used in conjunction with 0.033 inch (0.8 mm) thick deep leg track.
 - 3) Steel Network Inc. (The); VertiClip SLD or VertiTrack VTD Series.
 - 4) Stockton Products, Flexible Trak, FLT.
 - 3. Substitutions: None permitted.
 - 4. Single Deep-Leg Track: Not permitted.
- D. Fire-stop Tracks: Top runner manufactured to allow partition heads to expand and contract with movement of the structure while maintaining continuity of fire-resistance-rated assembly indicated; in thickness not less than indicated for studs and in width to accommodate depth of studs.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Fire Trak Corp.; Fire Trak System attached to studs with Fire Trak Posi Klip.
 - b. The Steel Network, Inc.; VertiClip SLD Series or VertiTrack VTD Series.

- c. Substitutions: None permitted.
- 2. Single Deep-Leg Track: Not permitted.
- E. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
 - 1. Minimum Base-Metal Thickness: 0.018 inch (0.45 mm)
- F. Cold-Rolled Channel Bridging: Steel, 0.053-inch (1.34-mm) minimum base-metal thickness, with minimum 1/2-inch- (13-mm-) wide flanges.
 - 1. Depth: 1-1/2 inches (38 mm).
 - 2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches (38 by 38 mm), 0.068 inch- (1.72-mm-) thick, galvanized steel.
- G. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
 - 1. Minimum Base-Metal Thickness: 0.018 inch (0.45 mm)
 - 2. Depth: 7/8 inch (22.2 mm).
- H. Resilient Furring Channels: 1/2-inch- (13-mm-) deep, steel sheet members designed to reduce sound transmission.
 - 1. Configuration: Asymmetrical or hat shaped, with face attached to single flange by a slotted leg (web) or attached to two flanges by slotted or expanded metal legs.
- I. Cold-Rolled Furring Channels: 0.053-inch (1.34-mm) uncoated-steel thickness, with minimum 1/2-inch- (13-mm-) wide flanges.
 - 1. Depth: 3/4 inch (19 mm).
 - 2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum uncoated-steel thickness of 0.033 inch (0.8 mm).
 - 3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062 inch- (1.59-mm-) diameter wire, or double strand of 0.048-inch- (1.21 mm-) diameter wire.
- J. Flexible Track for Studs: Galvanized steel flexible track and strap system designed to receive studs for framing curves; component sizes as indicated on Drawings.
 - 1. Galvanized Steel: ASTM A 653, gage and grade as required for application.
 - 2. Acceptable Product: Flex-Ability Concepts ; Flex-C Trac.
- K. Z-Shaped Furring: With slotted or non-slotted web, face flange of 1-1/4 inches (32 mm), wall attachment flange of 7/8 inch (22 mm), minimum uncoated-metal thickness of 0.018 inch (0.45 mm), and depth required to fit insulation thickness indicated.

2.3 SUSPENSION SYSTEMS

- A. Primary Suspension Members for Ceilings:
 - 1. General: Size and provide ceiling support components to comply with ASTM C754.
- B. Hanger Attachments to Concrete:
 - 1. Powder-Actuated Fasteners: Suitable for application indicated, fabricated from corrosion-resistant materials with clips or other devices for attaching hangers of type indicated, and capable of sustaining, without failure, a load equal to 10 times that imposed by construction as

determined by testing according to ASTM E 1190 by an independent testing agency.

- C. Hangers: As follows:
 - 1. Rod Hangers: ASTM A 510 (ASTM A 510M), mild carbon steel.
 - a. Diameter: 1/4-inch (6-mm).
 - b. Protective Coating: ASTM A 153/A 153M, hot-dip galvanized.
 - 2. Flat Hangers: Commercial-steel sheet, ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized.
 - a. Size: 1 by 3/16 inch (25 by 5 mm) by length indicated.
- D. Carrying Channels: Cold-rolled, commercial-steel sheet with a base-metal thickness of 0.053 inch (1.34 mm) and minimum 1/2-inch- (13-mm-) wide flanges with ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized zinc coating.
 - 1. Depth: 2-1/2 inches (64 mm).
- E. Furring Channels (Furring Members):
 - 1. Cold-Rolled Channels: 0.053-inch (1.34-mm) uncoated-steel thickness, with minimum 1/2-inch- (13-mm-) wide flanges, 3/4 inch (19 mm) deep.
 - 2. Steel Studs and Runners: ASTM C 645.
 - a. Minimum Base-Metal Thickness: 0.018 inch (0.45 mm).
 - b. Depth: 1-5/8 inches (41 mm) unless noted otherwise.
 - 3. Hat-Shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch (22 mm) deep.
 - a. Minimum Base-Metal Thickness: 0.018 inch (0.45 mm).
 - 4. Resilient Furring Channels: 1/2-inch- (13-mm-) deep members designed to reduce sound transmission.
 - a. Configuration: Hat shaped, with face attached to two flanges by slotted or expanded metal legs.
- F. Grid Suspension System for Gypsum Board Ceilings: ASTM C 645, direct-hung system composed of main beams and cross-furring members that interlock.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Armstrong World Industries, Inc.; Drywall Grid Systems.
 - b. Chicago Metallic Corporation; Drywall Grid System.
 - c. USG Corporation; Drywall Suspension System.
 - 2. Provide compression struts and sway bracing to resist seismic forces.

2.4 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards.
 - 1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.
- B. Isolation Strip at Exterior Walls: Provide one of the following:
 - 1. Asphalt-Saturated Organic Felt: ASTM D 226, Type I (No. 15 asphalt felt), non-perforated.

2. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch (3.2 mm) thick, in width to suit steel stud size.
- C. Isolation Strips at Sound Control Construction: Provide one of the following:
 1. Insulating Strips: Rubberized, moisture resistant 1/8-inch (3 mm) thick foam tape 1/2-inch (12 mm) wide, self-sticking adhesive on one face, lengths as required.
 2. Insulating and Damp-proofing Strip: Closed cell polyethylene foam, 3/16-in thick (4.7 mm) by width to suit stud track size, lengths as required.
 - a. Acceptable Product : Foam-SealR by Owens Corning
 3. Insulating and Damp-proofing Strip: Fire rated, Foam tape, compressible, closed cell polyvinyl chloride foam with pressure sensitive adhesive, in rolls with protective release liner on non-adhesive face, 9 pcf density, wide to suit stud track size by 3/16 inch (4.7 mm) thick, self-extinguishing, UL 94 compliant.
 - a. Acceptable Product: Norseal V746, by Saint Gobain.
- D. Acoustical Joint Sealant: Manufacturer's standard non-sag, paintable, non-staining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Accumetric LLC; BOSS 824 Acoustical Sound Sealant.
 - b. Grabber Construction Products; Acoustical Sealant GSC.
 - c. Pecora Corporation; AC-20 FTR.
 - d. Specified Technologies, Inc.; Smoke N Sound Acoustical Sealant.
 - e. USG Corporation; SHEETROCK Acoustical Sealant.
 2. Acoustical joint sealant shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Suspended Assemblies: Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at

spacing required to support the Work and that hangers will develop their full strength.

1. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.

B. Coordination with Sprayed Fire-Resistive Materials:

1. Before sprayed fire-resistive materials are applied, attach offset anchor plates or ceiling runners (tracks) to surfaces indicated to receive sprayed fire-resistive materials. Where offset anchor plates are required, provide continuous plates fastened to building structure not more than 24 inches (610 mm) o.c.
2. After sprayed fire-resistive materials are applied, remove them only to extent necessary for installation of non-load-bearing steel framing. Do not reduce thickness of fire-resistive materials below that required for fire-resistance ratings indicated. Protect adjacent fire-resistive materials from damage.

3.3 INSTALLATION, GENERAL

A. Installation Standard: ASTM C 754, except comply with framing sizes and spacing indicated.

1. Gypsum Veneer Plaster Assemblies: Also comply with requirements in ASTM C 844 that apply to framing installation.
2. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.

B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction. Comply with details indicated and with gypsum board manufacturer's written recommendations or, if none available, with United States Gypsum's "Gypsum Construction Handbook."

C. Install bracing at terminations in assemblies.

D. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

E. Installation Tolerances: Install each steel partition, soffit, and ceiling framing and furring members to comply with the following:

1. Variation in Level, Plumb, and True to Line: Maximum 1/8 inch (3 mm) in 10 feet (1:960).
2. Variation in Plane of Adjacent Fastening Surfaces: Not more than 1/8 inch (3 mm) from the plane formed by the faces of adjacent framing.
3. Variation in Framing and Furring Spacing: Not more than 1/8 inch (3 mm).

3.4 INSTALLING STEEL PARTITION FRAMED ASSEMBLIES

A. Install tracks (runners) at floors, ceilings, and structural walls and columns where gypsum board assemblies abut other construction.

1. Where studs are installed directly against exterior walls or dissimilar metals, install asphalt-felt or foam-gasket isolation strip between studs and wall.
 2. Install continuous insulating strips to isolate studs from uninsulated surfaces and at sound partitions.
- B. Acoustical Sealant Installation at Sound Walls: Install in accordance with ASTM C 919.
1. Place two beads of acoustic sealant between runners and substrate studs and adjacent construction to achieve an acoustic seal.
 2. Place two beads of acoustic sealant between studs and adjacent vertical surfaces to achieve an acoustic seal.
- C. Install steel studs so flanges point in the same direction and leading edge or end of each panel can be attached to open (unsupported) edges of stud flanges first.
1. Space studs as follows:
 - a. Single-Layer Construction: 16 inches (406 mm) o.c., unless otherwise indicated or required to comply with span and deflection design criteria.
 - b. Multilayer Construction: 16 inches (406 mm) o.c., unless otherwise indicated or required to comply with span and deflection design criteria.
- D. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.
1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
 - a. Use double runner system or proprietary deflection track at all locations except fire rated partitions.
 - b. Use proprietary fire-stop track at fire rated partitions.
 2. Door Openings:
 - a. Openings up to 48 inches wide:
 - 1) Jamb: Install two boxed studs, minimum of 0.033 inches (0.84 mm) thick at each jamb, unless otherwise indicated.
 - a) Extend jamb studs to underside of overhead structure and attach.
 - b) Screw vertical studs at jambs to jamb anchor clips on door frames.
 - 2) Header: Install a box stud header minimum of 0.033 inches (0.84 mm) thick, unless otherwise indicated.
 - a) Secure box header to jamb studs.
 - b) Install runner track section (for cripple studs) at head and secure to jamb studs.
 - c) Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch (13-mm) clearance from jamb stud to allow for installation of control joint in finished assembly.

3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
 4. Partitions Scheduled to Receive:
 - a. Tile Finish: Provide minimum of 0.033 inches (0.84 mm) thick studs.
 - b. Cementitious Backer Units: Provide minimum of 0.033 inches (0.84 mm) thick studs.
 - c. Bumper or Guard Rails: Provide minimum of 0.033 inches (0.84 mm) thick studs.
 - d. Equipment: Where wall mounted equipment, woodwork, and casework items are indicated or elsewhere as shown on Drawings, provide minimum of 0.033 inches (0.84 mm) thick studs.
 5. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.
 - a. Fire-stop Track: Install to maintain continuity of fire-resistance-rated assembly indicated.
 6. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.
 7. Curved Partitions:
 - a. Bend track to uniform curve and locate straight lengths so they are tangent to arcs.
 - b. Begin and end each arc with a stud, and space intermediate studs equally along arcs. On straight lengths of no fewer than two studs at ends of arcs, place studs 6 inches (150 mm) o.c.
- E. Direct Furring:
1. Screw to wood framing.
 2. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches (610 mm) o.c.
- F. Z-Furring Members:
1. Erect insulation (specified in Section 07 21 00 "Thermal Insulation") vertically and hold in place with Z-furring members spaced 24 inches (610 mm) o.c.
 2. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches (610 mm) o.c.
 3. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring channel to web of attached channel. At interior corners, space second member no more than 12 inches (305 mm) from corner and cut insulation to fit.

3.5 INSTALLING SUSPENSION SYSTEMS

- A. Install suspension system components in sizes and spacing's indicated on Drawings, but not less than those required by referenced installation standards for assembly types and other assembly components indicated.

- B. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.
 - C. Suspend hangers from building structure as follows:
 - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.
 - a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, counter-splaying, or other equally effective means.
 - 2. Where width of ducts and other construction within ceiling plenum produces hanger spacing's that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.
 - 3. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced installation standards.
 - 4. Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail.
 - 5. Flat Hangers: Secure to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
 - 6. Do not attach hangers to steel roof deck.
 - 7. Do not attach hangers to permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
 - 8. Do not attach hangers to rolled-in hanger tabs of composite steel floor deck.
 - 9. Do not connect or suspend steel framing from ducts, pipes, or conduit.
 - D. Fire-Resistance-Rated Assemblies: Wire tie furring channels to supports.
 - E. Seismic Bracing: Sway-brace suspension systems with hangers used for support. Provide compression struts installed at 12 feet on center each way to secure ceilings and soffits
 - F. Grid Suspension Systems: Attach perimeter wall track or angle where grid suspension systems meet vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.
- 3.6 METAL BACKING PLATES:
- A. Provide metal backing plates to support loads imposed at wall-mounted and wall-hung items that require backing plates, include, without limitation, the following:
 - 1. Toilet accessories, except grab bars.
 - 2. Metal lockers.
 - 3. Fire protection specialties.
 - 4. Marker-boards.

5. Tack-boards.
 6. Millwork, other than upper cabinets.
 7. Medical equipment.
 8. Metal cabinets.
 9. Computer equipment wall mounting brackets.
 10. Medical equipment rails.
 11. Wall protection.
- B. Backing plates not provided with fixtures and equipment shall be long enough to span across a minimum of 3 studs, unless otherwise indicated, and may be one of the following:
1. Galvanized steel plate 0.053-inch (1.34-mm) thick minimum by 4 inches wide.
 2. 3-5/8 inches (92.1 mm) un-punched wide flange steel stud of 0.053 inch (1.34-mm) thick.
 3. At Contractor's option, solid wood blocking may be used in lieu of metal backing plates. Refer to Section 06 10 53 "Miscellaneous Carpentry."
- C. Only wood blocking will be acceptable at the following locations:
1. Wall-mounted door stops.
 2. Wall-mounted grab bars.
 3. Upper wall millwork / casework units.
 4. Wall-mounted handrails.
- D. Notch studs so that backing plate will be flush with exterior face of stud.

END OF SECTION