



Introduction to
Cold Formed
Steel Framing

STEEL FRAMING



- *What is Steel Framing?*
 1. Steel Framing, also known as Cold Formed Metal Framing or CFS, is sheet steel that is roll formed into framing products including C shapes & U shapes.
 2. Roll forming is the automated process of shaping.
 3. Steel Framing is an engineered product that is offered in a wide variety of sizes and mil/gauge thickness's.
 4. Its an excellent alternative building product to wood and masonry.

STEEL FRAMING

- *The Benefits of Steel Framing*
 - Consistent quality.
 - Proven performance.
 - Steel is non-combustible.
 - It's a Green product as it contains a minimum of 25% recycled steel and is 100% recyclable.
 - Resistant to rot, mold and insect infestation.
 - Lighter than tradition framing products.
 - Virtually no waste or jobsite cutting.



STEEL FRAMING

- *Methods of building with Steel Framing*
 - Conventional “Stick” field framing
 - Off site pre-fabrication
 - Build wall sections on site
- *Methods of fastening Steel Framing*
 - Screws
 - Weld
 - Powder Actuated Fasteners
 - Crimping

STEEL FRAMING

- *Steel Framing Products are offered in (2) categories*
 - **Structural** (available in 5 thickness's)
 - Generic thickness's: 33mils/20ga, 43mils/18ga, 54mils/16ga, 68mils/14ga, 97mils/12ga.
 - **Non-Structural** (available in 6 thickness's)
 - Generic thickness's: 18mils/25ga, 30mils/20ga, 33mils/20ga.
 - Proprietary thickness's: 15mils/25gaEQ, 19mils/20gaEQ, 23mils/20gaEQ.

STEEL FRAMING - STRUCTURAL

- *Structural Framing Products*
 - Structural products can be used for vertical & horizontal applications and for bearing & non-bearing conditions.
 - They can be used for wall, floor, ceiling & roof framing.
 - Structural products can be used for exterior & interior applications.
 - Structural products are manufactured from steel in thickness' of 33mils/20ga, 43mils/18ga, 54mils/16ga, 68mils/14ga, 97mils/12ga.
 - These products are manufactured in accordance with AISI S200 & ASTM C955.
 - CRACO structural products are ICC-ESR 3957P certified.



STEEL FRAMING - STRUCTURAL

- *Non-Structural Framing Products*

- Non-structural products are branded SmartFrame Drywall Framing System and comprised of SmartStud and SmartTrack.
- These products are used for interior non-bearing wall and ceiling framing.
- Non-structural products are manufactured from steel thickness's of 15mils/25gaEQ, 18mils/25ga, 19mils/20gaEQ, 23mils/20gaEQ, 30mils/20ga, 33mils/20ga.
- These products are manufactured in accordance with AISI S220 & ASTM C645.
- SmartStud (proprietary) is brand listed in UL reports and meets or exceeds other generic UL, Intertek & Factory Mutual fire listings.
- CRACO non-structural products are ICC-ESR 3957P & ICC-ESR 3943P certified.



STEEL FRAMING

- *“C” Shapes for studs/joists, “U” shapes for tracks.*
 - Studs & joists are the main spanning members and can be used in the vertical and horizontal applications.
 - Tracks act as closure members that are fastened to the ends of studs & joists.
 - Spanning members require bridging & bracing.
 - Attention must be given to vertical studs that are not designed for axial loads by installing products that accommodate the structures building deflection.
 - Please see [CRACO's SmartFrame Connector](#) presentation for additional info for the above (2) bullet points.

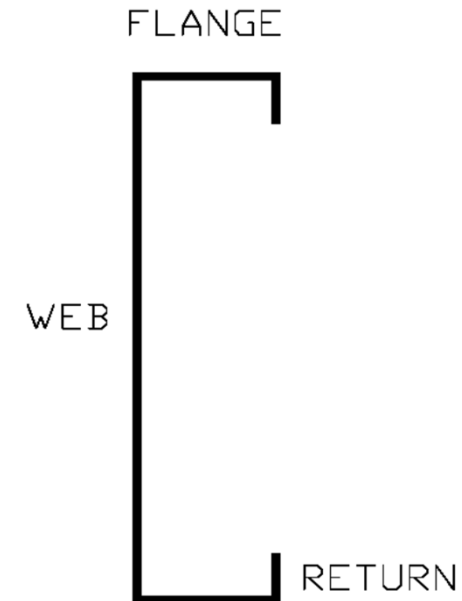
STEEL FRAMING – "C" SHAPES

Structural Stud

- Web sizes
 - 2-1/2" 3-5/8" 4", 6", 8", 10", 12"
- Flange sizes
 - 1-3/8", 1-5/8", 2", 2-1/2"
- Mil/gauge thickness
 - 33/20, 43/18, 54/16, 68/14, 97/12

Non-Structural Stud

- Web sizes
 - 1-5/8", 2-1/2", 3-5/8" 4", 6"
- Flange sizes
 - 1-1/4"
- Mil/gauge thickness
 - 15/25EQ, 18/25, 19/20EQ, 23/20EQ, 30/20, 33/20



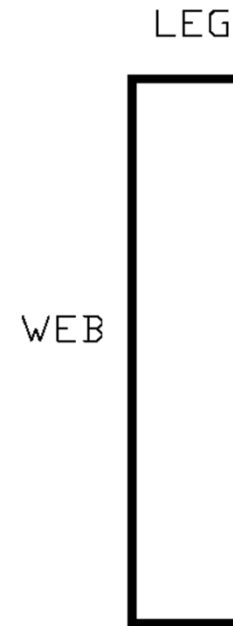
STEEL FRAMING – "U" SHAPES

Structural Track

- Leg sizes
 - 2-1/2" 3-5/8" 4", 6", 8", 10", 12"
- Flange sizes
 - 1-1/4", 2", Custom sizes available
- Mil/gauge thickness
 - 33/20, 43/18, 54/16, 68/14, 97/12

Non-Structural Track

- Web sizes
 - 1-5/8", 2-1/2", 3-5/8" 4", 6"
- Leg sizes
 - 1-1/4", 2", Custom sizes available
- Mil/gauge thickness
 - 15/25EQ, 18/25, 19/20EQ, 23/20EQ, 30/20, 33/20



STEEL FRAMING

- *Manufacturing Specifications & Code Requirements*
 - The International Building Code (IBC), is the standard building code.
 - AISI-General Provisions & AISI-NASPEC are for design & installation requirements.
 - AISI S200 & ASTM C955 are the manufacturing specifications for structural framing.
 - AISI S220 & ASTM C645 are the manufacturing specifications for non-structural framing.

STEEL FRAMING CODE COMPLIANCE

- *What makes Steel Studs Code Compliant?*
 - Materials manufactured & delivered to your project should be clearly marked with information as shown below.
 - This includes the following information per AISI & ASTM standards.
 - Code compliant label & product marking
 - Ink jet or embossed markings on the web
 - Identifiable bundle labels
 - Color coded painted ends
 - 18Mils – None
 - 27Mils – Black
 - 30Mils – Pink
 - 33Mils – White
 - 43Mils – Yellow
 - 54Mils – Green
 - 68Mils – Orange
 - 97Mils - Red

Ink
Marking





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