



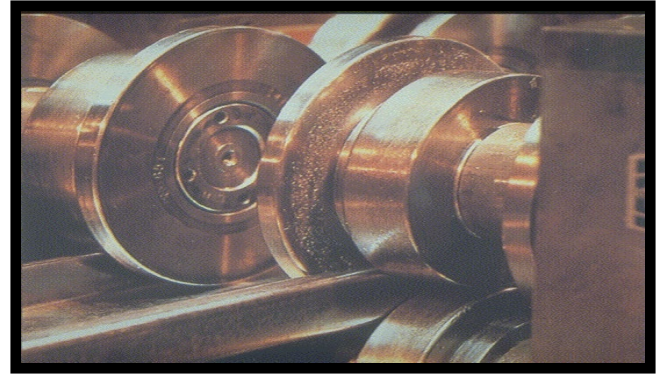
INTRODUCTION TO

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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.



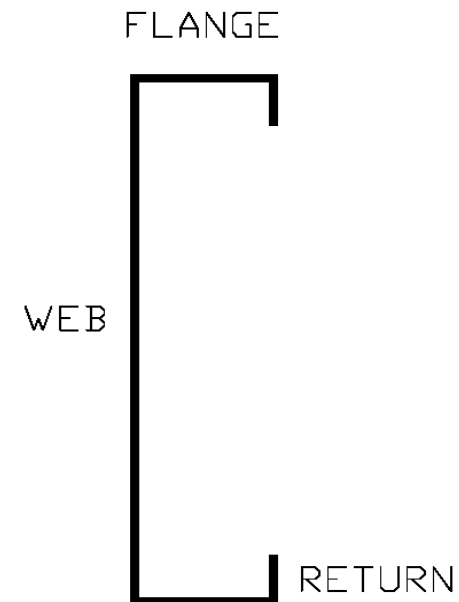
# STEEL FRAMING – "C" SHAPES

## *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



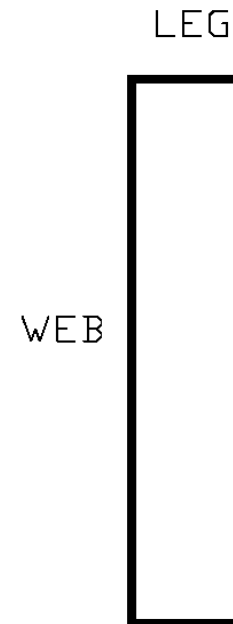
# STEEL FRAMING – "U" SHAPES

## *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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