YES!!!!! CFS CAN DO THAT

The Many Uses of CFS Framing in the United States



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Learning Objectives

- Identify the many ways CFS framing is used in the United States
- Show how CFS framing can be used in many types of projects
- Show how CFS can be used with other building materials
- Give examples of how CFS is used in actual projects

CFS FRAMING USES IN PROJECTS

Practical Uses For Cold-Formed Steel



Sheathed Floor Systems



Concrete Floor Systems



Whole Buildings



Roof Systems



Exterior Wall Systems (load bearing or curtain wall)

"Sweet Spot" for CFS Wall Framing

- Interior Non-Structural Walls
- Exterior Non-Load Bearing Walls
- Load Bearing Walls
 - Low to Mid-Rise (1-9)
 - Hotel & Motel
 - Apartment & Condo
 - Assisted Living
 - Dormitories
 - Multi-Family
 - Mixed Use





Interior Non-Structural Framing



Interior Non-Structural Framing



Interior Platforms, Seating and Raised Floors



Interior Platforms, Seating and Raised Floors







Exterior Non-Load Bearing (Still Structural)



Exterior Non-Load Bearing – Curved Surfarces



Exterior Ceiling / Soffit













Floor Joist and Truss Framing



Balcony Framing



Roof Rafter and Truss Framing

sprinkler system.



DATCU credit union's mansard roof trusses were supposed to be wood. The switch to cold-formed steel saved \$40,000 by not requiring a fire

Fully CFS System (Walls, Floors and Roof)



Fully CFS System (Walls, Floors and Roof)



Houses







USE OF CFS FRAMING WITH OTHER CONSTRUCTION MATERIALS

Interior Steel Frame with CFS Floor & Exterior Wall



CFS Framing Over Concrete Podium



Concrete/Masonry Stair & Elevator Towers



Composite Concrete Deck Floors



Precast Concrete Plank Floors/Roof



Wood Floor and Roof Trusses



Load Distribution Members



Heavy Strucral Steel



THE FUTURE OF CFS FRAMING (SOME OF IT IS NOW!)

Wall, Floor and Roof Panelization



Volumetric Construction (Modular)



Multi-Story Modular





Multi-Story Modular



Tiny Homes



Matsen Tower

- How tall could CFS go overall?
- Conceptual Design
- Type R-3 Apartment Tower
- Conventional Materials
- Generic SFIA cold-formed steel profiles



Matsen Tower

- Physical description
 - 10'-0" story heights
 - 25'- 6" c-c demising walls
 - -2 stairwells (CIP)
 - 4 elevator central core (also CIP)
 - Central corridor



Matsen Tower

- 6" C Studs
- 12" C Joists
- 12", 16", 24" spacing
- Lightweight EPDM on metal roof deck
- 1-Aluminum post balconies each floor
- 1/2" gypsum concrete on metal deck floors
- Lightweight exterior finishes



COLD-FORMED STEEL RESOURCES (US)

Cold-Formed Steel Design Standards Currently in IBC



Cold-Formed Steel Design Resources and Education

• Cold-Formed Steel Engineers Institute (CFSEI)



AISI Standards and the North American Specification available for free download

Technical Notes

Design Guides

Extensive library of On-Demand Webinars

Common Construction Details

Research Reports

Other Resources

Cold-Formed Steel Design Resources and Education

- CFSEI Technical Notes
 - 40+ Existing Tech Notes
 - B000 Beginner Tech Notes
 - D000 Corrosion Protection
 - F000 Fasteners and Connection Hardwa
 - J000 Floor and Joist Systems
 - W000 Wall Systems
 - T000 Thermal, Fire, and Acoustic
 - L000 Lateral Systems

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	(a) A Section of ALLURE (b) and a section of the and more accurate fastener placement. Proprietary rim trade
	FOURE 1: FAILURE MODED AT THE TRACKS







Cold-Formed Steel Framing Hotline

1-800-79-STEEL

or www.steelframing.org www.CFSEI.org

Questions?

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> Steel Hotline 1-800-79-STEEL Ask an Expert Hotline www.cfsei.org