



## Basic Description

Wood and steel floor trusses use light gage steel webbing attached to wood chords using integral gussets stamped into the steel webbing. Vertical supports or struts between the top and bottom chords may or may not be wood. Steel gusset plates are typically used to join all wood components, as in the construction of roof trusses. The top and bottom chords can be nominal 2x4 dimensional lumber, but often vary in size based on the engineered design. Floor trusses can be designed for various depths and are typically spaced at 16, 19.2, or 24 inch centers to accommodate the use of 4' x 8' floor sheathing. The floor sheathing is typically plywood or oriented strand board (OSB). The open web design of floor trusses allows for easy installation of trades, such as ductwork, wiring, and piping, by enabling them to be run in any direction.

## Firefighter's Notes

**1. Use of Engineered Floor Systems is Not Generally Identifiable From Outside the Home.** A pre-fire assessment is necessary to identify and verify use of engineered floor trusses. Neighborhood surveys may be helpful in determining where open floor truss construction exists.

**2. Open Web Trusses Allow Fire to Spread Easily Throughout the Floor Structure.** Their open design and high surface to mass ratio contribute to accelerating the fire. Even when protected from below by drywall, the open webbing allows trusses within the enclosed space to be preheated prior to exposure to fire, resulting in quicker ignition once fire penetrates the enclosed space. Combustible wiring and plumbing

products that extend throughout the open webs of this floor system also quicken the spread of fire. Consequently, floor system collapse occurs more quickly than if the floor system was compartmentalized using solid dimensional lumber.

**3. Some Protection is Better Than None.** It is important that floor trusses, like any wood framed floor system, be protected from the rapid spread of fire. A finished drywall ceiling should be installed to protect the trusses from below. This provides a measure of protection from fire entering the floor structure immediately and should be done in all rooms where the trusses are exposed. **Homeowners need to be made aware that by protecting their floors from below, they are protecting the occupants above.**