

Ventilation and Building Construction

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Ventilation:

- "Ventilation is the systematic removal and replacement of heated air, smoke, and gases from a structure with cooler air."



Reasons for Ventilation:

- Provides increased visibility
- Reduces heat which:
 - Creates a safer environment
 - Reduces fire spread
- Reduces chances of backdraft and flashover.

Possible ventilation sites:

- Roof
- Skylights
- Roof vents
- Ridge vents



- Sky lights



- Roof vents



- Ridge vents



Difficult Ventilation Site

- Over framing



Building Construction

Roof systems

Types:

2x4 truss with gussets

Stick built using 2x6 or 2x8

Slate Roof





Wood Shake



Asphalt



Building Construction

- Trusses



Building Construction

- Truss gusset plates



Building Construction

Floor

Types:

Solid wood

Wood web

Steel web

"I" system



Building Construction

- Wood burn rate:
 - ¼" in 10 minutes
 - 1" in 40 minutes
 - Our response time is approx. 10 minutes.
 - No entry on floor trusses after 10 minutes if the fire is near the trusses. High risk for collapse.

Building Construction

Flooring supports:

- Steel beam
- Microlam
- Solid wood



Building Construction

- Front of houses



Building Construction

- Rear of houses



Building Construction

- Windows





Building Construction

- Egress windows



Not everything is as it appears!!

