

# READING SMOKE COLOR

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FIREFIGHTER TRAINING

Firefighter Daily Quick  
Drills - Easy Access to  
Training Topics

## Reading smoke is essential to the outcome of the incident!

References:

**Delmar Handbook** 3<sup>rd</sup>  
Edition, pages 108 – 110  
**J&B Fundamentals** 2<sup>nd</sup>  
Edition, pages 142 – 146

NFPA 1001, 2008 JPRs  
5.3.12, 6.3.2

Unless it is a single fuel fire, smoke color is not predictable to what is burning. However, smoke color can enlighten the firefighter as to what stage of burning is taking place or where the fire is burning within the building.

Virtually all solid materials emit white smoke when first heated, this is moisture being released. As the materials start to dry out the smoke changes colors. The color of the smoke depends on the material that is burning. Natural materials such as unfinished wood will change to tan or brown colored smoke, whereas plastics and painted surfaces appear to be grey in color. However, black smoke can appear grey when it is mixed with moisture from other heated materials. As smoke travels throughout a building, carbon content is left along walls and contents. This causes the smoke to be filtered and can lighten the smoke color. Therefore, white or "light" smoke should never be overlooked.

This picture shows white smoke. Is this fire still burning? What stage of development would you say this fire is in?

