



Fire Protection Training

Procedures Handbook 4300

STRUCTURE FIRES

TOPIC: Structure Fire Exposure Protection Tactics

TIME FRAME: 30 Minutes

LEVEL OF INSTRUCTION:

BEHAVIORAL OBJECTIVE:

Condition: A written quiz

Behavior: The student will be able to list and describe the methods of protecting exposures.

Standard: With a minimum of 70% accuracy

MATERIALS NEEDED:

- Appropriate visual aids
- audio-visual equipment

REFERENCES:

- NFPA, Fire Command, Brunacini, 1985

PREPARATION: After rescue, exposure protection should be the firefighter's top priority. To be effective, a firefighter must know the methods for protecting exposures.



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STRUCTURE FIRE EXPOSURE
PROTECTION TACTICS

PRESENTATION	APPLICATION
<p>I. EXPOSURE PROTECTION</p> <p>A. Objective</p> <ol style="list-style-type: none">1. To conserve life and property by restricting fire spread to involved rooms, floors, or structures <p>B. Exposure Problems Can be Caused by Each of the Three Heat Transfer Methods</p> <ol style="list-style-type: none">1. Radiated heat<ol style="list-style-type: none">a. Omni-directionalb. Heat dissipates as distance from source increasesc. Relatively unaffected by the wind2. Convected heat<ol style="list-style-type: none">a. As air and by products of combustion become heated the molecular activity increases and the heated air rises to be replaced by cooler airb. Direct flame contact is generally a form of convected heat causing fire extensionc. Vertical extension encouraged by construction features such as<ol style="list-style-type: none">(1) Elevator shafts(2) Unprotected stairwells3. Conducted heat<ol style="list-style-type: none">a. A form of heat exchange caused by<ol style="list-style-type: none">(1) Two objects being in direct physical contact	



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PRESENTATION	APPLICATION
<ul style="list-style-type: none">(a) Firebrands - embers rise in convective column then through direct contact transmit heat to flammable material(2) An intervening object which is in contact with a heat source and a flammable material<ul style="list-style-type: none">(a) Most commonly a pipe, will extend from a heat source through a wall or floor to flammable material in the adjacent roomb. Least common method of heat transfer in structure firesC. Types of Exposures<ul style="list-style-type: none">1. Interior - exposures are the areas and contents of a building which are not yet involved<ul style="list-style-type: none">a. Additional roomsb. Additional floorsc. Furnishings2. Exterior - exposures are those objects beyond the involved structure which are immediately threatened<ul style="list-style-type: none">a. Other buildingsb. Vehiclesc. VegetationD. Factors Affecting Exposure Protection Priorities	



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PRESENTATION	APPLICATION
<ol style="list-style-type: none">1. Safety of occupants2. Distance3. Wind direction4. Exterior construction material5. Relative value of exposure6. Mobility of exposure7. Availability of resources <p>E. Exposure Protection Techniques</p> <ol style="list-style-type: none">1. Suppress fire in the involved structure2. Direct water application to exterior of exposure<ol style="list-style-type: none">a. If steam generation ceases conserve water3. Water curtain between involved and threatened structures of limited value<ol style="list-style-type: none">a. 25% effective against radiant heat4. Enter exposure to close windows and to remove flammable material from windows<ol style="list-style-type: none">a. Radiant heat passes through clear glass unaffected5. Pre-position hoseline in exposure to extinguish any fire which may start subsequently6. Fire spreading to exposure must be dealt with aggressively to limit the scope of the fire problem	<p>Discuss each factor thoroughly</p>



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PRESENTATION	APPLICATION
<ul style="list-style-type: none">7. Cover exposure<ul style="list-style-type: none">a. Tarp<ul style="list-style-type: none">(1) Wood piles(2) Hay bales(3) Etc.b. Layer of dirt on outbuilding roofs and other combustibles8. Unstaffed sprinkler on roof9. Move vehicles and other mobile exposures	



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SUMMARY:

Firefighters must anticipate exposure protection problems and know the methods used to protect exposures to be effective in reducing the spread of fire.

EVALUATION:

A written quiz.

ASSIGNMENT:

To be determined by instructor(s).