



FIRE CREW FIREFIGHTER TRAINING

Procedures Handbook 4200

FIREFIGHTER SURVIVAL

TOPIC: FIRE SHELTERS

TIME FRAME: 0:30

LEVEL OF INSTRUCTION: Level II

BEHAVIORAL OBJECTIVE:

Condition: Given a written quiz

Behavior: The student will confirm a knowledge of fire shelter importance, care and use

Standard: With a minimum 70% accuracy

MATERIALS NEEDED:

- Writing board with markers/erasers
- Appropriate audio visual equipment and screen
- Slides/overhead transparencies for this lesson
- Fire shelters
- Video: "Your Fire Shelter - Beyond the Basics"
- Video : "Deploy a Forest Fire Shelter"
- Student Information Sheets 4203.5-1 through 4203.5-3
- Topic Quiz

REFERENCES:

- CDF Fire Protection Training Handbook, 4300
- Pamphlet: "Your Fire Shelter" – USFS, 1995
- Video: "Your Fire Shelter - Beyond the Basics" – USFS
- Video: "Deploy a Forest Fire Shelter" Joint Apprenticeship Committee

PREPARATION:

The forest fire shelter is a valuable tool in saving human lives. By the end of 1990, the forest fire shelter had been credited with saving 200 lives. Department policy requires that all firefighting personnel carry fire shelters while actively involved in wildland fire suppression duties. We all must know when, where, and how to use them.



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PRESENTATION

APPLICATION

I. TERMINOLOGY

- A. Carrying case
- B. Field instructions
- C. Plastic package
- D. Red pull tab
- E. Forest fire shelter
 - 1. Perimeter skirts or side flaps
 - a) Basic dimensions – 6 ½ feet long X 3 feet wide X 3 feet high
 - 2. End flaps
 - 3. Aluminum outer layer
 - 4. Glass cloth inner layer
 - 5. Hold down straps

II. USE GUIDELINES

- A. Forest fire shelter must be readily accessible

NOTE: Hand out Student Information Sheet 4203.5-1, Notes From Crews That Had To Deploy Shelters

- 1. Carry on web gear waist belt
- 2. On either hip
 - a) Do NOT carry in back pack
 - b) Do NOT carry on belt in back
 - 1) Difficult to see
 - 2) Difficult to reach/remove



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PRESENTATION

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- c) Carrying case snaps toward top
 - d) Will not fall out if snaps open accidentally
- B. When to use
1. Shelters were designed to provide personal protection in emergency situations when unpredicted conditions result in firefighters being trapped in wildland fires
 - a) They were not designed to encourage violations of proven safety practices or safety policies
 - b) They shall not be used to commit firefighters into highly dangerous work environments
 - c) Know and follow your 10 Standard Fire Fighting Orders and the 18 Situations That Shout "Watch Out". Even when guidelines are followed closely, the unexpected can happen
 2. Airway and lung damage is the major killer of wildland firefighters
 - a) PROTECT YOUR AIRWAY at all times
 - b) The properly deployed shelter contains a volume of cooler, breathable air
 - c) The air next to the bare dirt will be cooler and more breathable
 3. Intense radiant heat is the biggest factor in thermal burns of the skin and is a factor in wildland firefighter deaths

What is the primary cause of death in burnovers?



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- a) The shelter will reflect 95% of radiant heat
 - b) 5% of the heat is absorbed
 - c) The temperature will rise slowly inside the shelter
4. The forest fire shelter is to be used only as a last resort when escape is not possible

NOTE: Emphasize #4 above!

C. Where to deploy your forest fire shelter

NOTE: Hand out Student Information Sheet 4203.5-2, Don't Panic

- 1. Move to the nearest designated safety zone
- 2. If moving to a safety zone is not possible due to fire conditions
 - a) Select an area that is clear of heavy fuels, snags, power lines, rolling rocks, etc. and construct a deployment area
 - 1) Minimum area per person is 4' x 8', cleared down to mineral soil
 - 2) Area ideally will be as large as can be constructed in the time available
 - b) Do not select a deployment area which is located in a chimney or where the crew will be exposed to heat or flame contact
 - c) Select the best specific spot
 - 1) Depressions in ground

Display graphic
4203.5-2



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PRESENTATION	APPLICATION
<ul style="list-style-type: none">2) Behind large rock outcroppings3) Behind dozer piles4) In dozer trenchd) Select an area where the entire crew can deploy together, if possible<ul style="list-style-type: none">1) Individual shelters provide mutual heat shielding2) Better control of crew3) Higher crew morale4) Better communicationse) On steep slopes (75% or greater) cut toe holds or trenches to stand in to help maintain footing/stabilityf) Deposit hazardous items away from deployment area<ul style="list-style-type: none">1) Chain saws, fuel and fusees must be a minimum of 30 feet away from the nearest shelter2) Side hill or down wind from the deployment area3) Fuel containers may melt and spill contents4) Fuel and fusees may contribute to intensity of fire5) Smoke produced may be irritating or toxicg) Leave hand tool outside of shelter	



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- 1) When deployed as a crew, tools will be left in a designated area
- D. Deploying your forest fire shelter
1. Check all personal safety equipment to see that it is properly worn and well secured. **Keep gloves on**
 - a) Use buddy system to double check
 2. Prepare yourself mentally to stick it out. It may get hot inside, but not nearly as hot as outside
 3. Enter shelter so feet are toward approaching fire
 4. Take drinking water into the shelter
 5. Do not take hand tool into the fire shelter
 - a) Interferes with proper deployment
 - b) Interferes with anchoring shelter
 - c) May cause injury
 - d) May damage or cut shelter
 6. Allow sufficient time to deploy, but do not deploy too early
 - a) Escape may be a viable option
 - b) Shelter is less susceptible to damage while in packed case
 - c) Strong winds created at deployment site may carry shelter off
 - d) Interferes with deployment area preparation/clearing



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7. Be prepared for the unexpected
 - a) Difficult to deploy with gloves on
 - b) Pull tab may break
 - c) Plastic packaging may have melted
 - d) May be overrun so quickly that deployment area preparation is not possible

E. Once inside your shelter

1. Make certain the shelter is completely spread to its fullest

NOTE: Hand out Student Information Sheet 4203.5-3, Instructions

2. Shelter should not touch your body except where you are holding it in contact with the ground
3. Push shelter top up and out making it look like a pup tent
4. Hold ground seal (end and side flaps) firmly with hands and feet
 - a) Flame front passage will create strong winds
5. You may place a DRY bandanna over your nose and mouth
6. Keep your face on the ground
7. Have a full canteen for drinking

Display graphic
4203.5-3



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8. If the air inside the shelter becomes hot
 - a) Push the end flap slightly to one side and dig a hole to put your face in
 - b) Force yourself mentally to stick it out
 - c) Take shallow breaths through your mouth, and dry bandanna
 9. Communicate with your neighbors
 10. The fiberglass cloth backing may begin to separate from the aluminum shell
 - a) This will not compromise the effectiveness of the shelter
 - b) Limit your movement to protect shelter
 11. Small pinholes in the fire shelter are common. It is still in good condition
 12. Drink water, often, to avoid dehydration. Do not put water on your bandanna or clothing
 13. Remain in your shelter until you are told to come out by your supervisor
 - a) If deployed by yourself, wait until
 - 1) The shelter is cool to the touch
 - 2) The wind and flames have died down
 14. Remain together as a crew when you leave your shelter
- F. After the deployment
1. If the burnover was serious in terms of injuries



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- a) Check yourself and others for burns
- b) Request help and assure that help is on the way
- c) Move to safety and render aid to the injured
- d) Leave all items possible undisturbed to assist in an accident review

- 1) Purpose of review is to gather facts for training or equipment design modification

2. If the burnover was not serious or the personnel have to leave the area before help arrives:

- a) Salvage your used shelter
- b) Salvage your tools
- c) Depart area

Why is a post incident review conducted?

III. CARE AND MAINTENANCE

- A. Periodically check carrying case for
 1. Damage
 2. Field instruction sheet
- B. Periodically check shelter for
 1. Unopened seal on plastic bag
 - a) Do not open shelter to inspect



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SUMMARY:

Prior to the time that Forest Fire Shelters were used extensively, the chances of surviving a severe entrapment were less than 50 percent. With a properly maintained and utilized Forest Fire Shelter, the chances of surviving a severe entrapment approach 100%. Despite these statistics the shelter shall not be used as a substitute for following sound safety procedures.

EVALUATION:

The student will complete a written quiz at a time determined by the instructor.

ASSIGNMENT:

Review your notes and Student Information Sheets in preparation for the upcoming quiz. Study for the next session.