



FIRE PROTECTION TRAINING

Procedures Handbook 4300

PERSONAL PROTECTIVE EQUIPMENT

TOPIC: Personal Protective Equipment - Wildland

TIME FRAME: :20

LEVEL OF INSTRUCTION: Level I

BEHAVIORAL OBJECTIVE:

Condition: A written examination

Behavior: The student will describe the procedures to put on the wildland uniform.

Standard: With a minimum 80% accuracy

MATERIALS NEEDED:

- Approved CAL FIRE Wildland Fire personal protective ensemble (PPE)
- Video/DVD: Kelly York Story
- Appropriate audio visual equipment

REFERENCES:

- HB 1720: Protective Clothing and Equipment
- HB 1728: Web Gear
- NWCG S-130 Firefighting Training Unit 1 (2003)
- NFES 2710: The New Generation Fire Shelter, pamphlet

PREPARATION: Wildland personal protective ensemble (PPE) is issued to each firefighter and its use is mandatory. Your personal safety and your value as a crew member depend on the proper utilization of this safety equipment.



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PRESENTATION

APPLICATION

I. TERMINOLOGY

NOTE: All wildland personal protective ensemble shall meet with CALOSHA, NFPA and department specifications

A. Wildland personal protective ensemble (PPE)

1. Safety helmet with chin strap
 - a) CAL-OSHA and NFPA 1977 approved
2. Goggles
 - a) CAL-OSHA and NFPA 1977 approved
3. Gloves
 - a) CAL-OSHA and NFPA 1977 approved
4. Nomex shroud
 - a) CAL-OSHA and NFPA 1977 approved
 - b) Double-layered nomex materials only
5. Nomex shirt
6. Nomex pants
7. 100% cotton work uniform t-shirt
8. Lug-soled work boots with 8" high top
9. Uniform work pants

10. Web gear
 - a) NFPA 1977 approved

What other safety items need to be considered?

4305.1



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<ul style="list-style-type: none">11. Minimum 2 quarts drinking water (canteens or hydration system)12. Fire shelter<ul style="list-style-type: none">a) NFPA 1977 compliant	
<p>II. USE</p> <ul style="list-style-type: none">A. Proper fit for each individualB. Proper adjustment<ul style="list-style-type: none">1. Safety helmet<ul style="list-style-type: none">a) Adjust headband and head strap<ul style="list-style-type: none">1) It is the responsibility of the firefighter to ensure that his/her equipment is properly adjusted2) Chin strap serviceable2. Goggles<ul style="list-style-type: none">a) Pull rubber strap to secure but keep comfortableb) Be sure lens is scratch free and clean3. Gloves<ul style="list-style-type: none">a) No holes, wristlet in placeb) Snug fit	<p>Information sheet #1: 4305.1, Uniform Inspection Checklist.</p>



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<ul style="list-style-type: none">1) It is the responsibility of the firefighter to ensure that his/her equipment is properly worn <p>4. Fire resistant shroud</p> <ul style="list-style-type: none">a) Fasten in front on fires and wear down, on back and outside of hard hat when in ready positionb) Do not roll up shroud inside between suspension system and helmet<ul style="list-style-type: none">1) This defeats the separation principle which provides for maximum cushioning of impact on shell2) It also cuts down on ability to release heat from around the headc) Bandannas will not be worn as a substitute for Nomex shrouds <p>5. Nomex shirt</p> <ul style="list-style-type: none">a) Over CAL FIRE approved T-shirtb) Loose fitting, not tucked in pantsc) Sleeves down, wrists secured<ul style="list-style-type: none">1) It is the responsibility of the firefighter to ensure that his/her equipment is properly worn	<p>Do not roll in a position in which poison oak will come in contact with portion that may touch face.</p>



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<ul style="list-style-type: none">6. Nomex pants<ul style="list-style-type: none">a) Over CAL FIRE approved uniform pantsb) No holes, tears, frayed cuffsc) Loose fitting, legs zipperedd) Not tucked in boots—ankle bands OK<ul style="list-style-type: none">1) It is the responsibility of the firefighter to ensure that his/her equipment is properly adjusted7. 100% cotton work uniform T-shirt<ul style="list-style-type: none">a) Per CAL FIRE uniform policy standardsb) No holes, tears, frayed cuffsc) Loose fitting for ventilation and double layering thermal protection<ul style="list-style-type: none">1) It is the responsibility of the firefighter to ensure that his/her equipment is properly worn8. Work boots<ul style="list-style-type: none">a) Lace-up 8" high top minimumb) Lugged sole and heelc) Snug fit, broken in to prevent blistersd) Steel toes not recommended-burns9. Uniform work pants<ul style="list-style-type: none">a) CAL FIRE approved work uniformb) Loose fittingc) No holes, tears, frayed cuffs	



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<p>10. Fire Shelter</p> <ul style="list-style-type: none">a) Mounted vertically or horizontally externally on web gear<ul style="list-style-type: none">1) In hard plastic caseb) Nothing shall interfere with the accessibility and/or obstruct to the fire shelter in any wayc) No holes tears in protective covers and cases<ul style="list-style-type: none">1) Velcro fasteners on protective case operational It is the responsibility of the firefighter to ensure that his/her equipment is properly adjusted and worn <p>11. Web gear</p> <ul style="list-style-type: none">a) NFPA 1977 and ISO 9001 compliant<ul style="list-style-type: none">1) It is the responsibility of the firefighter to ensure that his/her equipment is properly adjusted <p>C. Use full wildland personal protective ensemble during active fire fighting operations</p> <p>D. Follow supervisor's directions regarding loosening of uniform during mop-up operations</p> <ul style="list-style-type: none">1. Supervisors are aware of potential heat-related injuries. Ask permission before unzipping or removing any personal protective ensemble	
<p>III. CARE AND MAINTENANCE</p> <ul style="list-style-type: none">A. Replace worn-out or damaged personal protective ensemble	



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NOTE: Point out ways damage can occur

- B. Proper laundering of ensemble clothing
 - 1. As specified on manufacturer's care label
 - a) Wash separate from other types of clothing
 - b) No starch or bleach
 - c) Machine wash
 - 1) Warm water
 - d) Tumble dry
 - 1) Low heat

- C. Safety helmet
 - 1. Cleanliness
 - a) Headband-serviceable
 - b) Chin straps-serviceable
 - 2. No modifications
 - 3. Do not clean helmet and components with solvents, use soap and water
 - 4. Proper identification
 - a) Color and/or striping identifies rank; decal for camp identification
 - b) Local Unit policy

- D. Goggles lens kept clean
 - 1. Clean with water and tissue paper
 - a) Avoid abrasives



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<ul style="list-style-type: none">b) Utilize optional protective lens coversE. Gloves<ul style="list-style-type: none">1. Replace if holes, brittle, wristlets missing2. Air dry, clean with stiff brushF. Shrouds<ul style="list-style-type: none">1. Replace if excessive heat/sun damaged, or Velcro fasteners non serviceable2. Wash per manufactures instructionsG. Web gear<ul style="list-style-type: none">1. Wash per manufactures instructions2. Warm soap and water3. Do not use harsh cleaning solvents on nylon and Cordura material and webbingH. Boots<ul style="list-style-type: none">1. Air dry, clean with stiff brush2. Dust inside with foot powder (athletes foot)3. Use manufacture recommended boot oil/sealer regularly to prevent water/heat/dirt leather damage<ul style="list-style-type: none">a) Old tooth brush dipped in heated boot oil/black shoe polish to seal stitching	
<h4>IV. SAFETY</h4> <ul style="list-style-type: none">A. Clothing is FIRE RESISTANT not FIRE PROOF (requires safe working practices and common sense)	



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- B. Fire resistant clothing offers no insulation, so cotton and other undergarments become important in reducing exposure to radiant heat burns
 - 1. Air between skin and undergarment, and undergarment and Nomex is critical part of insulation

- C. Personal protective equipment is only good if it is properly worn
 - 1. Sleeves to be rolled down and fastened
 - 2. Shroud immediately available
 - 3. Shirt worn outside pants
 - 4. Shirt zipped-up
 - 5. Appropriate use of gloves and goggles
 - a) Gloves protect from:
 - 1) Mechanical damage or trauma
 - 2) Heat
 - b) Gloves made of fire resistant leather and long Nomex wrist gauntlet
 - 6. Cotton T-shirts to be worn under Nomex at all times
 - 7. Nomex pants must fit properly over work pants
 - 8. Fire shelter, web belt/gear, and canteens/hydration system worn outside Nomex shirt

Why is a cotton T-shirt required?



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a) Fire shelter must be readily accessible at all times

D. When on the fireground all components of the wildland personal protective equipment must be with the firefighters even when not in use

E. Physical fitness and training exercises while wearing personal protective equipment will help the body acclimate to the added body heat caused by fire resistant fabrics

F. Because of the added body heat caused by these fabrics, it is important that electrolytes and body fluids be replaced

V. STORAGE

A. Proper place and procedure for keeping wildland personal protective equipment

1. Store in fire engine, ECT, or appropriate storage area when not in use

B. Responsibility for PPE

1. You are accountable for all items issued to you

2. Inform your supervisor immediately if items are lost or damaged



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SUMMARY:

The proper care and use of your personal protective ensemble is vital to your performance as a firefighter. Using all of your PPE is mandatory and non-compliance will not be tolerated.

EVALUATION:

The student will complete a written exam at a time to be determined by the instructor.

ASSIGNMENT:

Review your notes in order to prepare yourself for the upcoming exam. Study for the next session.