



Fire Protection Training

Procedures Handbook 4300

ROPES & KNOTS

TOPIC: Fire Service Knots; Basic Terminology

TIME FRAME: 30 Minutes

LEVEL OF INSTRUCTION:

BEHAVIORAL OBJECTIVE:

Condition: A written quiz

Behavior: The student will list and describe terminology associated with fire service knots.

Standard: With a minimum of 70% accuracy

MATERIALS NEEDED:

- Two pieces of fire service rope
- Appropriate visual aids
- Audio visual equipment

REFERENCES:

- IFSTA, Essentials of Fire Fighting, 2nd Edition, Chapter 3

PREPARATION: Whether the task is one of rescuing victims from burning buildings or hoisting equipment, it is essential that firefighters be able to choose and tie appropriate knots. Before that can occur, however, firefighters must understand basic rope manipulations and terminology.



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PRESENTATION	APPLICATION
<ul style="list-style-type: none">b. If the running part crosses under the standing part it forms an underhand loop <p>E. Turn</p> <ul style="list-style-type: none">1. A loop placed around an object where the running end continues in a direction opposite the standing part <p>F. Round Turn</p> <ul style="list-style-type: none">1. A loop placed around an object where the running end continues in the same direction as the standing part <p>II. SELECTION OF KNOTS</p> <p>A. The Knot Selected Should Be Appropriate for the Conditions</p> <ul style="list-style-type: none">1. Rapidly tied2. Easily untied3. Minimal slippage<ul style="list-style-type: none">a. The portion of the knot drawn tight bears on the running or loose end of the rope4. Minimizes abrupt bends<ul style="list-style-type: none">a. All knots weaken a rope and lessen the rope's ability to lift or pull	<p>What are the characteristics sought in a fire service knot?</p> <p>Do knots weaken a rope or diminish its capacity to lift larger loads? Why?</p>



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PRESENTATION	APPLICATION
<ul style="list-style-type: none">(1) Fibers on outside tend to stretch(2) Fibers on inside become compressed or crushed<ul style="list-style-type: none">(a) Figure 8 knot weakens rope by 20%(b) Bowline knot weakens rope by 40%	
<p>B. Basic Fire Service Knots</p> <ul style="list-style-type: none">1. Square knot2. Half hitch3. Clove hitch4. Figure 85. Figure 8 follow through6. Figure 8 on a bight7. Double figure 8 on a bight8. Becket bend or sheet bend9. Bowline10. Running bowline11. Timber hitch	



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SUMMARY:

Firefighters should be able to choose appropriate knots for a given situation and then tie those knots in an expeditious and competent manner. To accomplish this objective, practice is essential.

EVALUATION:

A written quiz.

ASSIGNMENT:

To be determined by instructor(s).