ROPES AND KNOTS

NFPA STANDARD

- STANDARD 1983

TYPES

- LIFE SAFETY ROPE
  - RAISING LOWERING OR SUPPORTING PEOPLE DURING RESCUE OPERATIONS
- UTILITY ROPE
  - CAN BE USED TO HOIST EQUIPMENT, SECURE UNSTABLE OBJECTS, AND CORDON OFF AND AREA

CONSTRUCTION

- LIFE SAFETY ROPE
  - DYNAMIC(HIGH-STRETCH)
    - DESIGNED FOR ROCK CLIMBING, NOT PRACTICAL FOR FIRE SERVICE USE
  - STATIC (LOW-STRETCH)
    - USED FOR RESCUE, RAPPELLING, HAULING, AND WHERE FALLS ARE NOT LIKELY.
- TWISTED ROPE(LAID)
  - NATURAL OR SYNTHETIC FIBERS
  - COMMONLY USED AS UTILITY ROPE
  - STRANDS ARE EXPOSED ALONG ENTIRE LENGTH OF ROPE.
- BRAIDED
  - MOSTLY MADE OF SYNTHETIC FIBERS
  - BRAIDED CONSTRUCTION ELIMINATES THE TWISTING COMMON TO LAID ROPES
  - COMMONLY USED AS UTILITY ROPE
- KERMANTLE ROPE
  - BRAIDED COVERING OR SHEATH(MANTLE)
  - CORE (KERN)
  - 75% OF ROPES STRENGTH COMES FROM NYLON CORE (KERN)

PARTS OF A ROPE

- RUNNING END
  - PART OF THE ROPE THAT IS TO BE USED FOR WORK SUCH AS HOISTING
- WORKING END
  - PART OF THE ROPE THAT IS TO BE USED IN THE FORMING OF THE KNOT
- STANDING
  - PART OF THE ROPE BETWEEN THE WORKING END AND THE RUNNING END.

CHARACTERISTIC OF A KNOT

- EASY TO TIE
- EASY TO UN-TIE
- EASY TO IDENTIFY

DIFFERENCE BETWEEN KNOT AND A HITCH

- HITCH NEEDS AN ACTING FORCE TO REMAIN TIED
- KNOT WILL HOLD ITSELF TIED

COMMON KNOTS/HITCHES

- FIGURE 8
- FIGURE 8 ON A BIGHT
- FIGURE 8 FOLLOW THROUGH
- BOWLINE
- SQUARE KNOT
- CLOVE HITCH
- OVERHAND
- RIVERSIDE EYE SPLICE
- GURTH HITCH
- HALF HITCH
- BECKET BEND
- WATER KNOT