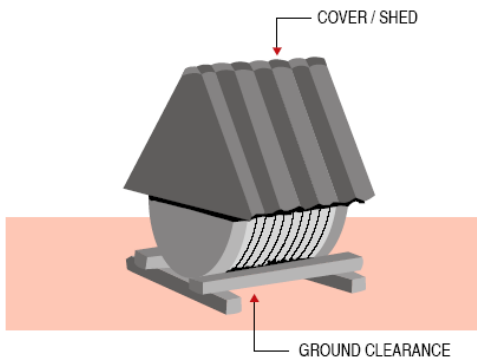


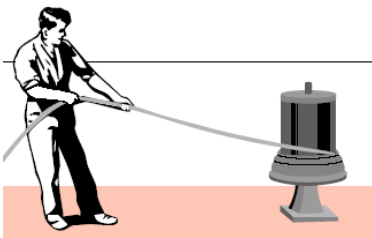
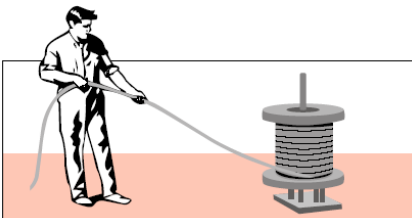
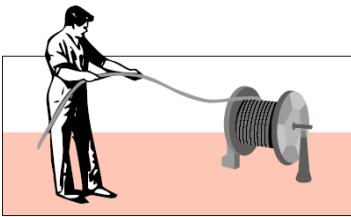
GUIDELINES ON STORAGE, HANDLING, INSTALLATION & MAINTENANCE OF STEEL WIRE ROPES

STORAGE:

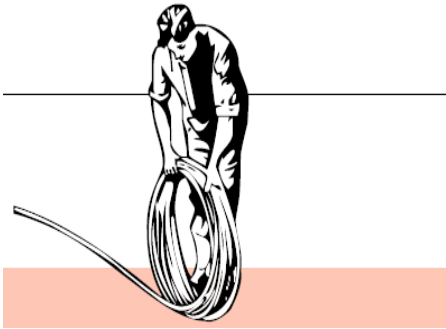


- Wire Ropes should be stored in a well-ventilated covered shed free from damp, dust, chemicals, fire or fumes.
- While storing the reels or coils, avoid direct contact with the ground. For this, keep the reels or coils on steel or wooden platform.
- Rotate the position of the rope reel through 180 degree at an interval of every three months.
- Apply a coat of lubricant on the top layer of the wire rope in the reel at an interval of every three months
- Examine the condition of the wire rope periodically during its storage.

HANDLING:

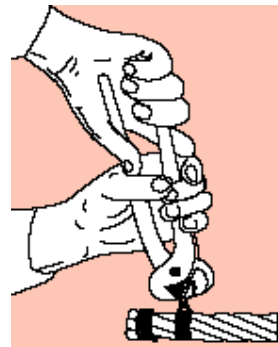
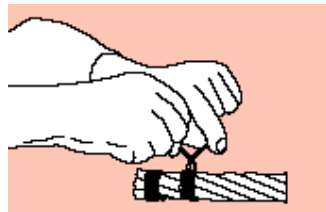
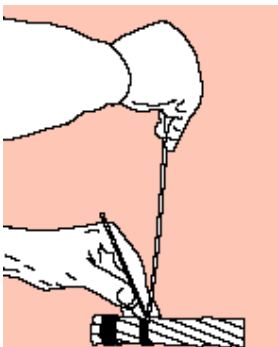


- Provide unloading arrangements like – forklift, hoist or crane suitable for the weight and size of the reels .The reels should be never dropped from height or trucks.
- One of the best methods for lifting a reel is to place a heavy pipe or shaft through the center (arbor) hole of the reel and connect by slings to suitable hoisting equipment.
- To unwind a rope from a reel, the reel should be mounted on a stand using a pipe or shaft through its center hole so as to allow the reel to revolve freely.
- The rope should be pulled by maintaining uniform tension with help of some braking mechanism for the reel .A timber plank /block held against the reel flange is a simple means of braking of the reel .This prevents any turn being put in or taken out from the rope as well as possibility of any kink formation due to slackness of the rope.

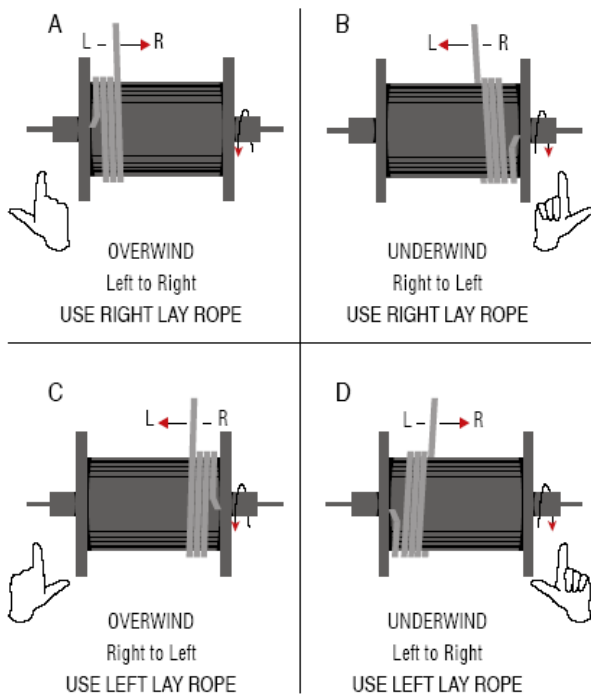


- While transferring the rope from reel to reel or Winch drum, the rope should be wound from top to top or from bottom to bottom so as to avoid any reverse bend to the rope.
- Heavy coils should be uncoiled by placing the coil on a turn-table and ensuring that the rope is kept tight and straight .A smaller length of coil can be rolled along the ground so that the rope lies straight.

- Care should be taken to avoid dragging wire rope through sand, gravel and dirt since it may pick up abrasive particles, which can cause deterioration of the rope during its use.
- Wherever necessary, a wire rope, whether preformed or non-preformed, should not be cut unless seizings are provided on either side of the cut. For multi-strand non-rotating ropes at least three seizings are suggested on the either side of the cut. Ropes should never be cut with a chisel and hammer .It should be cut either using an abrasive cutter or by gas- cutter.



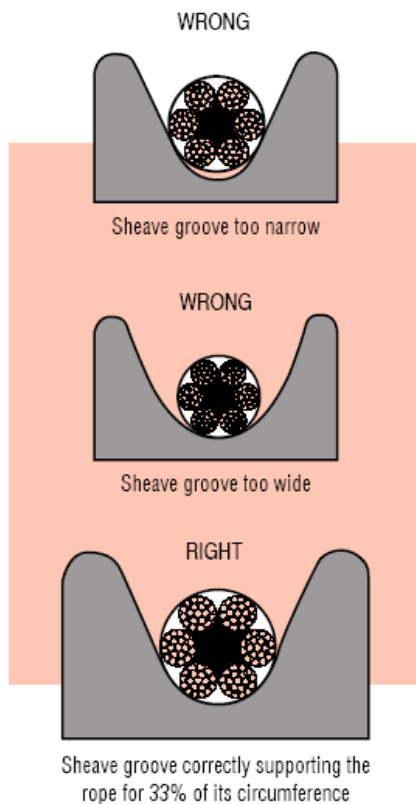
SEIZING OF WIRE ROPE

INSTALLATION:


- The free end of the rope must remain tightly served / fused or welded during the entire installation procedure. When attaching a rope end in a wedge socket / clamp, it is important that the entire rope cross – section, including steel core if applicable, be firmly secured or anchored.
- While winding the rope on to the equipment- winch drum, it is necessary that ample tension is maintained through out the winding of the rope so as to keep all the turns of the rope on the drum tight and true.
- The position of the anchorage point of the drum should be located in relation to the direction of lay of the rope. As a thumb rule, a right hand lay rope should start winding from the left hand flange of the drum, the rope over winding and the observer standing behind the drum. The opposite is true for a left hand lay rope, that is, the anchorage should be at the left hand flange of the winch drum, with the observer standing behind the drum.
- For the multi layer coiling on the drum, any cross winding should be avoided by ensuring that the rope winds uniformly in the grooves formed between the successive turns of the preceding layer of the rope.

MAINTENANCE:

- After installing a new rope, it is advisable to run through its normal operating cycles for a number of trips under light load and at reduced speed. This allows the new rope to adjust itself gradually to operating conditions and enables the strands to settle down and some stretch to occur, the rope then becomes less liable to damage when the full load is applied.
- While hoisting or lowering, never lift or stop a load with a jerk. This shock load may equal several times the static working load and may be sufficient to break a rope. Even if the jerks do not snap the rope, it can cause rapid deterioration resulting in reduced rope life.



- When stationary or in motion, steel wire rope must be protected from corrosion and when in motion, it must be lubricated to minimize wear between metal to metal (wire to wire) surrounding surfaces .During manufacture a lubricant which satisfy both these requirements is built into the strands of wire and the core . However, exposure to elements and normal operation over rollers, sheaves and drum will gradually deplete and contaminate the lubricant. Except a few ropes which are continually working through dirt and grit or prone to slippage, most wire ropes should be lubricated with a service lubricant at suitable intervals to minimize corrosion / wear and extend rope life.
- The maintenance of the equipment over which the rope operates has an important bearing on the rope performance .The sheaves, grooved rollers and drum grooves should be checked periodically for wear which may cause pinching and abrasion of the rope .The sheaves and rollers should be checked for alignment and free rotation so as to avoid unnecessary wear and fatigue due to vibrations.
- Before applying a fresh coat of lubricant, it is suggested that any accumulation of dirt or other material is removed from the surface of the rope by using a wire brush .The service lubricant can be applied by any suitable method like passing the running rope through a lubricant bath, dripping through a container, swabbing, spraying or brushing a coat of lubricant manually.

