

# How to maximize rope service life for shovels

Every **Union** wire rope has been designed to offer efficient, dependable service to overcome the rugged conditions of surface mining. But no wire rope lasts forever. We've developed the following tips to make the most of your shovel ropes' service.

## REDUCE DOWNTIME DURING CHANGEOVER

To install new ropes in less time and with less expense, many mines order their ropes "hairpin wound." This leaves both ends of the rope on the top of the reel so they can be pulled back to the drum at the same time. However, if the two ends are not removed from the reel in the proper order, the result will be rope wrapped around the drum of the shipping reel. This will cause an unnecessary increase in installation time.

To solve this potential problem with hairpin-wound ropes, we link them with seizing strand. For proper unreeling, do not remove the seizing strand until you've pulled both ends of the rope from the reel. If you need further help with this procedure, **Union** can provide assistance.

Drum ferrules or buttons are also available. Simply specify the ferrule size and tolerance when you order.

## MINIMIZE DAMPENING ON DRUMS

When a slack rope is quickly tensioned, there's a vibration created in the rope. This vibration is dampened where the rope contacts the sheaves or drum, which can lead to rope fatigue.

To help minimize the vibration on the rope when the bucket starts its digging cycle, we recommend improving digging techniques to reduce sudden load on ropes. These include starting the cut slowly and smoothly, then loading the

rope gradually while reducing slack on the rope. Do not "cowboy" the ropes, in other words.

## EXAMINE FOR UNEVEN WEAR ON TWIN SHEAVES

If one groove wears deeper than the other of a twin sheave, the rope is forced to slide because of the difference in sheave groove depth. Frequently when this happens beyond the hardened surface of the sheave, you'll notice a rapid change in the sheave, causing more serious problems later. The result is a decrease in rope performance and service life as well as accelerated sheave wear.

To help prevent this problem, always make sure both grooves of twin sheaves are the same depth. If they aren't, replace or repair the sheave. Refer to the shovel manufacturer's instructions for tolerances on groove depth wear.

## DRUMS AND HOW TO PREVENT CORRUGATION

Drum surfaces may develop a wavy pattern with the lay of ropes over time, leading to worn grooves that can cause premature wire breaks due to the corrugation. You can help prevent corrugation by using our **TUF-MAX** ropes because the coating on these ropes distributes the radial pressure on the drum, effectively preventing drum corrugation.



## POLYMER PENETRATION

With one strand and part of the polymer removed, you can see how deep the polymer penetrates into the rope, giving you uniform and continuous support for all strands throughout the length of the rope.