

When to replace your ropes.

According to the ASME B30.5 standard for mobile cranes, there are no precise rules to determine the exact time to replace rope because so many variables are involved. Once a rope reaches a specified removal criteria, it may be allowed to operate to the end of the work shift, based on the judgement of a qualified person. The rope should be replaced after that work shift at the end of the day – or at the latest prior to the equipment being used by the next work shift.

The following required standards established by ASME B30.5 that provide specific reasons to replace wire ropes.

BROKEN WIRES. For running ropes including XLT⁴ ropes, replace when you see six randomly distributed broken wires in one lay – or three broken wires in one strand in one lay.

For rotation resistant ropes categories 1, 2 and 3, replace when you see two randomly distributed broken wires in six rope diameters – or four randomly distributed broken wires in 30 rope diameters.

Broken wire removal criteria apply to wire ropes operating on steel sheaves and drums. The user should contact the sheave, drum or crane manufacturer for broken wire removal criteria for wire ropes operating on sheaves and drums made of material other than steel.

ONE BROKEN WIRE EXTENDING FROM ROPE'S CORE. When you see one outer wire broken at the point of contact with the rope's core which has worked its way out or looped out from the rope structure, you'll need to conduct additional inspection of that section of rope.

EXTENSIVE ROPE WEAR. When wear reaches one-third the original diameter of the outside individual wires, it's time to replace the rope.

ROPE DISTORTION. Replace any rope with evidence of kinking, crushing, birdcaging or any other damage resulting in distortion of the rope structure.

HEAT DAMAGE. Because heat exposure can damage the rope and its lubricant, always remove ropes damaged by heat from any cause.