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## Test Your Knowledge:

### How Much Abuse Can Your Rope Handle?

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As a firefighter, you learned early (and possibly with embarrassment) to avoid stepping or driving on ropes. The idea makes sense: Stepping on or driving over rope can force tiny particles of debris into the rope's core and cause abrasion and fiber damage. Fire instructors in Ohio decided to perform a nonscientific "backyard test" to determine whether abusing rope decreases its strength. Among other things, they fashioned a doormat from 10mm rope and installed it in a high-traffic area of a fire station, and they drove over a rope bight repeatedly with a van and a 45,000-lb. fire engine. Then they tested tensile strength against a set of brand-new rope samples. What do you think the results were?

- a. Tensile strength in the abused ropes was 30% lower than the new rope
- b. Tensile strength in the abused ropes was 50% lower than the new rope
- c. There was virtually no difference in tensile strength between the abused and new ropes
- d. Firefighters refused to step on the rope doormat, voiding the test

#### ANSWERS:

The correct answers are C and D. OK, the test wasn't voided ... but the firefighters in the test station did go out of their way to avoid stepping on the rope doormat, either out of superstition or well-practiced habit. Surprised? For the full report, see "Don't Tread on Me!" by Jim Kovach, in the May 2003 issue of FireRescue. (Despite the results, the authors do not recommend stepping on rope unless avoiding doing so would endanger a firefighter's safety. Be sure to read the full test conditions and disclaimer.)