



DONAGHYS
150 YEARS
INNOVATING SINCE 1876

3-STRAND ROPE

CARE AND USAGE GUIDELINES

DONAGHYS
PERFORMANCE FIRST

Manufacturer Declaration

The manufacturer declares that the rope and cordage products supplied are designed and manufactured in accordance with industry standards and good manufacturing practice. This document provides guidance on the safe care, use, inspection, and maintenance of fibre rope, to support compliance with the Work Health and Safety (WHS) Act 2011.

While the manufacturer takes reasonable steps to ensure the accuracy of this information, it is not possible to anticipate all conditions of use. Responsibility for the selection, inspection, maintenance, and continued fitness for use of the rope rests with the user. The manufacturer does not accept liability for damage, deterioration, or failure caused by misuse, improper handling, incorrect selection, overloading, inadequate inspection, or failure to follow recommended practices.

User Responsibilities (WHS 2011)

Under the WHS Act 2011, persons conducting a business or undertaking (PCBU) must ensure all plant and equipment, including fibre rope, is:

- Safe and fit for purpose
- Maintained in a condition that does not present a risk to health or safety

Users should appoint a competent person to inspect rope:

- Prior to use
- Periodically throughout its service life

Care & Maintenance Recommendations

To ensure maximum safety and service life, 3-strand rope should be:

- Used only within its intended application and rated working load
- Protected from damage, abrasion, chemical exposure, and UV degradation
- Regularly inspected for wear, damage, or defects
- Cleaned, stored in a dry environment, and removed from service immediately if deterioration or defects are identified

Knots, splices, and terminations must be correctly formed and suitable for the application. Remember: knots reduce rope strength.

Workers must receive adequate information, instruction, and training to ensure safe use and handling in accordance with manufacturer guidance and WHS requirements.

Assumptions

This document assumes that:

- Manufacturer instructions and recommendations are followed
- Materials have been appropriately selected for the intended application
- Users have received necessary training and supervision to maintain safe operations

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Rope Safety and Handling

Uncoiling Rope

Lengths of rope are usually supplied in a coil which may have a label tied at one end saying "This side up." Or "Start". Provided that this simple instruction is followed, the rope should run from coil without difficulty. Should the label have become detached, it is possible to start removing the rope from the coil the wrong way. Kinks will occur in the rope which may contribute to serious damage of the rope in subsequent use.

If rope has been drawn from the wrong end, replace the length of rope which has been withdrawn into the centre of the coil. Turn the coil over, reach into the centre and draw the end upwards. The ropes should then run correctly from the coil without kinking.

Coiling Rope

Always coil right hand laid rope in a clockwise direction and left hand laid rope in an anti-clockwise direction. Use as large a circle as is practical when coiling down. When the rope has been coiled, hang it up in a dry atmosphere away from fires, steam pipes, etc., to prevent it being damaged. Plaited ropes may be coiled in either direction or may be flaked in a "figure of eight" formation.

Abrasion, Chaffing and Associated Mechanical Damage

Ordinary usage will cause multifilament ropes to develop a "fluffy" surface appearance. This is quite normal and will not reduce the strength of the rope significantly. The practice of dragging ropes over rough surfaces, or from under loads should be discouraged as should the practice of passing ropes over sharp edges without protection.

Where abrasion is likely to occur, the ropes must be protected. The type of protection may vary according to the circumstances. Simply covering the rope with protection will be adequate in some cases, whilst more sophisticated remedies such as covering the rope with high quality polyester webbing or chafe protection may be demanded by more rigorous circumstances. Each application must be judged by its merits, but adequate protection for the rope must be given. Where in doubt please consult the manufacturer. The alternative is premature failure and hazard to people working within the vicinity.

Kinks

Kinks should never be allowed to form in the rope. If kinks do form, this is a sign that turn has been gained or lost in the rope, and the kinks should be taken from the rope from one end. This recommendation applies equally to laid and braided ropes.

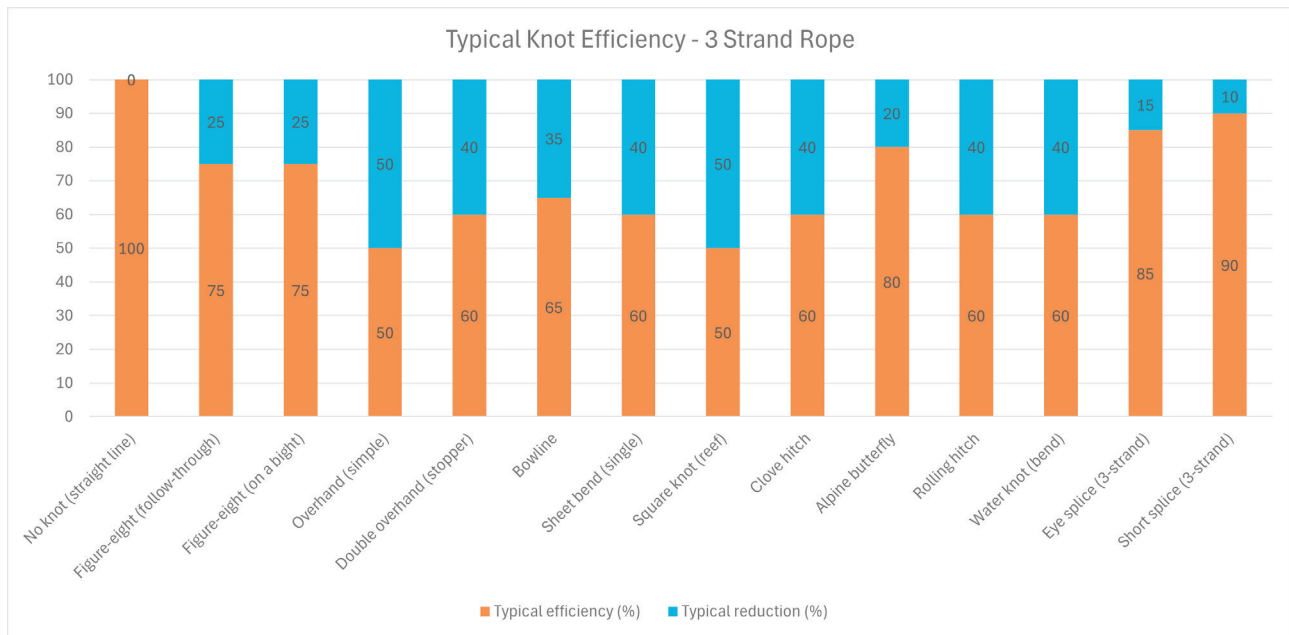
Overload

Never place on a rope a greater loading than that for which it has been designed and certified. It may not break, but it will be severely and permanently weakened

Rope Safety and Handling

Knotting

The practice of knotting eyes into ropes, or knotting slings to shorten them, should be avoided. Knots will weaken ropee significantly. See below chart for reference.



Dirt and Grit

In the normal course of usage, it is inevitable that ropes will become soiled. If however, soiling takes the form of a sharp grit, it is in the user's interest to remove this grit at the earliest opportunity. This can be achieved by washing or hosing the length of rope with water.

Once the grit has been dislodged the rope should be hanked and hung up to dry, and to prevent further damage to which it is liable if left lying on the ground, if no action is taken, the grit is likely to penetrate into the rope and to cause damage by cutting during subsequent use. This will reduce the rope life, and may cause the rope to fail unexpectedly.

Inspection of Rope

Before a length of rope, or a sling is issued for use, it should be inspected by a competent person. This examination should be undertaken to look for the following points:-

External Wear

Multifilament ropes will develop a fur or pile on their surfaces as the result of dragging over rough surfaces. This is quite normal and will not cause weakening of the rope to any significant extent. Excessive wear is indicated by a major portion of the cross sections of the yarns of the outside of the rope being removed. Such wear usually is seen most clearly on the strand crowns.

Rope Safety and Handling

Inspection of Rope (cont)

Internal Wear

Where ropes have been used in a gritty environment, sharp grit may penetrate into their centre. It is important to open the rope and examine between the strands to establish whether such damage is occurring. This examination must be undertaken very carefully to prevent buckling and distortion of the strands which may of itself cause trouble at a later date. The presence of large quantities of fibre duct in the centre of the rope indicated that replacement may be due.

Cuts, Chafing and Other Mechanical Damage

Mechanical damage will always weaken a rope. The amount of weakening will depend on the severity of the damage. It must be remembered that mechanical damage, especially chafing, will always have a more drastic effect on the smaller rope than on the larger. For example, a 300mm long chafe on a 8mm dia rope will only cause the outer yarn to be severed, and, whilst this may weaken the rope seriously, it will not cause a total loss of strength.

Cuts require close examination to establish their depth, and hence how much of the rope's cross section has been damaged.

Mildew

Mildew does not attack man-made fibres although surface contamination may, under certain circumstances, provide nutrient which permits the growth of moulds. Whilst they are unpleasant, they do not affect the strength of the rope. They may be removed by washing in water. The use of harsh detergents should be avoided. Mildew will attack natural fibre cordage if it is stored wet and in stagnant air. The mould will live on the cellulose of the rope and in consequence a loss of strength will inevitably occur.

Chemical Attack

Never use ropes where they may become contaminated by chemicals unless they have been supplied in a quality specifically recommended for the application.

Chemical deterioration is usually not the result of the rope contamination by a chemical foreseen by the user. Ropes for use in known chemical environments are supplied to offer the highest resistance to those conditions. Degenerative contamination usually occurs by accident from unanticipated chemical contact. The examination should determine whether any area of fusion or carbonisation are present. If in doubt, discard the rope.

For further information regarding the effects of chemicals on/with ropes, please refer to the individual rope data sheet under fibre characteristics.

Wetting

Natural fibre ropes when wet or damp should not be left on the ground as this may encourage germs, rot or particles of grit. Man-made fibre ropes although not affected by wet or damp are nevertheless liable to damage by particles of grit.

All wet ropes should be hung up in freely circulating air and allowed to dry naturally. If this can not be done, the ropes should be loosely stacked on pieces of timber or any other suitable substance, clear of damp ground or sweating concrete. Coils of new rope should be stacked in a similar manner. On no account should ropes be dried by any form of heat.

Acceptance or Rejection

Finally, the user must take regard of the fact that even carefully used ropes will wear out if they receive sufficient use, and care should be taken to withdraw them from service before this time is reached rather than allowing them to continue in use until they fail.

3-Strand Rope Inspection Guide

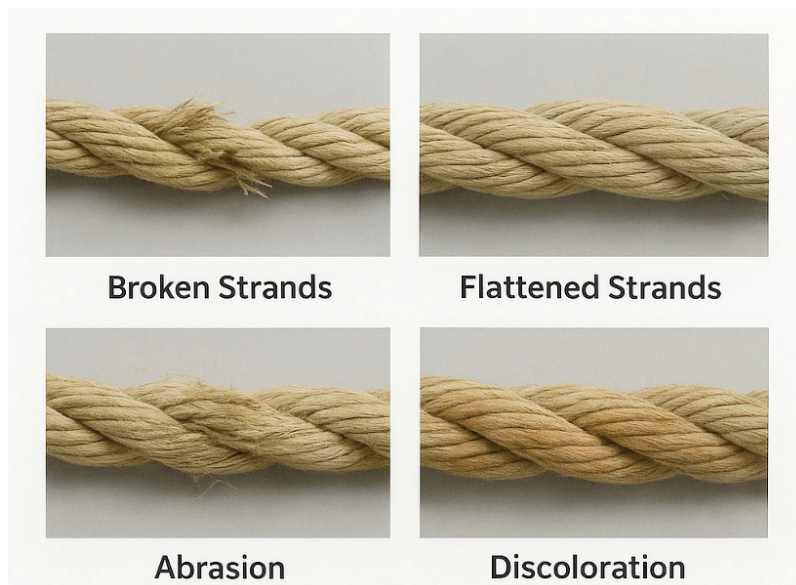
Visual Inspection & Maintenance Procedures

1. Introduction

This guide outlines best practices for inspecting Donaghys 3-strand rope across marine, industrial, agricultural, and general-purpose applications. Routine inspection ensures safety and prolongs rope lifespan. Inspection must be performed by trained personnel familiar with rope construction, safe working limits, and operational environments.

2. Visual Damage Identification - Examples

Examples showing broken strands, abrasion, flattening and discoloration.



3. Detailed Inspection Checklist

- Look for broken or frayed strands.
- Check for flattened or distorted areas.
- Inspect for surface abrasion or fibre thinning.
- Check for discolouration indicating UV, chemical or heat damage.
- Confirm strands remain tight and evenly laid.
- Look for kinking, twisting or hockling.
- Identify hard or stiff rope sections.
- Check for glazing or melted fibres.
- Inspect terminations, knots or splices for integrity.
- Review rope history and loading events.

Additional Inspection Tips

- Compare with new rope
- Consider rope use history
- Inspect after heavy use

3-Strand Rope Inspection Guide

4. Rope Retirement Criteria

- Significant abrasion causing fibre loss or diameter reduction.
- Heat glazing, melting or fusion of fibres.
- Chemical burns or fibre softening..
- Broken strands over more than 10% of rope length.
- Internal damage identified when rope is opened.
- Exposure to shock loads or overload incidents.

5. Handling & Maintenance Guidelines

- Store in dry, shaded, well-ventilated areas.
- Avoid dragging ropes over abrasive surfaces.
- Rinse with fresh water after salt or chemical exposure.
- Allow rope to fully dry before storage.
- Rotate ropes in service to distribute wear evenly.

Donaghys Support

For technical advice, product recommendations, or customised inspection programs, contact your local Donaghys representative or visit our website - www.donaghys.com.au.