

Domain	RIGGING	Unit ID: 947
Title:	Work with fibre ropes, wire ropes and chains on a vessel	
Level: 3		Credits: 8

Purpose

This unit standard specifies the competencies required to work with fibre ropes, wire ropes and chains on a vessel. It includes handling and stowing fibre ropes, wire ropes and/or chains on sea-going vessels, describing the construction and storage of fibre ropes, selecting and using knots and lashings, splicing ropes to purpose on a vessel, splicing an eye in a wire rope under supervision. This unit standard is intended for those who work as general lifting machine operators.

Special Notes

1. Entry information:
Prerequisite:
 - *937 - Apply safety rules and regulations in lifting machine operations or demonstrated equivalent knowledge and skills.*
2. Assessment evidence may be collected from a real workplace, or an appropriate simulated realistic environment in which lifting machine operations are carried out.
3. All inspection, operation and maintenance procedures associated with the use of tools and equipment shall comply with manufacturers' specifications, guidelines and instructions.
4. Regulations and legislation relevant to this unit standard include the following:
 - Labour Act, No. 11, 2007
 - Regulations relating to the Health and Safety of employees at work, 1997 and all subsequent amendment.

Quality Assurance Requirements

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority and the Namibia Training Authority on www.nta.com.na.

Elements and Performance Criteria

Element 1: Handle and stow fibre ropes, wire ropes and chains on sea-going vessels

Range

Fibre ropes may include but are not limited to natural fibre, polyester, nylon, polypropylene and polyethylene.

Wire ropes may include but are not limited to six strands, three strands and right hand lay.

Chains may include but are not limited to long chain, short link, and stud link and mid-link.

Damage to wire ropes may include but is not limited to sprags, weak points at the end of the eye and visible signs of core.

Damage to chains may include but is not limited to elongation, abrasion, distortion and cracking.

Performance Criteria

- 1.1 Commonly used fibre and wire ropes, and chains, are identified, described and used in line with their design and purpose, and the vessel's operating procedures and/or safety policies.
- 1.2 Fibre ropes are coiled and flaked out in line with their construction type, and vessel's operating procedures.
- 1.3 Ropes and chains are handled in a manner that protects the operator, crew, and passengers in line with the vessel's operating procedures and/or safety procedures.
- 1.4 Ropes and chains are stowed in a manner that ensures that they are ready for immediate use as required, according to vessel operating procedures and/or safety procedures.
- 1.5 Chaffing materials used to protect fibre ropes, and methods to maximize the working life of wire ropes and chains, are identified and described in line with current accepted industry practice and/or vessel's operating procedures.
- 1.6 The consequence of not using such materials is explained with reference to cost and safety of personnel.
- 1.7 Damage to ropes and chains, or visual signs of potential failure, is identified and reported in line with vessel operating procedures and/or safety procedures.
- 1.8 Safe working loads of wire ropes and chains are determined in line with rope type and size.

Element 2: Describe the construction and storage of fibre ropes

Range

Materials may include but are not limited to natural fibre, polyester, nylon, polypropylene, polyethylene.

Types of ropes may include but are not limited to monofilament, laid, braid and multi plait.

Performance Criteria

- 2.1 Materials used in the manufacture of ropes used on a vessel are identified and described in terms of their particular strengths, weaknesses and application.
- 2.2 The construction and type of rope used on a vessel are identified and examples of their use are given in line with best practice.
- 2.3 The storage requirements for ropes are described in line with the manufacturer's instructions and vessel operating procedures.
- 2.4 The consequences of incorrect storage are described in terms of cost and safety.

Element 3: Select and use knots and lashings

Range

Knots and lashings may include but are not limited to bowline, sheet bend, round turn, two half hitches, figure eight, double sheet bend, rolling hitch, clove hitch, fisherman's bend/anchor hitch, black wall hitch and barrel hitch.

Performance Criteria

- 3.1 Knots and lashings are described in terms of their strengths and weaknesses for particular applications.
- 3.2 Knots and lashings are selected and tied in a manner that is consistent with the intended purpose of the knots or lashing, in line with vessel's operating and/or safety policies and procedures.
- 3.3 The consequences of incorrect selection or execution are described with reference to personal, crew or vessel safety.

Element 4: Splice ropes to purpose on a vessel

Range

3 strand ropes may include but are not limited to back splice, eye splice, short splice and multi plait rope - eye splice.

Performance Criteria

- 4.1 Ends of synthetic rope are stopped in line with vessel standards and procedures.
- 4.2 Ropes are spliced in line with vessel standards and procedures.
- 4.3 The splice selected is appropriate to the intended purpose of the splice in line with accepted industry practice and/or Standing Instructions.
- 4.4 Whippings are tied in line with vessel standards and procedures.

Element 5: Splice an eye in a wire rope under supervision

Performance Criteria

- 5.1 Splicing tools are selected according to the wire rope size.
- 5.2 Splicing tools are used safely according to the supervisor`s instructions.
- 5.3 The splice is carried out according to the supervisor`s instructions.
- 5.4 Terminology used is consistent with industry usage.

Registration Data

Subfield:	Lifting, Shifting and Secure Loads
Date first registered:	27 September 2012
Date this version registered:	27 September 2012
Anticipated review:	2015
Body responsible for review:	Namibia Training Authority