



**Australian Government**

# **MSTTF3011 Apply lofting skills to sail making**

**Release: 1**

# MSTTF3011 Apply lofting skills to sail making

## Modification History

Release 1. Unit code and Application changed. Elements and Performance Criteria simplified with Element 1 and 2 combined. Foundation Skills field populated. Range of Conditions removed with relevant information moved to Knowledge Evidence. Assessment Requirements clarified with generic foundation skills statements moved to appropriate section and duplication with Performance Criteria removed. Supersedes and is equivalent to MSTTF3005 Apply lofting skills to sail making.

## Application

This unit describes the skills and knowledge required to use traditional lofting skills to reproduce design lines onto sail cloth using manual techniques, for the purpose of sail making. It includes the laying out of sail cloth on a floor and reproducing the 'line drawings' and 'table of offsets' supplied by the sail designer in full scale onto the fabric to achieve a pattern with a 3D outcome.

This unit applies to individuals completing work in accordance with pre-determined specifications and established procedures.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

## Competency Field

Textile fabrication

## Elements and Performance Criteria

| Elements                                  | Performance Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element.                                                                                                                                                                                                                                                                                                                                                                                        |
| 1. Interpret lofting requirements         | <p>1.1 Identify job requirements and sail type from sail design specifications</p> <p>1.2 Interpret design lines and table of offsets and identify sail features</p> <p>1.3 Identify lay-up specifications and determine required amount of floor space required to lay out sailcloth</p> <p>1.4 Select and set up equipment needed for lofting in accordance with workplace procedures</p> <p>1.5 Determine steps in lofting processes and sequence work for maximum productivity</p> |

| Elements                                  | Performance Criteria                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element.                                                                                                                                                                                                                                                                                                                      |
| 2. Lay out sail cloth                     | 2.1 Clean loft floor and remove foreign objects<br>2.2 Handle and lay out sail cloth in accordance with work health and safety requirements<br>2.3 Check sail cloth for faults or inconsistencies and take appropriate action<br>2.4 Check directional and topside layout of sail cloth against fabric cutting requirements and design specifications<br>2.5 Brace sail cloth to loft floor using appropriate method |
| 3. Create lofted lines                    | 3.1 Determine and create straight baseline using appropriate baseline marker<br>3.2 Accurately measure grid and line markings from line drawings and mark onto sail cloth square to the baseline<br>3.3 Draw accurate profile lines<br>3.4 Draw pattern from lofted lines directly onto sail cloth, with accurate allowances made for seams, joins, reinforced edges and other design features                       |
| 4 Complete lofting process                | 4.1 Check pattern markings for accuracy of 3D outcome against design specifications<br>4.2 Identify faults in marking and record and correct inconsistencies with design specifications<br>4.3 Process completed work in accordance with workplace procedures<br>4.4 Complete required documentation in accordance with workplace procedures                                                                         |

## Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret sail design specifications
- Writing skills to communicate factual information in familiar workplace documents
- Numeracy skills to take accurate measurements and use basic geometry and geometric drawing.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

## **Unit Mapping Information**

Release 1. Supersedes and is equivalent to MSTTF3005 Apply lofting skills to sail making

## **Links**

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e>

# Assessment Requirements for MSTTF3011 Apply lofting skills to sail making

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## Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- use lofting skills in the production of three different sail products, and for each product:
  - interpret sail design lines and table of offsets defining the pattern to be marked out
  - interpret dimensions and other relevant specifications of components to be incorporated in pattern
  - take accurate measurements and apply lay out, measuring and mark out techniques
  - select, prepare and use appropriate lofting equipment
  - follow quality assurance processes.

## Knowledge Evidence

There must be evidence the candidate has knowledge of:

- current Australian Standards for sailmaking and their basic requirements
- sail cloths commonly used in sail making, and the performance factors and handling requirements of different fabrics
- sails and sailmaking:
  - sail types for various uses and boat sizes
  - common sail features, including:
    - attachments
    - batten pockets
    - cross-cut, radial and membrane panel layouts
    - foot rounds
    - gussets
    - inserts
    - leech hollows
    - luff curves
    - marking reef points

- openings
- reinforcing
- roach profiles
- production design and construction processes
- the reasons for using lofting
- steps involved in the lofting process
- how to interpret design lines and tables of offsets
- basic geometry and geometric drawing
- practices and equipment for laying out, measuring and marking
- bracing methods and materials
- labelling, folding, packing, and transferring requirements of lofted sail cloths
- quality standards for lofted sail cloths
- maintenance of the loft floor
- documentation requirements for sail production:
  - record of inconsistencies or faults
  - record of adhesives, materials and processes used
  - instructions for finishing
  - time and date
  - labelling
  - packing or transfer information.
  -

## Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - sail design specifications
  - sail cloth
  - loft or appropriate area for completion of work
  - lofting tools and equipment
  - workplace procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

## Links

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<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e>