



Australian Government

Department of Education, Employment and Workplace Relations

LMTTF3006A Cut and join sail panels

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor This unit covers the skills and knowledge required to cut and join sail panels for a range of sail types and sizes.

Application of the Unit

Application of the Unit

This unit applies to the lay-up, marking, and cutting of sail panels using manual or computerised methods. The joining of panels will involve sewing and bonding techniques. Interpretation of sail designs and specification sheets is required.

Work may be conducted in small to large scale enterprises and may involve individual and team activities. Work is performed within defined procedures under supervision of the sail designer.

The application of this unit is according to OHS practices of the enterprise and workplace practices, which may include:

- requirements prescribed by legislation, awards, agreements and conditions of employment
- standard operating procedures
- work instructions
- oral, written and visual communication
- quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output
- housekeeping
- tasks related to environmental protection, waste disposal, pollution control and recycling

This unit requires the application of skills associated with planning and organising for the safe and effective use of cutting and joining processes and technology within the sail making industry. This unit also requires an ability to interpret job specifications and work instructions, check the quality of outcomes, complete workplace documentation and identify and rectify faults and problems in own work. Self management skills are applied to ensure workplace and quality standards are achieved.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Lay up, plot and mark sail	1.1 Sail design specifications are interpreted and clarified where necessary and sail type is identified 1.2 Lay up instructions are interpreted 1.3 Sailcloth width and quality are checked against lay-up instructions 1.3 Lay marker is plotted on the sailcloth using computer or manual techniques 1.4 Mark is copied manually or by computer on the sailcloth 1.5 Marker and lay alignment are checked against design specifications and adjustments made as required 1.6 Master copy of lay marker is stored as appropriate
2 Cut sail	2.1 Sailcloth is laid out correctly using proper handling techniques 2.2 Sailcloth is checked for faults or inconsistencies and appropriate action taken 2.3 Cutting equipment is obtained and checked according to specifications for work. 2.4 Sailcloth is cut according to OHS practices 2.5 Cut sailcloth is inspected, any faults identified and appropriate action taken to ensure cut pieces meet required quality standards and design specifications
3 Join sail panels	3.1 Required joining technique is identified according to design and sail specifications, and work area and resource requirements prepared 3.2 Sailcloth surfaces are prepared, aligned, anchored, or otherwise stabilised for application of adhesive or sewing 3.3 Sail panels are joined according to design specifications and OHS practices, including use of personal protective equipment 3.4 Joining is continuously monitored for errors and to ensure correct alignment and integrity to design specifications 3.5 Bonded joins are allowed to cure for specified time, using heat application where appropriate 3.6 Sail is removed and bonded or sewn joins are informally inspected and tested for strength and accuracy against design specifications 3.7 Faults and inconsistencies or discrepancies with design are identified and addressed 3.8 Sail is transferred to next area for finishing and housekeeping and required production documentation are completed

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit.

Demonstrates knowledge of:

- sail types for various uses and boat sizes
- cross-cut, radial and membrane panel layouts
- sail cloths commonly used in sail-making, and their performance factors
- CAD software applications for use in sail making
- manual handling techniques for sailcloth
- operating principles of sewing machines used in sail making
- needle, thread and stitch specifications
- adhesives used in sail making, and practices and procedures for application
- environmental and waste-management requirements of sail-making industry
- curing requirements
- procedures for strength testing of joined sailcloth
- OHS practices, including hazard identification and control measures
- practices for recording and reporting

Demonstrates skills to:

- correctly interpret sail design and lay-up instructions
- use CAD software for marking and plotting
- apply handling techniques when laying out and transferring sailcloth
- identify faults and inconsistencies in sailcloth, markings, and joined sails
- correctly adjust lay height and position of sailcloth
- cut sailcloth to lay
- select and apply correct adhesive
- select correct needle and thread types
- operate sewing machine
- check work against information and specifications throughout sail making process
- prepare, examine, and use materials and equipment and work area according to OHS and workplace practices
- apply Personal Protective Equipment correctly
- store materials and equipment and dispose of wastes according to OHS practices and industry regulations
- maintain machines and work area
- locate and apply relevant information
- document and transfer information
- read, interpret, and follow information on work specifications, standard operating procedures and work instructions, and other reference material
- maintain accurate records
- communicate within the workplace

This describes the essential skills and knowledge and their level required for this unit.

- sequence operations
- clarify and check task-related information
- carry out work according to OHS practices

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Demonstrates skills and knowledge to:

- interpret and apply sail design specifications
- accurately lay up, mark and plot design
- cut and join sailcloth
- identify faults, inconsistencies and discrepancies

Consistently applies skills and knowledge when:

- organising work
- completing tasks
- identifying improvements
- using workplace practices
- using OHS practices
- recording and reporting accidents and incidents
- assessing operational readiness of equipment used and work processes
- recognising and adapting to cultural differences in the workplace, including modes of behaviour and interactions
- completing work systematically with attention to detail without damage to goods and equipment

Context and specific resources for assessment

Assessment may occur on the job or in an appropriately simulated environment and requires access to work areas, materials and equipment, and to information on workplace practices and OHS practices.

Guidance information for assessment

This unit may be assessed independently or in combination with other relevant units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Legislative/regulatory requirements All work must comply with relevant Federal and State or Territory legislative or regulatory requirements.

Sail type may include:

- one design
- cruising
- cruiser and racing
- racing yacht
- sails for a range of boat sizes

Lay-up must include:

- cross-cut, radial and membrane panel layouts

Sail cloth may include:

- dacron
- nylon
- vinyl
- canvas
- wovens
- spinnaker
- laminet
- composite sailcloth

Cutting equipment includes:

- scissors
- power tools

OHS practices OHS practices must include hazard identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit, and may include:

- manual handling techniques
- standard operating procedures
- personal protective equipment
- safe materials handling
- taking of rest breaks
- ergonomic arrangement of workplaces
- following marked walkways
- safe storage of equipment
- housekeeping
- reporting accidents and incidents
- other OHS practices relevant to the job and enterprise

Resource requirements may include	• power tools • spray guns • portable ventilation fans • hot air dryers • heat lamps • sewing machines • needles • threads • adhesive applicators • cleaning cloths • solvents
Joining techniques may include	• sewing, using a variety of stitch types • use of adhesives such as glue, tape and other bonding agents • combination of both sewing and adhesives
Personal Protective Equipment may include:	• masks • goggles • aprons or other protective covers • gloves
Required production documentation may include:	• record of inconsistencies or faults • record of adhesives used • instructions for finishing • production information • time and date • labelling • packing or transfer information

Unit Sector(s)

Sector Textile Fabrication