



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **TDMMB107C PERFORM ROUTINE REMEDIAL, PREVENTATIVE AND SURVEY DECK MAINTENANCE ON A VESSEL**

**Release: 1**

## **TDMMB107C PERFORM ROUTINE REMEDIAL, PREVENTATIVE AND SURVEY DECK MAINTENANCE ON A VESSEL**

### **Modification History**

Not applicable.

### **Unit Descriptor**

UNIT DESCRIPTOR:

**This unit involves the skills and knowledge required to perform routine remedial, preventative and survey deck maintenance on commercial vessels. This includes carrying out basic deck maintenance, cleaning tasks, marine painting and checks on deck machinery and systems.**

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### **Application of the Unit**

<b>Application of the unit</b>	The unit has applications in qualifications for Integrated Ratings on ocean-going vessels, i.e. Certificate III in Transport&Distribution(Maritime Operations - Integrated Rating).
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### **Licensing/Regulatory Information**

<b>Licensing/legislative requirements</b>	The unit is consistent with the relevant sections of STCW 95 and Marine Orders under the Australian Navigation Act, describing requirements for an Integrated Rating on an ocean-going vessel.
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### **Pre-Requisites**

Not applicable.

### **Employability Skills Information**

Not applicable.

## Elements and Performance Criteria Pre-Content

*Elements describe the essential outcomes of a unit of competency.*

*Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.*

## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p><b>1 Perform basic deck maintenance</b></p>	<ul style="list-style-type: none"> <li>a Checks of deck surfaces are carried out in accordance with planned maintenance system</li> <li>b Any deterioration or corrosion of a vessel's deck surfaces is identified and appropriate maintenance action initiated or carried out in accordance with planned maintenance system</li> <li>c Minor faults and imperfections in painted surfaces are repaired in accordance with procedures</li> <li>d Weathered surfaces are restored using cleaners and liquid abrasives in accordance with OH&amp;S and pollution control requirements, planned maintenance procedures and manufacturer's instructions</li> <li>e Tools and equipment are correctly identified and used in accordance with OH&amp;S requirements, company procedures and equipment manufacturer's instructions</li> <li>f Marine surfaces are prepared for the application of the required marine coating</li> <li>g Maintenance materials are obtained, handled, prepared and applied in accordance with OH&amp;S and pollution control requirements, company procedures and manufacturer's instructions</li> <li>h Records of maintenance work carried out are completed in accordance with procedures</li> </ul>

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ELEMENT	PERFORMANCE CRITERIA
<p><b>2 Carry out cleaning activities</b></p>	<ul style="list-style-type: none"> <li>a Appropriate chemicals, cleaning agents and equipment are selected to clean an assigned area of the vessel</li> <li>b Manufacturer's warning and instructions regarding the use of chemicals and cleaning agents are read, understood and applied</li> <li>c Cleaning tasks are completed in the assigned area in accordance with procedures and manufacturer's instructions</li> <li>d Chemicals, cleaning agents and equipment are correctly stored after use</li> </ul>
<p><b>3 Select and apply appropriate paint systems for areas aboard a vessel</b></p>	<ul style="list-style-type: none"> <li>a Appropriate paints and painting equipment for a particular surface are selected in accordance with planned maintenance procedures and the paint manufacturer's instructions</li> <li>b Marine paints are applied using appropriate application equipment in accordance with OH&amp;S requirements, planned maintenance procedures and manufacturer's instructions</li> <li>c Problems in the application of paints are identified and reported and/or appropriate remedial action initiated</li> <li>d Debris from maintenance activities is disposed of, or stored, in accordance with established procedures</li> <li>e Paint and painting equipment are correctly stored after use</li> </ul>

ELEMENT	PERFORMANCE CRITERIA
<p><b>4 Check and perform basic maintenance on deck fittings, equipment and systems</b></p>	<p>a Tools and equipment for basic maintenance are correctly identified and used in accordance with OH&amp;S requirements, planned maintenance procedures and equipment manufacturer's instructions</p> <p>b Maintenance materials are obtained, handled, prepared and applied in accordance with OH&amp;S and pollution control requirements, company procedures and manufacturer's instructions</p> <p>c Defective deck fittings, equipment and systems are identified and reported, repaired and/or replaced as required by planned maintenance procedures</p> <p>d Maintenance equipment is correctly cleaned and stored after use</p> <p>e Debris and unused materials are disposed of or stored as per OH&amp;S and pollution control requirements, planned maintenance procedures and manufacturer's instructions</p>
<p><b>5 Follow safety and hazard control procedures</b></p>	<p>a Personal protection equipment (PPE) is used in accordance with regulations and OH&amp;S policy</p> <p>b Maintenance hazards are identified and action is taken to minimise or eliminate risk to personnel, vessel and the environment</p>

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ELEMENT	PERFORMANCE CRITERIA
<p><b>5 Follow safety and hazard control procedures (continued)</b></p>	<p>c Safety, hazard minimisation and pollution control procedures and regulations are followed at all times during maintenance and repair operations</p> <p>d Where relevant, procedures and precautions necessary for entry into confined spaces on a vessel, after authorisation by a responsible officer, are correctly followed</p>

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## **Required Skills and Knowledge**

### **REQUIRED KNOWLEDGE**

*This describes the knowledge required for this unit.*

- 1 Applicable sections of relevant regulations
- 2 Safety management system (where required) as it relates to planned vessel maintenance
- 3 Relevant OH&S regulations and policies
- 4 Procedures for the checking the deck areas, machinery and fittings of a vessel as part of planned routine maintenance procedures
- 5 Nature and causes of corrosion of marine surfaces and structures and available methods for its control
- 6 Corrosion control measures, including surface preparation and painting and antifouling
- 7 Paints and painting equipment used in marine maintenance and the related procedures and precautions to be taken for preparation, application and storage
- 8 Safety, environmental and hazard control precautions and procedures relevant to planned maintenance operations
- 9 Procedures for the disposal of debris and waste during planned maintenance activities
- 10 Storage principles of paints, chemicals and cleaning agents used in planned maintenance operations
- 11 Procedures for the correct entry into a confined space on board a vessel, including OH&S precautions, testing of unknown atmospheres, use of a confined space entry permit, and procedures as defined in the safety management system (where required) or in industry standards and guidelines.
- 12 Principal features of the structure of relevant types of vessels
- 13 A basic understanding of the properties and application of materials used in

## **REQUIRED KNOWLEDGE**

vessel construction

- 14 Construction, layout and subdivision requirements of a typical vessel
- 15 Maritime communication techniques needed during slipping and maintenance operations
- 16 Problems related to planned maintenance systems for deck areas, machinery and fittings and appropriate action and solutions
- 17 Deck maintenance records that must be maintained on a vessel

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## **REQUIRED SKILLS**

*This describes the basic skills required for this unit.*

- 1 Use basic verbal communication skills required when performing routine remedial, preventative and survey deck maintenance on a vessel
- 2 Read, interpret and apply simple instructions for performing routine remedial, preventative and survey deck maintenance on a vessel
- 3 Complete any required records required when performing routine remedial, preventative and survey deck maintenance on a vessel
- 4 Work safely and collaboratively with others when performing routine remedial, preventative and survey deck maintenance on a vessel
- 5 Select and use relevant tools, equipment and materials as per instructions
- 6 Recognise routine problems when performing routine remedial, preventative and survey deck maintenance on a vessel and take appropriate action
- 7 Adapt to differences in vessel types
- 8 Follow required work schedule as per company requirements

## **Evidence Guide**

## Evidence Guide

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*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 this Training Package.*

<b>1 Critical aspects of evidence required to demonstrate competency in this unit</b>	Assessment must confirm appropriate knowledge and skills to: <ul style="list-style-type: none"><li>a Perform basic deck maintenance</li><li>b Carry out cleaning activities</li><li>c Select and apply appropriate paint systems for areas aboard a vessel</li><li>d Check and perform basic maintenance on deck fittings, equipment and systems</li><li>e Exercise all required safety, environmental and hazard control precautions and procedures during planned maintenance operations</li><li>f Communicate effectively with others when carrying out maintenance procedures on board a vessel</li></ul>
<b>2 Evidence required for demonstration of consistent performance</b>	<ul style="list-style-type: none"><li>a Performance is demonstrated consistently over a period of time and in a suitable range of contexts</li><li>b Consistently applies underpinning knowledge and skills when:<ul style="list-style-type: none"><li>1 performing basic deck maintenance</li><li>2 carrying out cleaning activities</li><li>3 selecting and applying appropriate paint systems for areas aboard a vessel</li><li>4 checking and performing basic maintenance on deck fittings, equipment and systems</li><li>5 applying safety precautions relevant to routine maintenance operations</li></ul></li></ul>



	<p>c Shows evidence of application of relevant workplace procedures, including:</p> <ol style="list-style-type: none"> <li>1 relevant regulations</li> <li>2 OH&amp;S regulations and hazard prevention policies and procedures</li> <li>3 safety management systems where required</li> <li>4 job procedures and work instructions</li> <li>5 relevant vessel manufacturer's guidelines relating to planned routine maintenance procedures</li> <li>6 environmental protection procedures when carrying out maintenance operations</li> </ol>
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**Evidence Guide (continued)**

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<p><b>2 Evidence required for demonstration of consistent performance (continued)</b></p>	<p>d Action is taken promptly to report and/or rectify issues and problems identified during planned routine maintenance</p> <p>e Work is completed systematically to the required standard</p> <p>f Recognises and adapts appropriately to cultural differences in the workplace, including modes of behaviour and interactions among crew and others</p>
<p><b>3 Context of assessment</b></p>	<p>a Assessment of competency must comply with the assessment requirements of the relevant maritime regulations</p> <p>b Assessment of this unit must be undertaken within relevant marine authority approved and audited arrangements by a registered training organisation:</p> <ol style="list-style-type: none"> <li>1 As a minimum, assessment of knowledge must be conducted through appropriate written/oral examinations, and</li> <li>2 Appropriate practical assessment must occur:</li> </ol>

	<ul style="list-style-type: none"> <li>i at the registered training organisation; and/or</li> <li>ii on an appropriate working or training vessel</li> </ul>
<b>4 Specific resources required for assessment</b>	<p>Access is required to opportunities to:</p> <ul style="list-style-type: none"> <li>a participate in a range of exercises, case studies and other simulated practical and knowledge assessments that demonstrate the skills and knowledge to carry out planned routine maintenance on deck areas, machinery and fittings on board a vessel; and/or</li> <li>b carry out planned routine maintenance on deck areas, machinery and fittings on board a commercial or training vessel</li> </ul>

## Range Statement

### Range Statement

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*The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.*

#### VARIABLE

#### SCOPE

### 1. GENERAL CONTEXT

<b>a. Work must be carried out:</b>	1 in compliance with the relevant regulations and instructions from the relevant master/deck/engineer officer
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*The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.*

<b>b. Work is performed:</b>	1 within planned maintenance procedures, with responsibility for own outputs in relation to specified quality standards and limited responsibility for others in achieving the specified quality of maintenance outcomes
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## 2. WORKSITE ENVIRONMENT

<b>a Vessel may include:</b>	1 any Australian or international commercial vessel
<b>b Maintenance of a vessel may be carried out:</b>	1 while underway 2 when berthed or moored 3 when slipped or in dry dock
<b>c Maintenance may include:</b>	1 identification of any deterioration of a deck areas, machinery and fittings 2 cleaning of areas of the vessel 3 repairs of minor faults and imperfections in painted surfaces 4 identification of faulty equipment or fittings and arranging for repair or replacement 5 restoration of weathered surfaces 6 preparation of marine surfaces prior to the application of the prescribed marine coating 7 selection and application of appropriate marine paints for particular surfaces
<b>d Maintenance tools and equipment may include:</b>	1 hand tools, including chipping hammers and scrapers 2 electric power tools such as grinders, sanders and drills

**Range Statement (continued)**

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VARIABLE	SCOPE
<p><b>d Maintenance tools and equipment may include: (continued)</b></p>	<p>3 pneumatic power tools such as grinders, sanders and drills</p> <p>4 marine preservative finish application equipment such as brushes, spray guns, rollers</p> <p>5 rinsing and storing equipment</p> <p>6 personal protection clothing and equipment such as:</p> <p>7 eye and ear protection</p> <p>8 safety boots</p> <p>9 dust and fume masks, including various cartridges</p> <p>10 confined spaces rescue equipment</p>
<p><b>e Deterioration of vessel's deck areas, machinery and fittings may include:</b></p>	<p>1 corrosion of deck, fittings and equipment</p> <p>2 weathering of surfaces</p> <p>3 wearing of fittings and equipment</p>
<p><b>f Documentation and records may include:</b></p>	<p>1 safety management system plans, procedures, checklists and instructions</p> <p>2 IMO STCW Convention and Code</p> <p>3 AMSA Marine Orders</p> <p>4 planned maintenance system or other preventative maintenance scheme</p> <p>5 maintenance records</p>

VARIABLE	SCOPE
	6 vessel and equipment manufacturer's instructions, specifications and recommended procedures  7 instructions, specifications and recommended procedures of manufacturers of maintenance tools and materials
<b>g Applicable legislation, regulations and codes may include:</b>	1 IMO STCW 95 Convention and Code related to the maintenance of vessels  2 relevant sections of AMSA Marine Orders related to the maintenance of vessels  3 relevant international, Commonwealth, State and Territory marine, environmental and OH&S legislation

### Unit Sector(s)

Not applicable.

### Field

Field B Equipment Checking and Maintenance

### Relationship to other units

<b>Relationship to other units</b>	The unit may be assessed in conjunction with other units that relate to the functions of the occupation(s) concerned.
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