### TSC Category

**Product Finalisation**

### TSC

**Component Assembly**

### TSC Description

Produce structures from smaller components by interpreting hull structure drawings, mechanical equipment drawings, electrical drawings and other technical drawings applicable to marine equipment, ships, rigs and conversions

<table>
<thead>
<tr>
<th>TSC Proficiency Description</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
<th>Level 6</th>
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</thead>
<tbody>
<tr>
<td>Assemble components according to drawings, instructions and workflow plans</td>
<td>MAR-PFI-1001-1.1</td>
<td>Supervise component assembly tasks for adherence to drawings, instructions and workflow plans</td>
<td>MAR-PFI-2001-1.1</td>
<td>Allocate component assembly tasks by discipline and complexity</td>
<td>MAR-PFI-3001-1.1</td>
<td>Establish assembly workflows for ships and rigs</td>
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<tr>
<td>MAR-PFI-4001-1.1</td>
<td>MAR-PFI-5001-1.1</td>
<td>MAR-PFI-6001-1.1</td>
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### Knowledge

- General maintenance-related workshop tools, equipment and processes
- Types of joining, forming and machining processes
- Types of orthographic projections
- Relevant fits and geometrical tolerances
- Equipment drawing symbols and conventions
- Types of size and length guidelines
- Types of electrical wiring systems and sensors
- Components of control circuits
- Types of non-destructive testing (NDT) methods
- Types of automated and manual assembly systems
- Types of detail and assembly technical drawings
- Relevant workplace safety and health (WSH) practices, guidelines and regulations
- Relevant quality assurance and quality control (QA/QC) policies and procedures
- Types of ships and rigs, terminologies and features
- Interpretation of machine drawings, part-list and bill of materials
- Mechanical components for automated equipment
- Methods of handling unsafe and worn out tools and instruments
- Functional requirements, types and layouts of ships and offshore structures
- Components of electrical, structural and arrangement drawings
- Pre-outfitting production workflows and equipment operations
- Block construction methods
- Sequence of horizontal and vertical erections
- Methods of assembly sequencing
- Systems and equipment on offshore structures and/or ships
- Principles of assembly workflow sequencing
- Purpose and applications of horizontal and vertical erections
- Methods and requirements of marine equipment installation
- Principles of thermal analysis
- Principles of vibrational analysis
### Abilities

- Prepare tools, instruments and materials in alignment with types of tasks to be performed
- Check tools, instruments and materials for working conditions before commencement of tasks
- Set appropriate machining parameters for the job
- Perform filing, drilling, reaming, tapping, modification fitting, common machining and die-threading operations
- Check accuracy of functional dynamic components according to work instructions
- Highlight component misalignment issues for review and/or adjustment
- Apply safety measures for dynamic components as per drawings, instructions and workflow plans

- Infer required work materials and assembly components from assembly and specifications instructions and workflow plans
- Infer required cutting, positioning and mounting tools from assembly and specifications instructions and workflow plans
- Use suitable measuring instruments and/or gauges to check components for conformance to specifications
- Recommend solutions for issues encountered in assembly work
- Handle faulty or unsafe tools and instruments in accordance with organisational policies and procedures

- Infer assembly requirements and sequence of operations from assembly and specifications instructions
- Identify improvement opportunities for assembly activities
- Infer requirements for work carriers to hold sub-assemblies and/or work pieces from assembly and specifications instructions

- Draft assembly workflow documents
- Identify suitable means of equipment installation
- Identify requirements for thermal and vibrational analysis