

**SKILLS FRAMEWORK FOR MARINE AND OFFSHORE
TECHNICAL SKILLS & COMPETENCIES (TSC) REFERENCE DOCUMENT**

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					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	MAR-PFI-1001-1.1	MAR-PFI-2001-1.1	MAR-PFI-3001-1.1	MAR-PFI-4001-1.1		
	Assemble components according to drawings, instructions and workflow plans	Supervise component assembly tasks for adherence to drawings, instructions and workflow plans	Allocate component assembly tasks by discipline and complexity	Establish assembly workflows for ships and rigs		
Knowledge	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 		

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<p>Abilities</p>	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Draft assembly workflow documents • Identify suitable means of equipment installation • Identify requirements for thermal and vibrational analysis 		
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