

**SKILLS FRAMEWORK FOR AEROSPACE
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE DOCUMENT**

TSC Category	Aerospace and Engineering Fundamentals					
TSC	Aerospace Materials and Hardware Selection					
TSC Description	Select appropriate aerospace materials and hardware for maintenance, repair, overhaul or manufacturing of aircrafts in accordance with applicable original equipment manufacturer (OEM) manuals and organisational procedures					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
			AER-ACO-3013-1.1	AER-ACO-4013-1.1		
			Select aerospace materials and hardware to be used for aircraft maintenance, repair, overhaul or manufacturing	Select aerospace materials and hardware and appropriate test methods to be used for evaluating their suitability		
Knowledge			<ul style="list-style-type: none"> • Types of ferrous, non-ferrous metals used in aerospace applications • Types of composite and non-metallic materials used in aerospace applications • Basic chemical principles and types of corrosion • Types of screw threads, bolts, nuts, studs, screws, locking devices and rivets • Types of pipes, hoses, connectors and unions used on various aircraft systems • Types of bearings and mechanical transmission devices on aircraft • Types of control cables on aircraft • Types of electrical cables and connectors 	<ul style="list-style-type: none"> • Characteristics, properties, identification and application of aircraft materials • Advanced chemical principles and characteristics of corrosion • Types of fasteners and their application • Functions and applications of pipes and unions • Characteristics and usage of springs, bearings and mechanical transmission devices used on aircraft • Characteristics and usage of control cables and cable systems used on aircraft • Characteristics and construction of various types of electrical cables and connectors used on aircraft 		
Abilities			<ul style="list-style-type: none"> • Identify the different types and properties of metals used in aircraft construction 	<ul style="list-style-type: none"> • Recommend choice of materials used in aircraft construction • Evaluate effects and applications of heat 		

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			<ul style="list-style-type: none"> • Assess the different types and properties of composite and non-metallic material used in aircraft construction • Identify root causes of damages in composite and non-metallic materials • Determine different forms of corrosion and carry out relevant control methods • Select various types of aircraft fasteners • Differentiate the use of various pipes and unions • Explain the basic characteristics of bearings and transmissions and control cables • Recommend various types of electrical cables and connectors 	<p>treatment methods and mechanical tests for metals</p> <ul style="list-style-type: none"> • Design repair schemes based on the type of damage for composite and non-metallic structures • Evaluate the use of appropriate corrosion preventive control methods • Evaluate various types and applications of common sealants and aircraft fasteners • Explain the characteristics and application of pipes and unions, springs, bearings and mechanical transmission devices on aircraft • Explain the characteristics and construction of various types of control and electrical cables and connectors used on aircraft 		
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