

TSC Category	Special Processes					
TSC	Non-destructive Testing (Magnetic Particle Inspection)					
TSC Description	Perform magnetic particle inspections on components using appropriate tools, equipment, materials and methods meeting requirements and in accordance with organisational procedures					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	AER-ACO-1039-1.1	AER-ACO-2039-1.1				
	Carry out magnetic particle inspections on components and record inspection results in accordance with written instructions	Conduct magnetic particle inspections and evaluate inspection results with respect to applicable codes, standards and specifications				
Knowledge	<ul style="list-style-type: none"> • Basic principles of magnetic particle inspection • Basic physics and principles of magnetic fields • Basic theory of magnetism and demagnetisation • Magnetic particle inspection tools, equipment, materials, techniques and procedures • Types of magnetising currents • Black lights and measurement of intensity • Defect detection and evaluation • Pre and post-inspection procedures • Relevant non-destructive testing (NDT) standards and requirements • Organisational standard operating procedures (SOPs) and safety practices 	<ul style="list-style-type: none"> • Principles of magnetic particle inspection and applications • Advantages, disadvantages and limitations of magnetic particle inspection • Magnetic particle inspection methods and procedures • Types of magnetic particle materials • Magnetisation and demagnetisation methods • Lighting conditions and measurement of intensity • Types and nature of discontinuities • Cause and effect of various types of discontinuities • Relevant non-destructive testing (NDT) codes, standards and specifications • Safety data sheet (SDS) 				

<p>Abilities</p>	<ul style="list-style-type: none"> • Prepare components for magnetic particle inspection • Perform pre-operational checks of NDT equipment for safe and useable conditions to minimise safety risks • Set up and perform specific calibrations on equipment • Perform magnetic particle inspections as specified in work instructions • Evaluate for component acceptance or rejection • Record inspection results • Perform post-inspection demagnetisation and cleaning activities • Adhere to written instructions and SOPs • Observe and apply safety practices in the workplace 	<ul style="list-style-type: none"> • Verify and calibrate NDT equipment settings • Perform magnetic particle inspections • Interpret and evaluate results according to applicable codes, standards and specifications • Organise and report inspection results • Translate NDT codes, standards and specifications into practical testing instructions • Prepare NDT instructions • Define limitations of inspection methods • Ensure all inspections carried out in accordance with NDT requirements • Ensure safety practices in the workplace 				
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