

NOCC-A21 Electrician: Competence Package

Relevant Occupation/trade title: Electrician			SAQA ID: 91761		
Learning Area 2: Identify, care and use of basic, trade-specific hand- & power tools and equipment			Total Hours:		192
Learning Project 7: Use hand and power tools to prepare wire ways (Steel & PVC) for installation			Total Hours:		16
Requisite learning areas/projects to be in place (Pre-requisite and co-requisite):		<ul style="list-style-type: none">LA 1 (LP 3, 7, 9, 12)LA 2 (LP 2)			
Learning project description: Use hand and power tools to prepare wire ways (Steel & PVC) for installation including cutting, bending, glueing					
Activity phase	Practical Skills Modules Content	Underpinning Knowledge Module Content	Work Experience Module Content	Didactical-methodological advice	Learning materials/Tools and Equipment
Reference to QCTO Curriculum	PM01-PS01 PM-01-PS02 PM04-PS01	KM02-KT01 KM05-KT01	WM:01		
Planning/ Preparation	<p>Provide access to (Given): Applicable hand and power tools for the preparation of the installation of wire ways, drawings and instructions, and applicable materials</p> <p><u>Apprentices must be able to do/perform the following (hard and soft) skills:</u></p> <p>Arrange for wire way preparation work</p> <ul style="list-style-type: none">Read drawings and/or instructions of taskPerform risk assessment on the task and determine safe working procedureIdentify and plan the correct hand or power tools	<p>Knowledge of:</p> <ul style="list-style-type: none">Applicable hand and power tools for the preparation of wire waysSafety precautions regarding the use of applicable hand and power toolsMethods of risk assessment on the use of applicable hand and power toolsMaterial used in preparation of wire waysStandard operating procedures in preparation of wire waysSANS 10142-1Relevant work site procedures and practicesTypes of specialised tools	<p>Under supervision:</p> <ul style="list-style-type: none">Prepare wire ways by cutting, bending and gluingPerform risk assessment prior to preparation of wire waysInspect equipment and complete registersPrepare and assemble different types of wire ways for installationStore hand and power tools, record and report any defectsEngage in regular housekeeping activities, tool and equipment maintenance	<ul style="list-style-type: none">Research /Desk studyCase studies /scenariosTechnical discussionsGroup workLecture/ instructionsPresentationsTextbook work	<p>Print materials, electronic files, software applications incl.:</p> <ul style="list-style-type: none">OHS ActSANS 10142-1Text booksTraining manuals for trainers and apprentices incl. multimedia softwareWorksheets for preparation of wire ways projectsSet of presentation aids (videos, slides) for overhead or LED/LCD projectorsManufacturer

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	<p>to be used</p> <ul style="list-style-type: none"> Inspect tools for serviceability and report damages to appropriate personnel Interpret work assignment/instructions and determine sequence of operation Identify appropriate wire ways and materials needed according to given work assignment/instructions Identify and fit applicable PPE 	<p>used for installing wire ways</p> <ul style="list-style-type: none"> Types of wire ways and their application Installation methods for wire ways Techniques of preparing and assembling wire ways <p><u>Types of wire ways refer to:</u> Conduit-flexible, metal or polyvinyl chloride (PVC), ducting-metal or PVC, power skirting-cable trays or bus bar trunking channels and racks</p>	<ul style="list-style-type: none"> Provide work documentation, verbal and written reports as required by the company 		<p>catalogues</p> <p>Hand- & power tools and PPE incl.:</p> <ul style="list-style-type: none"> Electrician's tool box with standard tool set Bending springs Pipe cutter Workbench/workshop store tool set including: Hacksaw, jig saw Drilling machine and drill bit and tap set Assorted files Pliers Side Cutters Chassis punch Hole saw Scriber Centre punch Tin snips Ballpeen Hammer <p>Measuring and testing instruments incl.:</p> <ul style="list-style-type: none"> Steel ruler Measuring tape Engineering square <p>Training workshop and laboratory equipment incl.:</p> <ul style="list-style-type: none"> Workbenches for practical exercises
Implementation/Execution	<p>Prepare wire ways for installation</p> <ul style="list-style-type: none"> Correctly use appropriate personal protective equipment (PPE) Acquire the materials and tools required to complete the work assignment Locate and hold in place material needed for hand- and power tool application Operate hand- and power tools appropriately in accordance with work requirements Safely locate hand- and power tools when not in immediate use Measure, mark and cut wire ways to designed/planned requirements Form and bend wire ways to designed/planned 	<p>Applicable statutory requirements</p> <p><u>Assembling and preparation techniques of wire ways refers to:</u> Connecting of inspection boxes, extensions pieces, termination boxes, extension box; joining through gluing, screwing, clipping</p> <ul style="list-style-type: none"> Reporting requirements and work documents related to the preparation of wire ways for installation Housekeeping procedures 			

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	<p>requirements and the environmental/building structure</p> <ul style="list-style-type: none"> • Finish and deburr all wire way ends • Fit and tighten wire way end connections • Assemble and join wire ways using appropriate techniques and fittings/ components 				
Evaluation/ Documentation	<p>Evaluate wire way preparation work and conduct housekeeping activities</p> <ul style="list-style-type: none"> • Evaluate the correct completion of the work assignment according to drawings and / or work instructions • Report work progress/completion to appropriate personnel • Clean up work area • Inspect and clean hand- and power tools • Store and secure tools and finished products appropriately in designated areas • Dispose of waste materials following work site and environmental requirements • Complete applicable work documentation 				<p>with hardwood top, metal under frame and lockable set of drawers incl. power supply unit and parallel vice (125mm)</p> <ul style="list-style-type: none"> • Pedestal/table grinding machine • Pedestal drilling machine • Table/ pedestal marking/ inspection table • Set of consumables consisting of various types of wireways e.g. rigid PVC and metal conduit, flexible conduit, metal and PVC trunking, cable tray , busbar trunking • Set of metal and PVC accessories (e.g. couplings, elbows, 90/45 bends)

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Total	Hours: 16			
Specialisation additions	Mining: Stay wires Equipment that requires authorisation			
Assessment guidance				
<ul style="list-style-type: none"> • Self assessment • Group assessment • Theory test <p>Criteria for assessment:</p> <ul style="list-style-type: none"> • Safe use of hand tools • Using PPE appropriately • Identifying and selecting correct tools in accordance with requirements • Inspecting tools and identifying and reporting unsafe or defective equipment in accordance to worksite procedures. . • Completing task in accordance with drawings and / or instructions • Equipment is cared for and stored in accordance with manufacturer's recommendations and worksite procedures. 				