

NB

PROCEDURES AND MINING METHODS VARY THOUGHOUT THE MINING INDUSTRY.

THE FOLLOWING LESSON PLAN SERVES AS A GUIDE ONLY

AND M PROPS (PTY) LTD CANNOT BE HELD RESPONSIBLE

FOR THE INCORRECT INTERPRETATION THEREOF.

LESSON PLAN

COURSE TITLE : TEMPORARY SUPPORT	LESSON TITLE : CAMLOK CANOPY
REFERENCE :	LAST REVISION DATE : July 2018

INSTRUCTIONAL SEQUENCE	SKILLS / KNOWLEDGE / KEY POINTS	FACILITATION METHODOLOGY TECHNIQUES AND AIDES	COURSE REFERENCE
OBJECTIVE	The trainee must show his ability to install and remove a Camlok Canopy safely and according to mine standard.	Trainer to discuss.	M Props (Pty) Ltd Lesson Plan Standard.
INTRODUCTION	To ensure that people are working in a safe and supported area at all times.	Trainer to discuss.	M Props (Pty) Ltd Lesson Plan Standard.
PURPOSE OF A CAMLOK CANOPY	To be used as temporary support in the mining operation where permanent support has yet to be installed and where potentially unsafe situations may be recognized. Camlok Canopies can be used as additional support.	Trainer to explain and discuss.	M Props (Pty) Ltd Lesson Plan Standard.
DESCRIPTION	The Camlok Canopy consists of the following components: <ul style="list-style-type: none"> • Canopy support arms • Net • Brace 	Trainer to demonstrate a Camlok Canopy and explain all components.	M Props (Pty) Ltd Lesson Plan Standard.

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PRECAUTIONS BEFORE USE	<ul style="list-style-type: none"> • Check net for damage. • Check Support Arms are straight and no damage to pipes and threads. • Check support chain and hook for damage. • Check net hooks for damage. • Check the brace is straight and no damage to pipes and threads. • Observe extent of corrosion and discard Camlok Canopy if corrosion indicator has been lost as a result corrosion. • Pre-stressed support units may include temporary support units such as Camlok Props or Permanent support units that are pre-stressed sufficiently to support the Camlok Canopy in the event of a FOG not exceeding 450 kgs. • Check supporting pre-stressed support units have net hook attachment sufficiently strong to support the Camlok Canopy in the event of a FOG not exceeding 450 kgs pointing in the direction the Canopy is to be installed. 	Trainer to demonstrate ability to assess the Camlok Canopy and recognize damage to the Camlok Canopy.	M Props (Pty) Ltd Lesson Plan Standard.

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TOOLS / ACCESSORIES FOR INSTALLATION OF CAMLOK CANOPY	<p>Ensure necessary tools are available:</p> <ul style="list-style-type: none"> • Appropriate length pinch bar, with gasket. • PPE (gloves, hard hat, gum boots, earplugs and goggles). • Ensure sufficient stock of Camlok Canopies is available. 	Trainer to demonstrate tools and discuss.	M Props (Pty) Ltd Lesson Plan Standard.
PREPARATION OF INSTALLATION SITE FOR CAMLOK CANOPY	<ul style="list-style-type: none"> • Water down to allay dust and expose fractures in hangingwall. • Examine hanging wall for faults, dykes, joints or slips, slabbing, loose rocks and any other features that result in a friable and dangerous hangingwall. • Sound the hanging with a pinch bar. 	Trainer to stress the importance of the NB and to demonstrate and discuss this operation. Trainees to practice under supervision	M Props (Pty) Ltd Lesson Plan Standard.

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INSTALLATION OF CAMLOK CANOPY	<ul style="list-style-type: none"> • All work to be done under safe supported hanging wall. • Position Camlok Canopy support arms, net and brace on the footwall next to support units pre-installed or to be installed. • Support units to be installed not further than 1.5m apart. • The net is rectangular in shape with the longest sides installed between the support units. • Hang net on net hooks on support unit headboards. • Hang Canopy Arm by short retaining chain hook to the support unit headboard hook or appropriate hole on Camlok Prop. • From a safe position secure Canopy Arm net hook to the net at the opposing corner of the net. • Attach the second support arm to the next support unit in line by repeating the two previous points. • Fit the canopy brace between the two support arms while the Canopy Arms hang from the net, by locating the U bracket on the pipe end onto the Support Arms at the designated position located towards the end of the support arms identifiable by a raised flat support bracket with a reflective yellow marker. • NB. The flat of the U bracket marked with yellow reflective marker on the brace must be within the raised flat bracket on the support arm. • Tension the brace between the two support arms by rotating the nut until brace is firmly positioned. • Maneuver the support arms out in the direction of required canopy support, locating the V Brackets onto the support units simultaneously. • Tension the support arms by rotating the nuts until the support arms contact the hanging wall and the support arms are firmly tensioned. <p>NB: Use of an assistant is recommended when installing Camlok Canopies.</p>	Trainer to demonstrate and trainees to practice under supervision.	M Props (Pty) Ltd Lesson Plan Standard.

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INSTALLATION OF CAMLOK CANOPY	<ul style="list-style-type: none"> • Camlok Canopies should be installed according to mine standards (refer to support layouts and any special instructions) • Consult Rock Engineering Department for support layouts and or responsible Mine Official. <p>NB: Additional Camlok Canopies to be installed if area contains geological features.</p>		
INSTALLATION OF CAMLOK CANOPY	<p>NB: Operator to observe hanging wall during installation procedure.</p> <ul style="list-style-type: none"> • Install required number of Camlok Canopies using the above procedure. 	Trainer to demonstrate and trainees to practice under supervision.	M Props (Pty) Ltd Lesson Plan Standard.

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REMOVAL OF CAMLOK CANOPY	<p>IMPORTANT NOTE Should Camlok Canopy contain a FOG or a suspected potential FOG, Exercise extreme caution and do not remove the Camlok Canopy until further support is installed. Should the removal of the Camlok canopy be deemed to be too hazardous it is strongly recommended to sacrifice the equipment and barricade off the area.</p> <ul style="list-style-type: none"> • Inspect working area and ensure permanent support is installed to mine standard prior to removing Camlok Canopy. • Remove all persons and materials from working area. • Commence removal of Camlok Canopy in accordance with mine standard. • Remove the Camlok Canopy in the reverse order as per installation. • Release pre-load on support arms until the canopy lowers away from the hanging wall. • Disengage the Support Arm V bracket from the support units, lowering the Canopy down until it hangs from the net. • Release pre-load on brace and remove from support arms. • Release Support Arm Net hooks from the net. • Remove Support Arms from support units by disengaging chain hook from prop headboard • Remove Net from support units • Remove all Camlok Canopies using above procedure. • Store in safe place. 	<p>Trainer to explain and discuss equipment, PPE, tools & accessories. Trainer to demonstrate and trainees to practice under supervision.</p>	<p>M Props (Pty) Ltd Lesson Plan Standard.</p>

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REMOVAL OF CAMLOK CANOPY	<p>NB: Always observe Camlok Canopy whilst removing, for signs of danger.</p> <p>NB: Never enter unsupported areas after removing Camlok Canopies</p>		
REMOVAL OF CAMLOK CANOPY	<p>IMPORTANT NOTE Should Camlok Canopy contain a FOG or a suspected potential FOG, exercise extreme caution and do not remove the Camlok Canopy until further support is installed. Should the removal of the Camlok canopy be deemed to be too hazardous it is strongly recommended to sacrifice the equipment and barricade off the area.</p>	<p>Trainer to explain and discuss equipment, PPE, tools & accessories. Trainer to demonstrate and trainees to practice under supervision.</p>	<p>M Props (Pty) Ltd Lesson Plan Standard.</p>