

Model Curriculum

Wire saw Operator

SECTOR: Mining
SUB-SECTOR: Mining Operations
OCCUPATION: Drilling / Cutting
REF ID: MIN/Q0203, V1.0
NSQF LEVEL: 4



Certificate

COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

SKILL COUNCIL FOR MINING SECTOR

for

MODEL CURRICULUM

Complying to National Occupational Standards of
Job Role/ Qualification Pack: **'Wire saw Operator'** QP No. **'MIN/Qo2o3 NSQF Level 4'**

Date of Issuance: **February 2nd, 2014**

Valid up to*: **March 24th, 2017**

*Valid up to the next review date of the Qualification Pack or the
'Valid up to' date mentioned above (whichever is earlier)


Authorised Signatory
(Skill Council for Mining Sector)

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Wire saw Operator

This program is aimed at training candidates for the job of a “Wire saw Operator”, in the “Mining & Allied” Sector/Industry and aims at building the following key competencies amongst the learner.

Program Name	Wire saw Operator		
Qualification Pack Name & Reference ID.	MIN/Q0203		
Version No.	1.0	Version update date	24/03/2017
Pre-requisites to Training	Preferably Class XII		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Conduct pre-operation checks to ensure the Wire saw is safe to use. • Record details of daily checks • Perform Trimming or Towing operation of Wire saw • Position and mount the Wire saw • Perform Wire sawing operation. • Report of problem/incidents etc. • Record and Documentation • Comply to health and safety measures critical for personnel working in open-cast mines 		

This course encompasses 4 out of 4 National Occupational Standards (NOS) of “Wire saw Operator” Qualification Pack issued by “Skill Council for Mining Sector”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p>Introduction</p> <p>Theory Duration (hh:mm) 10:00</p> <p>Practical Duration (hh:mm) 26:00</p> <p>Corresponding NOS Code Bridge Module</p>	<ul style="list-style-type: none"> Understand General Discipline in the class room (Do’s & Don’ts) Understand Role of Wire saw Operator in mining industry Understand benching in quarries, dressing of overhangs, undercuts, fencing, first aid and hygiene Illustrate standing orders in force at the mine. Demonstrate safety in the vicinity of machinery. Explain shot-firing and safety regulations. How and where to take shelter. Practice Basic skills of communication Learn and Practice Basic reading capabilities to enable reading of signs, notices and/or cautions at site. 	Computer With Internet, LCD Projector, Trainer Chair & Pin Up Boards, White Board
2	<p>Prepare Wire saw</p> <p>(hh:mm) 40:00</p> <p>Practical Duration (hh:mm) 90:00</p> <p>Corresponding NOS Code MIN/N0209</p>	<ul style="list-style-type: none"> Adhere to time limits given by supervisor Check the various controls, gauges, warning lamp and other safety devices Ensure that crown blocks are mounted securely Check all hose connections are in order, if using a compress air Wire saw Check that Wire sawing equipment is in safe operating condition. Apply grease to all greasing pins and pivot points The Wire sawing site is clear of other mine workers to avoid any accidents. Follow the manufacturer’s instructions which apply to the care and safe operation of the Wire saw. 	Helmet, Dust Mask, Goggles, Ear Plug, Gloves, Reflective Jacket, Safety Belt, Gum Boots/ Safety shoes, Fire Extinguisher Cylinders, First Aid Box, Fire Fighting Charts, First Aid Charts, Computer with Internet, LCD Projector, Trainer Chair & Table, Demonstration Table, Pin Up Boards, White Board, Wire Saw, Diamond Segment Wire, Diamond Chain Saw, Electric Tester, Spanner Set, Gang Saw
3	<p>Perform Wire saw Operations</p> <p>Theory Duration (hh:mm) 12:00</p> <p>Practical Duration (hh:mm)</p>	<ul style="list-style-type: none"> Plan and organize the job according to the site engineer instructions Organize daily consumables according to the day’s plan Operate propelling motor control levers to smoothly move the Wire saw machine in all four directions. Ensure all necessary precautions are adhered to before towing the Wire saw to a distant site. 	Helmet, Dust Mask, Goggles, Ear Plug, Gloves, Reflective Jacket, Safety Belt, Gum Boots/ Safety shoes, Fire Extinguisher Cylinders, First Aid Box, Fire Fighting Charts, First Aid Charts, Computer with Internet, LCD Projector, Trainer Chair & Table, Demonstration Table, Pin Up Boards, White Board, Wire Saw, Diamond Segment Wire,

	<p>210:00</p> <p>Corresponding NOS Code MIN/N0210</p>	<ul style="list-style-type: none"> • Raise Wire saw guide to 1.5m above ground level and make it horizontal to prevent any damage in transit. • Ensure a stable base for mounting the Wire saw • Adjust the tracks by methodically manipulating the positions of oscillation cylinder valve and hydraulic track valve. • Have work area barricaded or banded and erect signage as required to make work area safe. • Ensure that the highest level of quality is consistently maintained • Ensure all associated products (couplings/rods etc.) are used to their maximum potential, while ensuring their sustainability • Reduce downtime and wastage • Demonstrate caution against hazards of Wire saw machine in operation. 	<p>Diamond Chain Saw, Electric Tester, Spanner Set, Gang Saw</p>
<p>4</p>	<p>Carry Out Reporting and Logging – Wire Saw Operator</p> <p>Theory Duration (hh:mm) 20:00</p> <p>Practical Duration (hh:mm) 20:00</p> <p>Corresponding NOS Code MIN/N0211</p>	<ul style="list-style-type: none"> • Report problems/incidents as applicable in a timely manner • Report to the appropriate authority as laid down by the employer • Follow reporting procedures as prescribed by the employer • Identify documentation to be completed relating to one’s role • Record details accurately using the appropriate format • Complete all documentation within stipulated time. • Make sure documents are available to all appropriate authorities to inspect 	<p>Helmet, Dust Mask, Goggles, Ear Plug, Gloves, Reflective Jacket, Safety Belt, Gum Boots/ Safety shoes, Fire Extinguisher Cylinders, First Aid Box, Fire Fighting Charts, First Aid Charts, Computer with Internet, LCD Projector, Trainer Chair & Table, Demonstration Table, Pin Up Boards, White Board, Wire Saw, Diamond Segment Wire, Diamond Chain Saw, Electric Tester, Spanner Set, Gang Saw</p>
<p>5</p>	<p>Health and safety</p> <p>Theory Duration (hh:mm) 20:00</p> <p>Practical Duration (hh:mm) 62:00</p> <p>Corresponding NOS Code MIN/N0204</p>	<ul style="list-style-type: none"> • Comply with occupational health and safety regulations adopted by the employer. • Follow mining operations procedures with respect to materials handling and accidents • Follow the correct safety steps in case of fire, accident, major failure • Work responsibly and carefully so as not to put the health and safety of self or others at risk. • Perform storage and transport of hazardous materials compliant with safety guidelines prescribed by DGMS. • Comply with safety regulations and procedures in case of fire hazard. • Operate various grades of fire extinguishers. • Work responsibly and as safe and careful as possible so as not to put the health and safety of 	<p>Helmet, Dust Mask, Goggles, Ear Plug, Gloves, Reflective Jacket, Safety Belt, Gum Boots/ Safety shoes, Fire Extinguisher Cylinders, First Aid Box, Fire Fighting Charts, First Aid Charts, Computer with Internet, LCD Projector, Trainer Chair & Table, Demonstration Table, Pin Up Boards, White Board, Wire Saw, Diamond Segment Wire, Diamond Chain Saw, Electric Tester, Spanner Set, Gang Saw</p>

		<p>self or others at risk, including members of the public</p> <ul style="list-style-type: none"> • Demonstrate careful practices in handling explosives and heavy machinery. • Identify characteristics of post-blast fumes and take necessary precautions. 	
	<p>Total Duration</p> <p>Theory Duration 102:00</p> <p>Practical Duration 408:00</p>	Unique Equipment Required:	

Grand Total Course Duration: 510 Hours, 0 Minutes

(This syllabus/ curriculum has been approved by SSC: Skill Council for Mining Sector)

Trainer Prerequisites for Job role: “Wire saw Operator” mapped to Qualification Pack: “MIN/Q0203”

Sr. No	Area	Details
1	Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “MIN/Q0203”.
2	Personal Attributes	This job requires sensitivity to problem solving, safety orientation, reading, writing and communication skills and good agility. The person should be of good physical condition with good vision and must pass through periodic medical tests.
3	Minimum Educational Qualifications	Class X/ ITI or Diploma in Mining/ Mechanical or B-Tech in Mining/ Mechanical
4a	Domain Certification	Certified for Job Role: “Wire saw Operator” mapped to QP: “MIN/Q203, v1.0”. Minimum accepted score is 80%
4b	Platform Certification	Recommended that the Trainer is certified for the Job Role: “Trainer”, mapped to the Qualification Pack: “MEP/Q0102”. Minimum accepted score as per SSC guideline is 80%.
5	Experience	<ol style="list-style-type: none"> 1. Class VIII – 6 years 2. Diploma in Mining/ Mechanical/ Electrical – 5 years 3. B-Tech in Mining/ Mechanical/Electrical – 4 years

Annexure: Assessment Criteria

Assessment Criteria for Wire saw Operator	
Job Role	Wire saw Operator
Qualification Pack	MIN/Q0203
Sector Skill Council	Skill Council for Mining Sector

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion
5. To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS
6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack

Assessment Outcome	Assessment Criteria	Total Mark (100)	Out Of	Marks Allocation	
				Theory	Skills Practical
1. MIN/N 0209 (Prepare Wire saw)	PC1. Adhere to time limits given by supervisor	25	2	1	1
	PC2. Check the various controls, gauges, warning lamp and other safety devices		3	0	3
	PC3. Ensure that crown blocks are mounted securely		3	1	2
	PC4. Check all those connections are in order, if using a compress air Wire saw		3	1	2
	PC5. Check that Wire sawing equipment is in safe operating condition.		2	0	2
	PC6. Apply grease to all greasing pins and pivot points		2	0	2
	PC7. The Wire sawing site is clear of other mine workers to avoid any accidents.		2	0	2
	PC8. Follow the manufacturer's instructions which apply to the care and safe operation of the Wire saw.		2	1	1

	PC9. Maintain a checking/maintenance logbook to record all activities performed before starting the Wire saw		3	1	2
	PC10. Inform supervisor of problems that are beyond scope of his role		3	2	1
		Total	25	7	18
2. MIN/N 0210 (Perform Wire saw Operations)	PC1. Plan and organize the job according to the site engineer instructions	25	2	1	1
	PC2. Organize daily consumables according to the day's plan		3	1	2
	PC3. Operate propelling motor control levers to smoothly move the Wire saw machine in all four directions.		2	0	2
	PC4. Ensure all necessary precautions are adhered to before towing the Wire saw to a distant site.		2	1	1
	PC5. Raise Wire saw guide to 1.5m above ground level and make it horizontal to prevent any damage in transit.		2	1	1
	PC6. Ensure a stable base for mounting the Wire saw		2	0	2
	PC7. Adjust the tracks by methodically manipulating the positions of oscillation cylinder valve and hydraulic track valve.		2	0	2
	PC8. Have work area barricaded or banded and erect signage as required to make work area safe.		2	1	1
	PC9. Ensure that the highest level of quality is consistently maintained		2	1	1
	PC10. Ensure all associated products (couplings/rods etc.) are used to their maximum potential, while ensuring their sustainability		2	0	2
	PC11. Reduce downtime and wastage		2	1	1
	PC12. Demonstrate caution against hazards of Wire saw machine in operation.		2	1	1
		Total	25	8	17
3. MIN/N 0211 (Carry Out Reporting and Logging- Wire saw)	PC1. Report problems/incidents as applicable in a timely manner	25	4	2	2
	PC2. Report to the appropriate authority as laid down by the employer		4	2	2

Operator)	PC3. Follow reporting procedures as prescribed by the employer		4	1	3
	PC4. Identify documentation to be completed relating to one's role		4	1	3
	PC5. Record details accurately using the appropriate format		4	1	3
	PC6. Complete all documentation within stipulated time.		5	3	2
		Total	25	10	15
4. MIN/ N0204 (Health and Safety)	PC1. Comply with occupational health and safety regulations adopted by the employer.	25	2	1	1
	PC2. Follow mining operations procedures with respect to materials handling and accidents		3	0	2
	PC3. Follow the correct safety steps in case of fire, accident, major failure		2	0	2
	PC4. Work responsibly and carefully so as not to put the health and safety of self or others at risk.		2	0	2
	PC5. Perform storage and transport of hazardous materials compliant with safety guidelines prescribed by DGMS.		3	1	2
	PC6. Comply with safety regulations and procedures in case of fire hazard.		2	1	1
	PC7. Operate various grades of fire extinguishers.		3	1	2
	PC8. Work responsibly and as safe and careful as possible so as not to put the health and safety of self or others at risk, including members of the public		3	1	2
	PC9. Demonstrate careful practices in handling explosives and heavy machinery.		3	2	1
	PC10. Identify characteristics of post blast fumes and take necessary precautions.		2	1	1
		Total	25	9	16