

# JULY TARGETS



## HIGHER EDUCATION SCIENCE AND TECHNOLOGY

### Internship Logbook



Student Name: NAMARA ISAAC  
 Month: JULY

Target	Achievements	Challenges	Lessons Learnt
Wire drawing Processes.	Standard drawing procedure of operation on the wire drawing machine practically.	Exposure to drawing dust	Operation of the wire drawing
Quality Control tests of tensile and concentration.			Maintenance of the cooling system of the wire drawing.
Dispatch and extraction unit.	Compacting wire coils		Application of hydraulic pumps and cylinders

Hardworking  
~~ISAAC~~  
 NASSWA COLLINS

# JULY REPORT



## FACULTY OF ENGINEERING

DEPARTMENT OF MECHANICAL AND PRODUCTION ENGINEERING

ORDINARY DIPLOMA IN MECHANICAL AND PRODUCTION ENGINEERING

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### **WIRE DRAWING**

Wire drawing is the process of reducing the cross section of the wire through a number of dies incorporated in different dies that stretch the wire from a big diameter of the raw material to the final diameter of wire required.

Wire drawing consists of the following sections as shown below.

- Pay off section

This is the stage of the wire drawing where the mother coil of diameter 5.5mm is loaded on a stand using an over head crane, passed through a deflection roller and then through other rollers directed to the mechanical descaler machine.

### **Mechanical descaler machine**

This is a section where the wire is passed through straightening rollers and then scales are removed from the wire by a reverse bend motion through three high rollers.



- Wire brush machine

This is a system driven by electric motors where the brushes clean off more scales from the wire.

- Coating unit

The wire is coated with a chemical called traxit zel 520 powder which is mixed with heated water to a temperature of  $80^{\circ}\text{C}$ , pump is connected to the zel tank to mix the solution and the essence of using the powder is to help the dry lubricant in the drawing unit to stick onto the wire.

The heater which operates at a temperature between  $(300-400)^{\circ}\text{C}$  which dries the wire before going into the different size reducing blocks.



- Drawing unit

A drawing unit consists of a series of drawing dies incorporated in different die holders with die boxes containing a lubricant. There are a number of blocks each with a capstan onto which the wire loads rotated by a motor coupled to a gear box .

Different dies reduce the wires to die diameters depending on a given die setting of the wire diameter to be produced. Block one is different from the other blocks in a way that the powder used is also different from all the other blocks, it can be used to start the machine as well as accumulating the wire and loading to the other blocks.



- Take up section

This consists of the dancer and spooler at which the coil loads as it soon getting offloaded to the coil on a turntable rotating at a given speed which is made possible by the motor connected to gear box.