

Participant Handbook

Sector
Rubber Industry

Sub-Sector
Tyre

Occupation
Moulding / Curing

Reference ID: **RSC/Q0211, Version 1.0**
NSQF Level 4



**Pneumatic Tyre
Moulding Operator**



2. Preparing Tyre Moulding Machine

Unit 2.1 – Tyre Moulding Machine and its Parts

Unit 2.2 – Tyre Moulding Machine Preparation for Tyre Moulding



UNIT 2.2: Machine Preparation and Tyre Moulding

Unit Objectives

At the end of this unit, you will be able to:

1. Prepare Machine for Tyre Moulding.
2. Demonstrate the cleaning process of Tyre Moulding Machine.
3. Demonstrate the required mould loading in machine.
4. Demonstrate the mould cleaning after loading in machine.
5. Describe the process of arranging 'Green Tyre' for moulding.
6. Define purpose of Release agent application in mould.

2.2.1 Steps for Tyre Moulding Machine Preparation

Tyre moulding is a very critical and key step in tyre manufacturing. Due care should be taken in machine preparation before starting the tyre moulding. Please follow the below steps for preparing the Tyre moulding machine -

2.2.1.1 Tyre Moulding Machine Cleaning

Before beginning the operation for the day, operator should do the cleaning of the machine and his / her workplace. He should ensure that his / her workplace is thoroughly cleaned. There should not be any unwanted mould / material / tools / equipment in the workplace.

If anything, mould / material / tools / equipment is available, which is not needed for the current process, then it should be kept at its place properly, before starting the operation.

After that, Machine should be cleaned for dust, dirt and residues of previous operation. This cleaning should be done with a piece of cloth. Suitable solvent can be used for cleaning the machine.

A clean workplace avoids any accident possibility and also gives mental peace, which helps in increasing output.

2.2.1.2 Loading Correct Mould in Machine

Next step is to load correct mould in the machine. Before loading the mould following points should be taken care –

- 1- Ensure that job sheet is taken from a correct source.
- 2- Ensure the job sheet is latest and valid.
- 3- Ensure that correct mould is identified as per job sheet requirement.
- 4- Ensure that Mould working condition is ok as per history card of mould.

UNIT 3.1: Startup Checks before Tyre Moulding

Unit Objectives

At the end of this unit, you will be able to:

1. Demonstrate Machine checkup points before Tyre Moulding
2. Demonstrate Control Panel checkup points before Tyre Moulding
3. Demonstrate Mould checkup points before Tyre Moulding
4. Discuss Importance of Mould Cleaning & Maintenance
5. Describe General operating instructions before Tyre moulding
6. Explain 'Green tyre' Inspection
7. Describe preparation points before Tyre Moulding
8. Explain steps involved in changing the mould in Tyre Moulding Machine

3.1.1 Startup Checks before Tyre Moulding

Before starting the operation of Tyre moulding, you should check all the aspects for trouble free moulding

3.1.1.1 Machine Checkup

- 1- Before starting the moulding, the moulding operator should him/herself check the operation of Tyre Moulding machine parts. He / she should ensure that all parts, like - Loader, Unloader, Bladder, heaters, are in physically ok condition.
- 2- Ensure machine is cleaned before running production cycle. If not, then it should be cleaned with a clean cloth and compressed air. Ensure that there is no dirt and dust on machine.
- 3- Check that there is power in the control panel and the machine is on.
- 4- Check working of Loader by running it for one cycle.
- 5- Open and close mould for one cycle and see that top and bottom parts are meeting perfectly.
- 6- Check for temperature status at control panel.
- 7- Check Air Pressure against specifications.
- 8- Check Steam pressure against Specifications.
- 9- Check that all the meters and equipment on machine are calibrated and nothing is overdue.

3.1.1.2 Control Panel Checkup

- 1- Ensure that you have full knowledge of control panel.
- 2- Ensure that correct program for moulding tyre, is selected from machine memory (if machine is automatic), or all parameters are set as per machine parameter sheet.
- 3- Ensure that all functions in control panel are running.