### **PURPOSE:**

### This document outlines the process for managing roll inventory, approvals, grinding operations, and roll status tracking within the Roll Shop system.

## **1. Inventory Upload:**

* Roll inventory will be **uploaded/ maintained as the current stock is being maintained in the excel sheet (standard format** Excel)
* Each roll will have:
  + Roll Number
  + Status (e.g., Free Stock, Used in Line)
  + Minimum Diameter
  + Maximum Diameter
  + Current Diameter
  + Location, etc.

## **2**. **Search Roll and View Status (Genealogy Display):**

* Users can **search by Roll Number**.
* The system will show:
  + Current Status:
    - Free Stock
    - Used in Line
    - Available for Grinding
    - On Hold
    - Rejected
  + Min & Max Diameter, etc.

## **3. Roll Usage Request & Approval:**

* If the roll is in **Free Stock**, a request can be made to use it.
* Approval is required before use.
  + **Roll Shop Manager** will be given the authority to approve.
* Once approved, the **status is updated** to:

**Available for Grinding Machine**

**4. PDI Generation (Primary Data Input for Grinding):**

* After approval for new free stock rolls and for already used rolls in line which needs to be grinded, **PDI (Primary Data Input)** is generated.
* PDI includes:
  + Roll Number
  + Initial Diameter
  + Required Diameter
  + Roughness Specification
  + Approval Details, if required etc.
* PDI is sent to the **Grinding Machine.**

## **5. Grinding Operation**

* The Grinding Machine receives the PDI.
* Grinding is performed based on the instructions.
* After grinding, a **PDO (Primary Data Output)** is recorded:
  + Roll Number
  + Initial Diameter
  + Final Diameter
  + Final Roughness
  + Date of Grinding
  + Operator Name
  + Time
  + Shift of Grinding, etc.
* The roll status is updated to:

**Available for [Line Name] (e.g., PLTCM)**

## **6. PDI/PDO Link Between Processes**

* The **PDO from Grinding** becomes the **PDI for the Line (e.g., PLTCM)**.
* The **PDO from the Line** becomes the **PDI for Grinding**.

**7. Hold / Release / Reject (Grinding)**

* **Assign Hold**
* A roll can be placed on **Hold** with a reason.
* Status becomes:

## **On Hold**

* **Release Hold**
* A held roll can be **released**.
* Status reverts to:

**Available for Grinding**

* **Discard / Reject Roll**
* If the roll will no longer be used:
* Status is changed to:

**Rejected / Discarded**

* Reason must be recorded.
* **Advantages of the Roll Shop System:**
* **Reduces human errors** – Validations prevent wrong or duplicate data.
* **Saves time** – Quick search, approvals, and updates.
* **Real-time roll tracking** – Instantly view status (Free, Used, Grinding, etc.).
* **Role-based access** – Only authorized users can approve or edit.
* **End-to-end automation** – From inventory to grinding to line usage.
* Every action is recorded with user, time, and reason.
* **Linked PDI/PDO** – Auto transfer of roll data between processes.
* **Hold/Reject management** – Controlled and tracked within the system.
* **Multiple user access** – Work simultaneously without file conflicts.