# Da Vinci Smart Manufacturing

## BRD S04.01.01_Master Data_Material Maintenance_Furnace Raw Materials

| Version | Created/Modified by | Description | Date |
|---|---|---|---|
| 1.0 | Sahana Badal | S04.01.01 First Draft | 8/07/2025 |
| 2.0 | Sahana Badal | S04.01.01 Second Draft | |
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| | | | |

## 1. Raw Material List Screen

This is designed to provide a comprehensive and user-friendly interface for managing Furnace Raw Material, including both active and inactive materials. **This data is populated from an external system and are loaded initially in inactive state.** Users can filter, search, and sort materials based on various parameters like Material Type and Material Status.

***Header Section***

- **Title**: "MM : Furnace Raw Material"
- **Stats Section:** Total count of Active | Inactive
- **Search Bar**: Tooltip text: Search by Material ID / Material Name
- **Filters**:
    - Material Type -
        - Multi-select Dropdown
    - All Material Types related to Raw Materials
    - Status -
        - Multiselect Dropdown:
        - Values: Active | Inactive
    - Clear Filter - This will clear all the applied filters
    - All Filter drop downs should be sorted alphabetically / numerically

***Material List Section***

Users can view the list of all Furnace Raw Materials, including both active and inactive materials. This data is populated from an external system and are loaded initially in inactive state. Users can filter, search, and sort materials based on various parameters like Material Type and Material Status. The table will have the following columns:

**Table Default Sorting** : Latest Modified first

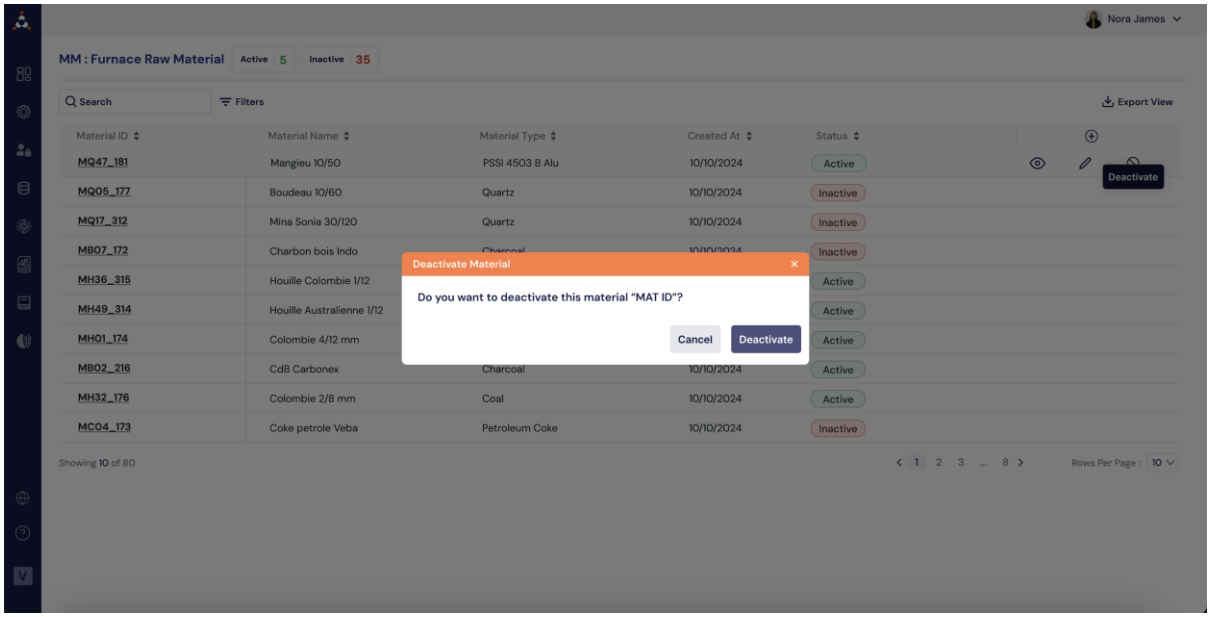
- **Material ID**:
    - **Material ID**
    - Sorting: Yes
    - Frozen - Yes
- **Material Name**:
    - **Material Name corresponding to the Material ID**
    - Sorting: Yes
    - Frozen: No
- **Material Type**:
    - Material Type, the material ID belongs to
    - Sorting: Yes
    - Frozen: No
- **Created At**: CR-VD-5347
    - **Date and time Material was created as per ERP system**

- Sorting: Yes
- Frozen: No

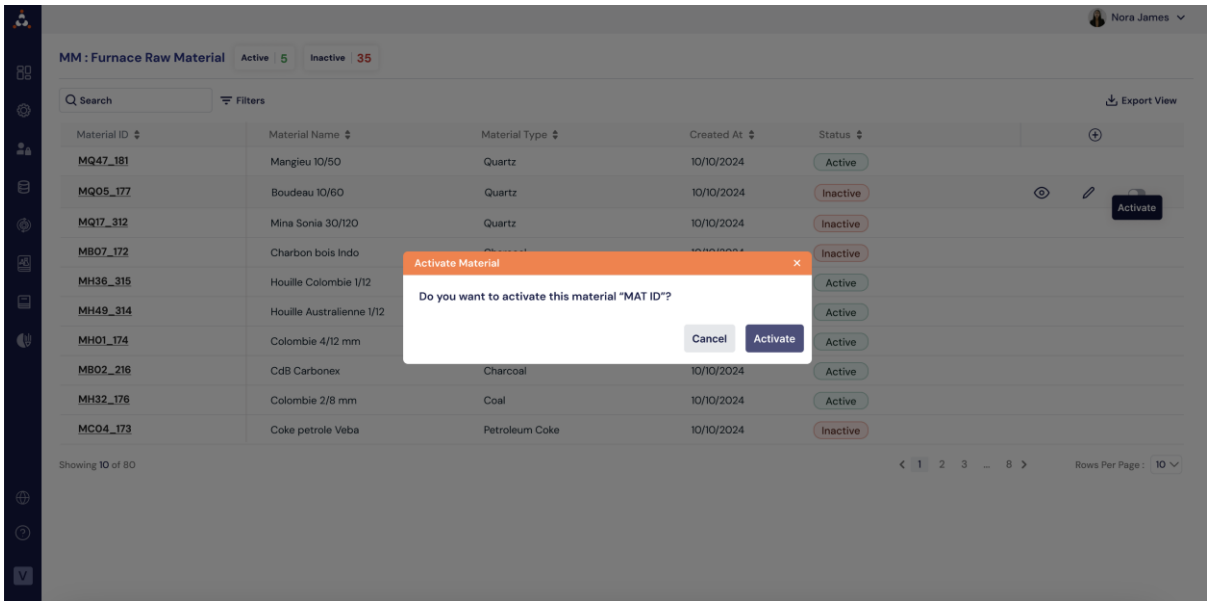
- **Created By** CR-VD-5347
  - Auto-populated as “System“
  - Sorting: Yes
  - Frozen: No
- **Modified At** CR-VD-5347
  - Last record modified Date and time
  - Sorting: Yes
  - Frozen – No
- **Modified By** CR-VD-5347
  - User ID | First Name Last Name of user who last modified the record
  - Sorting: Yes
  - Frozen – No
- **Status**: Indicates the status of the record (Draft, New, Linked, Rejected).
  - **Active** –Material that are activated in the system.
  - **Inactive –** Material imported from the ERP are initially marked as inactive or have been deactivated within the system.
  - Sorting: Yes
  - Frozen: No

**Note:** Horizontal scroll is required to be able to navigate through all columns and visualize all data but always respecting the frozen columns.

- **Action Buttons**: Depending on the status, allows users to edit or view the record. Only users with Create/Edit permissions on the module can activate, edit, or deactivate materials.
  - **Active**:
    - View – Record details can be viewed in non-editable mode
    - Edit - Details can be edited in the Material Information and Specification tab.
    - Deactivate - CR-VD-4481 Users can deactivate an active material, which moves it to an inactive state. Deactivate the material after a confirmation message
      - “Do you want to deactivate this material “MAT ID”?”




- **Inactive: Material Information tab details have not been saved**
  - View – Record details can be viewed in non-editable mode
  - Add Details – Additional details can be included in the Material Information and Specification tab.
- **Inactive: Material Information tab details have been saved**
  - View – Record details can be viewed in non-editable mode
  - Edit - Details can be edited in the Material Information and Specification tab.
  - Activate - **CR-VD-4481** Users with the appropriate permissions can activate an inactive material by adding additional information and specifying the material's elemental specifications. Activate the material after a confirmation message
    - "Do you want to activate this material "MAT ID"?"



- **Pagination Controls**: Navigation buttons to browse through multiple pages of records, if applicable (for more than 10 records).
- Rows Per page : Default 10, Dropdown values: 10, 20, 30, 40, 50

**Export Function**: The export function must extract ALL the information of the columns available on list screen even they are not displayed.

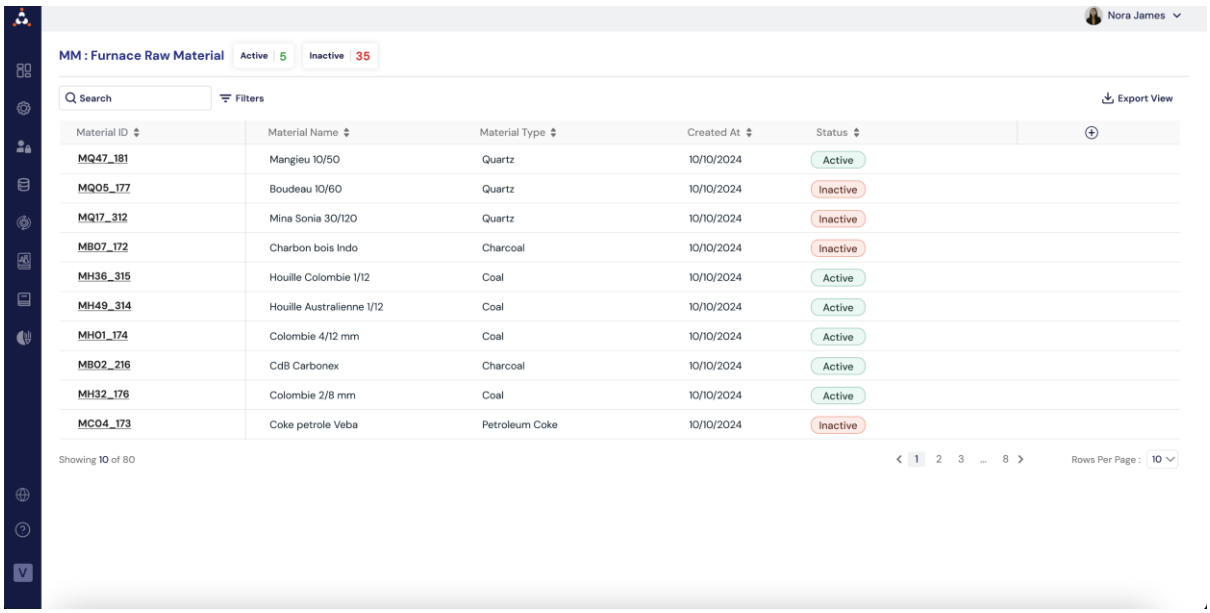
## CR-VD-5348

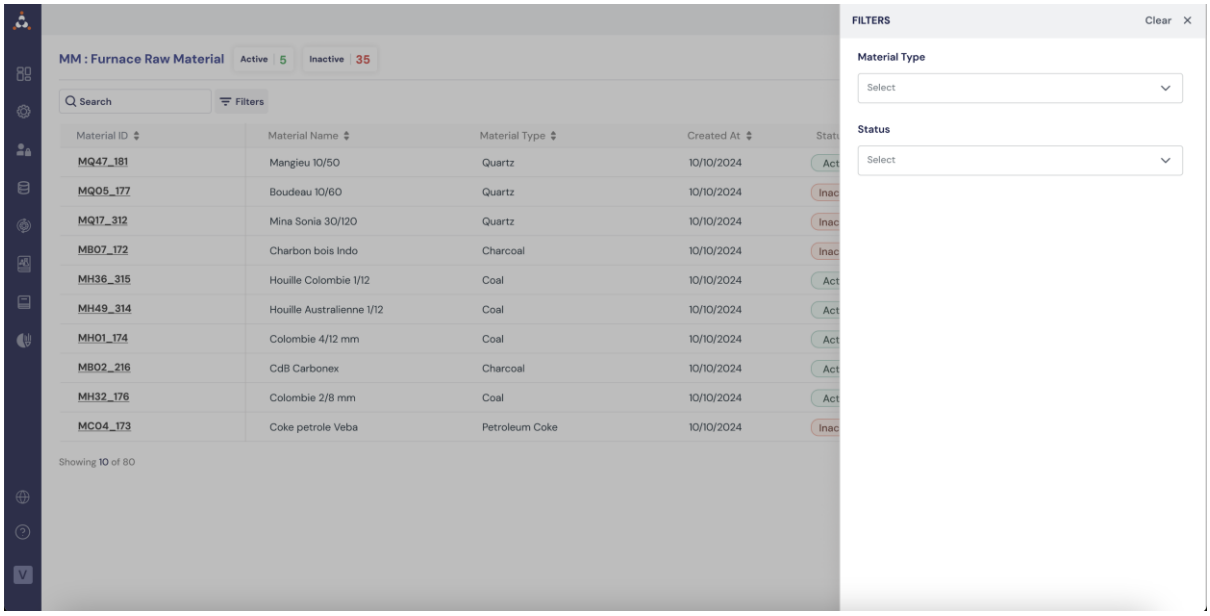
| Material ID | Material Name | Material Type | Created At | Created By | Modified At | Modified By | Status |
|---|---|---|---|---|---|---|---|
| MQ36_230 | Gres Montgru | Gres Montgru | 04/06/2025 \| 06:27 AM | Sahana \| Sahana Badal | | | Active |
| MB02_170 | Charbon bois Bosnie | charbon de bois bosnie | 04/06/2025 \| 06:27 AM | Sahana \| Sahana Badal | 04/06/2025 \| 06:27 AM | Sahana \| Sahana Badal | Active |
| MQ48_180 | Mina Sonia 30/150 | Mina Sonia 30/150 | 04/06/2025 \| 06:27 AM | Sahana \| Sahana Badal | 04/06/2025 \| 06:27 AM | Sahana \| Sahana Badal | Inactive |
| MH20_217 | HC Clean Carbon 2/12 | HC Clean Carbon 2/12 | 04/06/2025 \| 06:27 AM | Sahana \| Sahana Badal | 04/06/2025 \| 06:27 AM | Sahana \| Sahana Badal | Active |
| MQ45_194 | Serrabal 30/120 | Serrabal 30/120 | 04/06/2025 \| 06:27 AM | Sahana \| Sahana Badal | | | Inactive |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| MQ46_196 | Serrabal 16/40 | Serrabal 16/40 | 04/06/2025 \| 06:27 AM | Sahana \| Sahana Badal | 04/06/2025 \| 06:27 AM | | Inactive |
| MQ17_312 | Mina Sonia 30/120 | Mina Sonia 30/120 | 04/06/2025 \| 06:27 AM | Sahana \| Sahana Badal | | | Inactive |
| MH49_314 | Houille Australienne 1/12 | Houille Australienne 1/12 | 04/06/2025 \| 06:27 AM | Sahana \| Sahana Badal | | | Inactive |
| MQ30_178 | Gres Fulchiron | GrEs Fulchiron | 04/06/2025 \| 06:27 AM | Sahana \| Sahana Badal | | | Inactive |

**Exported File Name: "FurnaceRawMaterials_DD-MM-YYYY"**

**Customize Columns:** Users can enable or disable all columns based on their preference. Only the enabled columns will be visible in the list. Columns marked as 'frozen' will be enabled by default and cannot be modified.






## 2. Add Material Details

This screen will allow users to input and manage records, organised into two Tabs: Material Information and Material Specification. Mandatory fields will be marked with an asterisk (*). Below is a detailed layout incorporating the requirements.

**Header:** Back Icon | **MQ36_230 | Gres Montgru** (Material ID | Material Name)

### Material Information Tab

**Basic Information (Read-only; fetched from external ERP system):**

### CR-VD-4658

**Scenario 1: ERP ID exists, but no Ops ID**

- Material ID = ERP Material ID
- Material Name
- Material Type
- Status
- Date Created
- Material Description

**Scenario 2: ERP ID and Ops ID exist with a one-to-one mapping**

- Material ID = ERP Material ID = OPS Material ID
- Material Name
- Material Type
- Status

- Date Created
- Material Description

**Scenario 3: ERP ID and Ops ID exist and are different (i.e., no one-to-one mapping)**

- Material ID = (Concatenation of ERP ID and Ops ID)
- Material Name
- ERP Commercial Material ID
- ERP Commercial Material Name
- Ops Technical Material ID
- Material Type
- Status
- Date Created
- Material Description

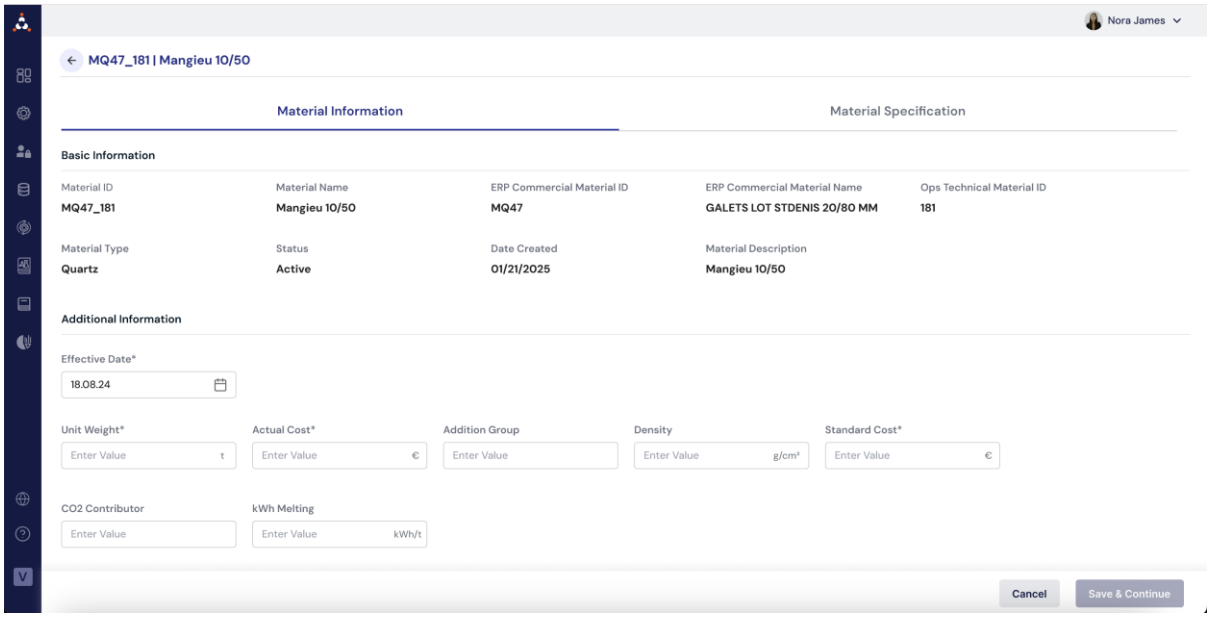
**Additional Information** - These details are to be captured here, they are the following

- **Effective Date***:
  - User selects the date from a calendar selector. The system shall allow users to capture a set of values with an effective date, which can be in the past, present, or future.
  - Mandatory - Yes
  - Default value - Current date
  - Field Type - Calendar picker
  - Validation - No
- **Unit Weight***
  - User inputs the unit weight value
  - Mandatory - Yes
  - Default value - None
  - Field Type - User input
  - Validation - Numeric 2 decimal values. Max allowed 99,999,999.99
  - Units - Kg
- **Actual Cost***
  - User inputs the value
  - Mandatory - Yes
  - Default value - None
  - Field Type - User input
  - Validation - Numeric 2 decimal values. Max allowed 99,999,999.99
  - Units - USD (currency from Plant Config)
- **Addition Group**
  - User inputs the value
  - Mandatory - No
  - Default value - None
  - Field Type - User input
  - Validation - Numeric 2 decimal values. Max allowed 99,999,999.99
  - Units - $ (currency from Plant Config)
- **Density**

  - User inputs the value
  - Mandatory - No
  - Default value - None
  - Field Type - User input
  - Validation - Numeric 4 decimal values. Max allowed 99,999,999.9999
  - Units - Depending on Unit System setup on Plant config (g/l metric system or lbm/ft^3)
- **Standard Cost***
  - User inputs the value
  - Mandatory - Yes
  - Default value - None
  - Field Type - User input
  - Validation - Numeric 2 decimal values. Max allowed 99,999,999.99
  - Units - USD (currency from Plant Config)
- **CO2 Contributor**
  - User inputs the value
  - Mandatory - No
  - Default value - None
  - Field Type - User input
  - Validation - Numeric 2 decimal values. 8 integers + decimal point + 2 decimals, 0 allowed, space not allowed
- **kWh Melting**
  - User inputs the value
  - Mandatory - No
  - Default value - None
  - Field Type - User input
  - Validation - Numeric 2 decimal values. 8 integers + decimal point + 2 decimals, 0 allowed, space not allowed
  - Units - kWh/t

***Action Buttons***

- **Save & Continue**:
  - Upon saving the details, the user is redirected to the **Material Specification** tab.
  - On the **list screen**:
    - Since the first tab's details have been entered,
    - An **Edit** option will appear in the **action menu** for the corresponding item.
    - Since Material Specification has default 0 values, User can now activate the material.
- **Cancel**: Cancels the current operation and returns to the list screen




## Material Specification Tab

- The Material Specification tab is not dependent on the completion or saving of the Material Information tab.
- Users can navigate to and save data under the Material Specification tab without saving the Material Information tab.
- The material cannot be activated unless all mandatory fields in the Material Information tab are filled in and saved successfully.
- Users can edit material specifications, including chemistry, physical and size specifications.
- Under this section “Low”, “Aim” and “High” values for various elements are captured. The elements are mapped to a particular material type.
- In Edit mode update of element values inserts a new set of records with the date.
- For any given date only one set can exist, the older values will be overwritten for an existing date. Thus, storing historical data will help generate reports with appropriate data for all dates.
- Historical data can be viewed by downloading the Excel file using the download option in View mode
- The list of elements for Chemical and Physical can be seen in the design provided.
- Material Specification tab is independent from Material Information tab and available to be saved at any point of time.
- **Each Chemistry element will have the following :** Fe, Si, C, Mn, Cr, Ni, Mo, V, Ti, Al, W, Nb, Co, Zr, B, P, S, Cu, Sn, Pb, Mg, Ca, Zn, As, Sb, Se, Te, Re, Ta, Hf, Sc, Y, La, Ce, Nd, Pr, Sm, Gd, Dy, Er, Be, Li, Na, K, Sr, Ga, Ge, Cd, In, Hg, Pt, Au
    - Low -
        - Editable and pre-populated with the existing value.
        - Default – 0 **CR-VD-4655**
        - Mandatory: No
        - Field Validation -

- only integers, Max 100/ Min 0, 3 integers and Four places after decimal point
- It has to be lower than Aim and High

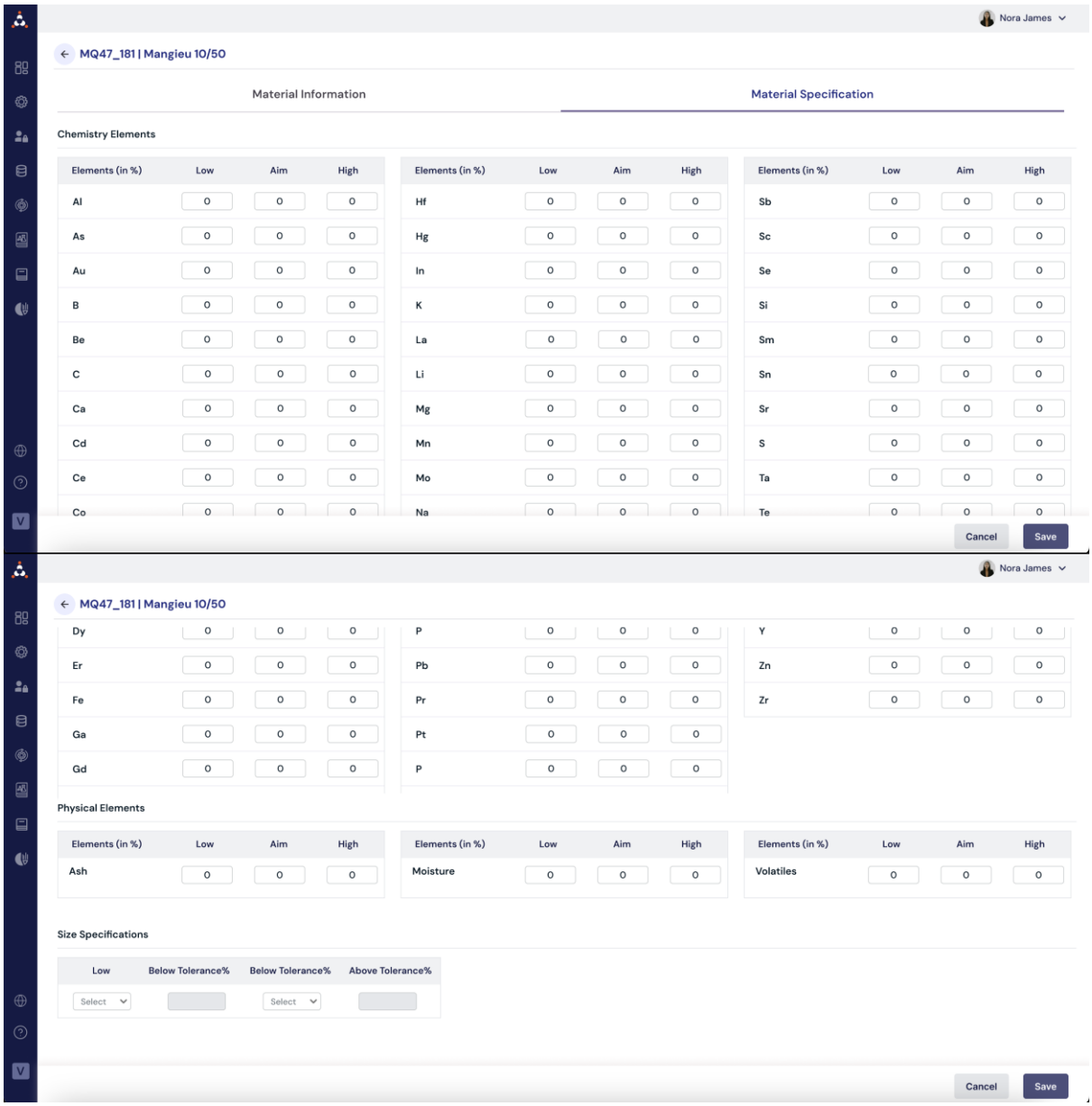
  - Aim
    - Editable and pre-populated with the existing value.
    - Default – 0 **CR-VD-4655**
    - Mandatory: No
    - Field Validation -
      - only integers, Max 100/ Min 0, 3 integers and Four places after decimal point
      - The sum of all *Aim* values represents a percentage-based split of elements in the material. While it is **not required to total exactly 100%**, it **must not exceed 100%**. Total aim value will be shown next to section heading. A validation message that "Total aim value of elements should be less than 100%" will be displayed **CR-VD-3979**
      - It has to be higher than Low and lower than High
  - High
    - Editable and pre-populated with the existing value.
    - Default – 0 **CR-VD-4655**
    - Mandatory: No
    - Field Validation -
      - only integers, Max 100/ Min 0, 3 integers and Four places after decimal point
      - It has to be higher than Low and Aim
- **Each Physical element will have the following:** Ash, Moisture, Volatiles.
  - Low -
    - Editable and pre-populated with the existing value.
    - Mandatory - No
    - Default – 0 **CR-VD-4655**
    - Field Validation -
      - only integers, Max 100/ Min 0, 3 integers and Four places after decimal point
      - It has to be lower than Aim and High
  - Aim
    - Editable and pre-populated with the existing value.
    - Mandatory - No
    - Default – 0 **CR-VD-4655**
    - Field Validation -
      - only integers, Max 100/ Min 0, 3 integers and Four places after decimal point
      - The sum of all *Aim* values represents a percentage-based split of elements in the material. While it is **not required to total exactly 100%**, it **must not exceed 100%**. Total aim value will be shown next to section heading. A validation

message that "Total aim value of elements should be less than 100%" will be displayed **CR-VD-3979**
- It has to be higher than Low and lower than High

- High
  - Editable and pre-populated with the existing value.
  - Mandatory - No
  - Default – 0 **CR-VD-4655**
  - Field Validation -
    - only integers, Max 100/ Min 0, 3 integers and Four places after decimal point
    - It has to be higher than Low and Aim

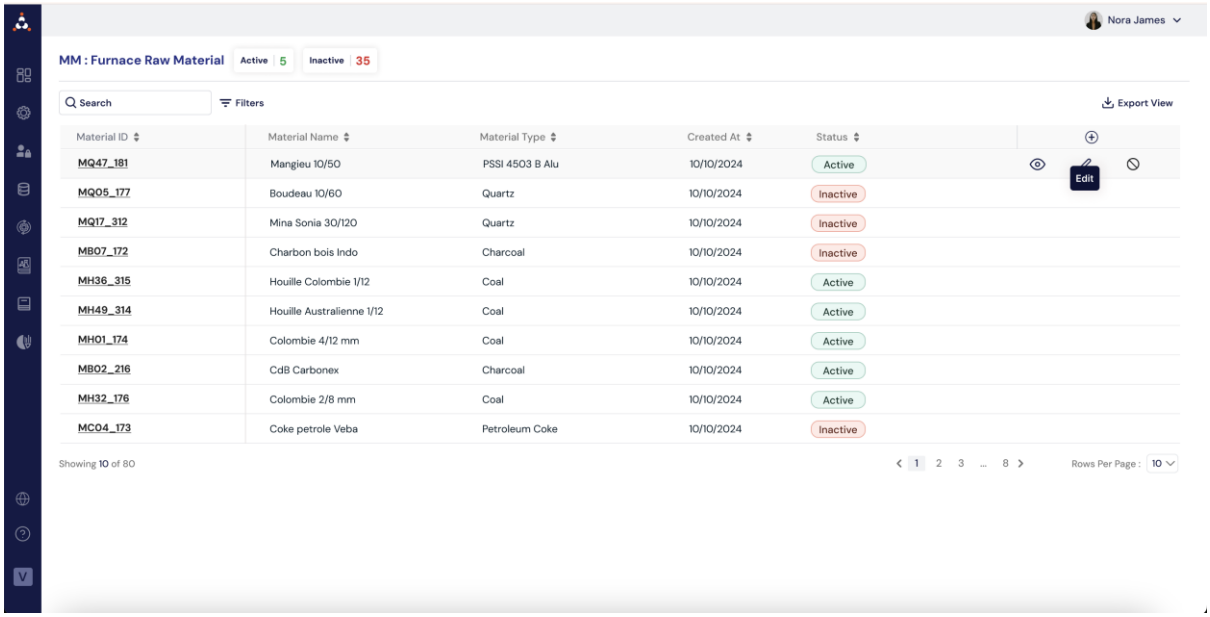
- **For Size specifications, User captures CR-VD-3361**
  - **Low**
    - Editable and pre-populated with the existing value.
    - Mandatory - No
    - Validation – No
    - Values - PAN, 6.30mm, 9.50mm, 12.50mm, 16mm, 19mm, 25mm, 37.5mm, 50mm, 63mm, 80mm, 90mm, 100mm, 125mm. **PAN is considered the lowest value.**
  - **Below Tolerance %**
    - Editable and pre-populated with the existing value.
    - Mandatory - No
    - Validation - only integers, max value 100%
  - **High**
    - Editable and pre-populated with the existing value.
    - Mandatory – No
    - Values - 6.30mm, 9.50mm, 12.50mm, 16mm, 19mm, 25mm, 37.5mm, 50mm, 63mm, 80mm, 90mm, 100mm, 125mm
    - **Validation - High must be more than Low.**
  - **Above Tolerance**
    - Editable and pre-populated with the existing value.
    - Mandatory - No
    - Validation - only integers, max value 100%

- ***Action Buttons***
  - **Save**
    - Upon saving the details, the user is redirected to the **List** page.
    - On the **list screen**:
      - Since both tab's details have been entered,
      - An **Edit** option will appear in the **action menu** for the corresponding item.
      - User can now activate the material
  - **Cancel**: Cancels the current operation and returns to the list screen




## 3. Edit Material Details

- This screen will allow users to input and manage records, organized into two Tabs: Material Information and Material Specification. Mandatory fields will be marked with an asterisk (*). Below is a detailed layout incorporating the requirements.
- **Header:** Back Icon | **MQ30_178 | Gres Fulchiron** (Material ID | Material Name)




## Material Information Tab

**Basic Information (Read-only; fetched from external ERP system):**

## CR-VD-4658

**Scenario 1: ERP ID exists, but no Ops ID**

- Material ID = ERP Material ID
- Material Name
- Material Type
- Status
- Date Created
- Material Description

**Scenario 2: ERP ID and Ops ID exist with a one-to-one mapping**

- Material ID = ERP Material ID = OPS Material ID
- Material Name
- Material Type
- Status
- Date Created
- Material Description

**Scenario 3: ERP ID and Ops ID exist and are different (i.e., no one-to-one mapping)**

- Material ID = (Concatenation of ERP ID and Ops ID)
- Material Name
- ERP Commercial Material ID
- ERP Commercial Material Name
- Ops Technical Material ID

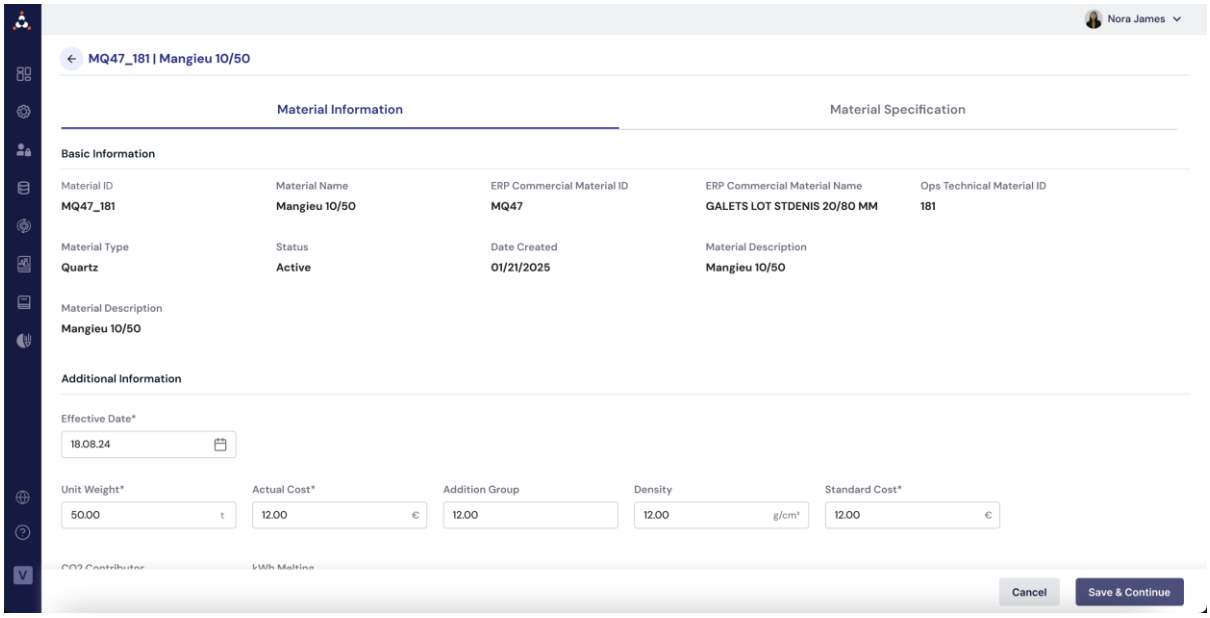
- Material Type
- Status
- Date Created
- Material Description

**Additional Information** -

- When viewed in edit mode, only the current values of fields (based on effective date) will be displayed. If a recently updated value is older than the current value, it will be saved. However, these values will not be displayed in edit mode but can be viewed by downloading the Excel history.
- Only one value can exist for a given effective date. In Edit mode, if a record with the same effective date already exists in the system, the user will receive a warning and be asked if they want to proceed and overwrite the existing details.
- Historical and future data can be viewed by downloading the Excel file using the download option in View mode.
    - **Effective Date***:
        - Editable and pre-populated with the existing value.
        - Default value - Current date
        - Mandatory: Yes
    - **Unit Weight***
        - Editable and pre-populated with the existing value.
        - Default value - None
        - Mandatory: Yes
    - **Actual Cost***
        - Editable and pre-populated with the existing value.
        - Default value - None
        - Mandatory: Yes
    - **Addition Group**
        - Editable and pre-populated with the existing value.
        - Default value - None
        - Mandatory: No
    - **Density**
        - Editable and pre-populated with the existing value.
        - Default value - None
        - Mandatory: No
    - **Standard Cost***
        - Editable and pre-populated with the existing value.
        - Default value - None
        - Mandatory: Yes
    - **CO2 Contributor**
        - Editable and pre-populated with the existing value.
        - Default value - None
        - Mandatory: No
    - **kWh Melting**
        - Editable and pre-populated with the existing value.
        - Default value - None

        - Mandatory: No
    - 

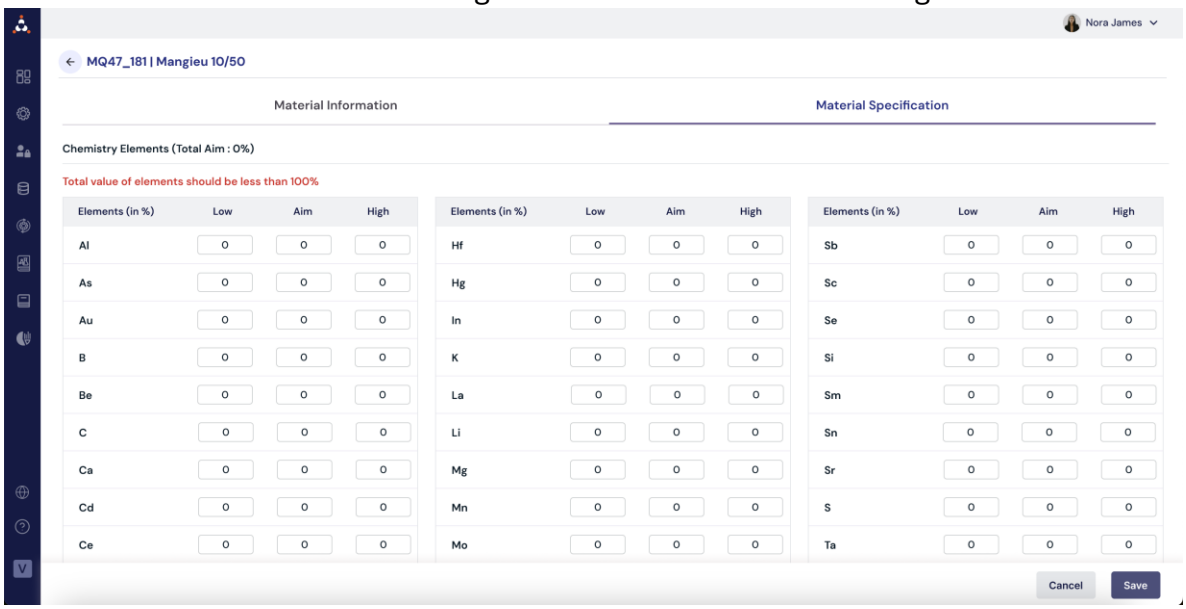
- ***Action Buttons***
    - **Save & Continue**:
        - Upon saving the details, the user is redirected to the **Material Specification** tab.
        - On the **list screen**:
            - An **Edit** option will appear in the **action menu** for the corresponding item.
            - Since Material Specification has default 0 values, User can now activate the material.
    - **Cancel**: Cancels the current operation and returns to the list screen




## Material Specification Tab

- Users can edit material specifications, including chemistry, physical and size specifications.
- Under this section “Low”, “Aim” and “High” values for various elements are captured. The elements are mapped to a particular material type.
- In Edit mode update of element values inserts a new set of records with the date.
- For any given date only one set can exist, the older values will be overwritten for an existing date. Thus, storing historical data will help generate reports with appropriate data for all dates.
- Historical data can be viewed by downloading the Excel file using the download option in View mode
- The list of elements for Chemical and Physical can be seen in the design provided.
- **Each Chemistry element will have the following**
    - Low -

        - Editable and pre-populated with the existing value.
        - Default – 0 **CR-VD-4655**
        - Mandatory: No
        - Field Validation -
            - only integers, Max 100/ Min 0, 3 integers and Four places after decimal point
            - It has to be lower than Aim and High
    - Aim
        - Editable and pre-populated with the existing value.
        - Default – 0 **CR-VD-4655**
        - Mandatory: No
        - Field Validation -
            - only integers, Max 100/ Min 0, 3 integers and Four places after decimal point
            - The sum of all *Aim* values represents a percentage-based split of elements in the material. While it is **not required to total exactly 100%**, it **must not exceed 100%**. Total aim value will be shown next to section heading. A validation message that "Total aim value of elements should be less than 100%" will be displayed **CR-VD-3979**
            - It has to be higher than Low and lower than High

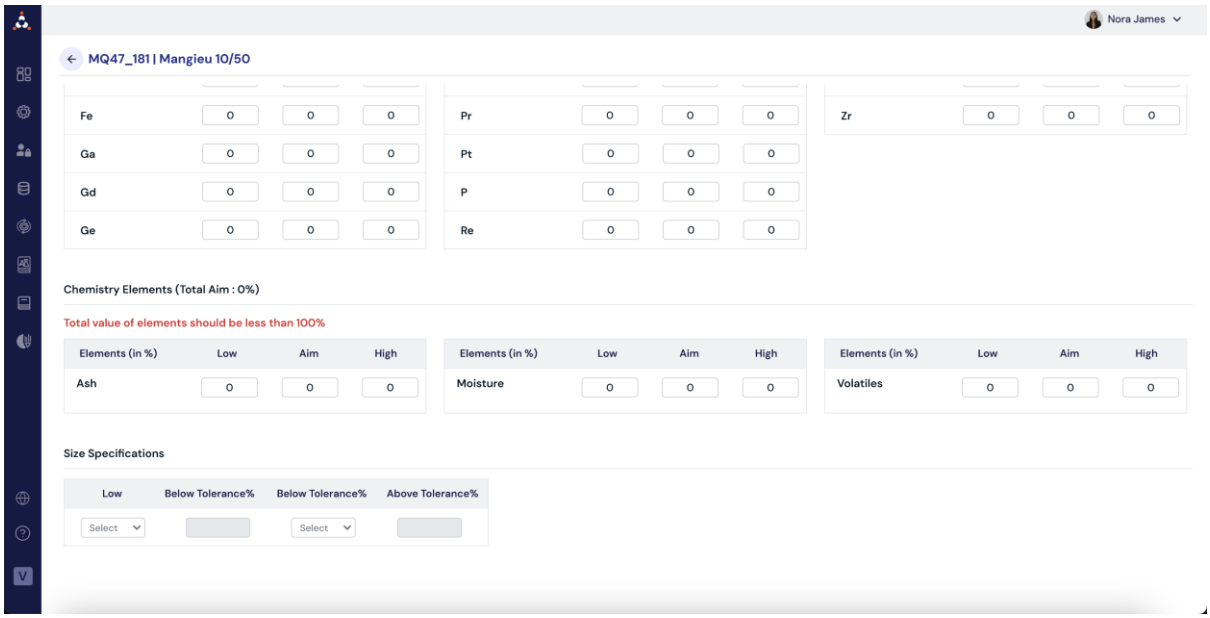



    - High
        - Editable and pre-populated with the existing value.
        - Default – 0 **CR-VD-4655**
        - Mandatory: No
        - Field Validation -
            - only integers, Max 100/ Min 0, 3 integers and Four places after decimal point
            - It has to be higher than Low and Aim

- **Each Physical element will have the following**
    - Low -

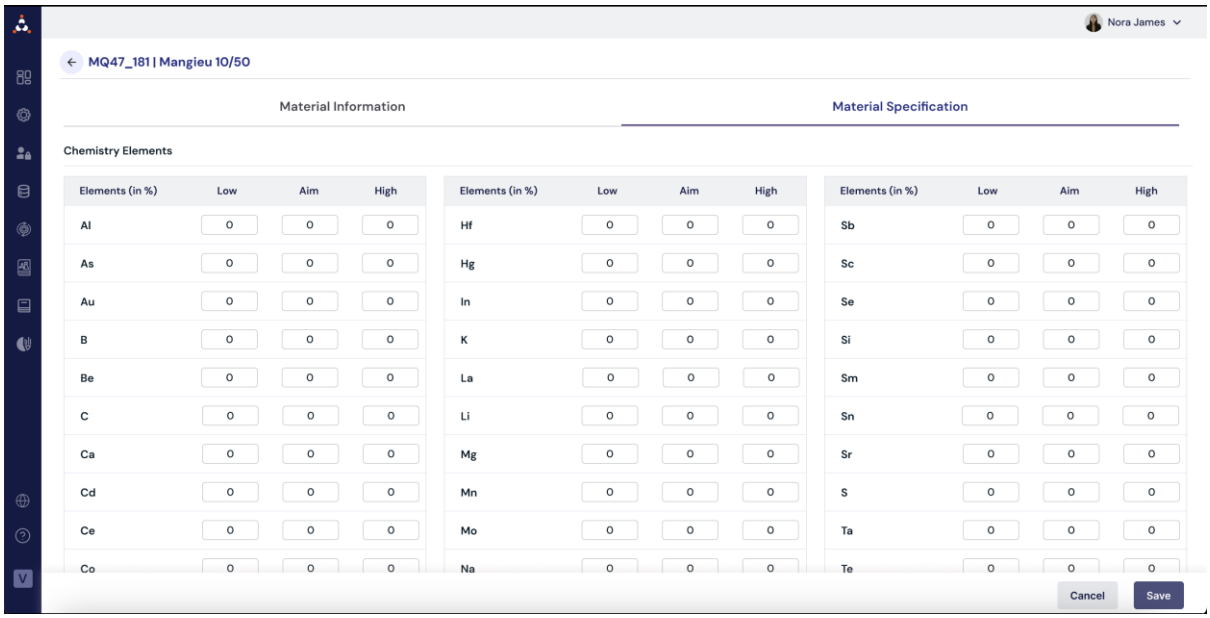
- Editable and pre-populated with the existing value.
- Mandatory - No
- Default – 0 **CR-VD-4655**
- Field Validation -
  - only integers, Max 100/ Min 0, 3 integers and Four places after decimal point
  - It has to be lower than Aim and High

- Aim
  - Editable and pre-populated with the existing value.
  - Mandatory - No
  - Default – 0 **CR-VD-4655**
  - Field Validation -
    - only integers, Max 100/ Min 0, 3 integers and Four places after decimal point
    - The sum of all *Aim* values represents a percentage-based split of elements in the material. While it is **not required to total exactly 100%**, it **must not exceed 100%**. Total aim value will be shown next to section heading. A validation message that "Total aim value of elements should be less than 100%" will be displayed **CR-VD-3979**
    - It has to be higher than Low and lower than High




- High
  - Editable and pre-populated with the existing value.
  - Mandatory - No
  - Default – 0 **CR-VD-4655**
  - Field Validation -
    - only integers, Max 100/ Min 0, 3 integers and Four places after decimal point
    - It has to be higher than Low and Aim

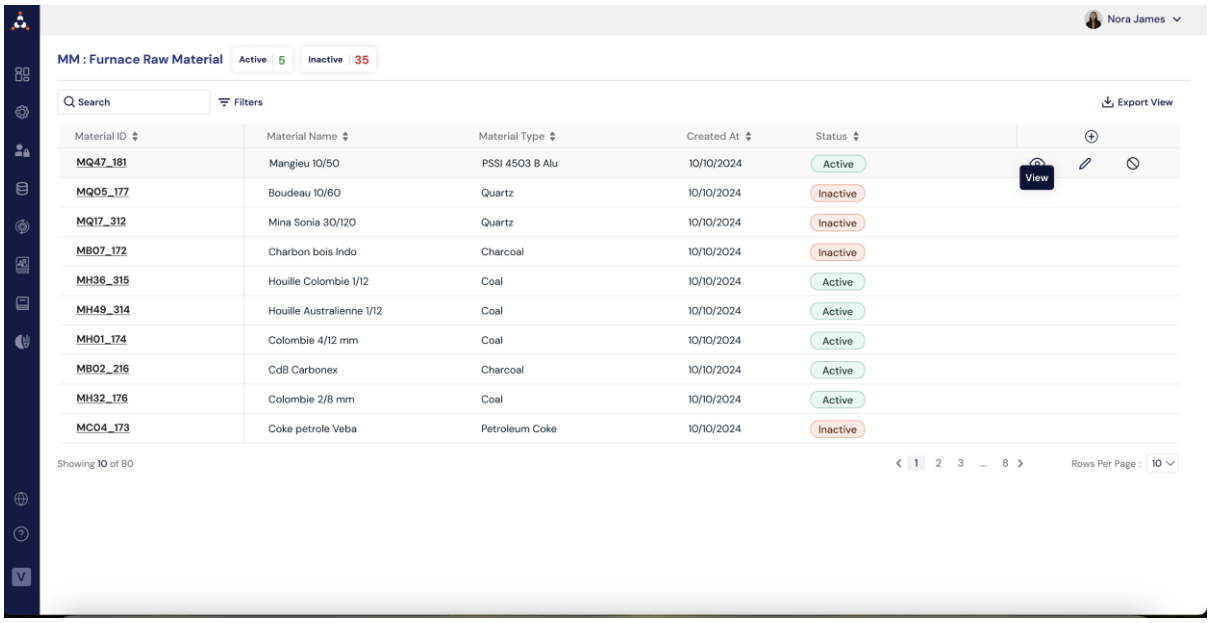
- **For Size specifications - User captures**
  - **Low**
    - Editable and pre-populated with the existing value.
    - Mandatory - No
    - Validation - No
  - **Below Tolerance %**
    - Editable and pre-populated with the existing value.
    - Mandatory - No
    - Validation - only integers, max value 100%
  - **High**
    - Editable and pre-populated with the existing value.
    - Mandatory - No
    - Validation - High has to be more than Low. PAN is considered the lowest value.
  - **Above Tolerance**
    - Editable and pre-populated with the existing value.
    - Mandatory - No
    - Validation - only integers, max value 100%
- ***Action Buttons***
  - **Save**
    - Upon saving the details, the user is redirected to the **List** page.
    - On the **list screen**:
      - Since both tab's details have been entered,
      - An **Edit** option will appear in the **action menu** for the corresponding item.
      - User can now activate the material
  - **Cancel**: Cancels the current operation and returns to the list screen




## 4. View Material

This screen will allow users to input and manage records, organised into two Tabs: Material Information and Material Specification. Mandatory fields will be marked with an asterisk (*). Below is a detailed layout incorporating the requirements.

**Header:** Back Icon | **MQ36_230 | Gres Montgru** ((Material ID | Material Name) | **Edit Icon**: Allows users to switch from view mode to edit mode to update the record.




## Material Information Tab

**Basic Information (Read-only; fetched from external ERP system):**

### CR-VD-4658

**Scenario 1: ERP ID exists, but no Ops ID**

- Material ID = ERP Material ID
- Material Name
- Material Type
- Status
- Date Created
- Material Description

**Scenario 2: ERP ID and Ops ID exist with a one-to-one mapping**

- Material ID = ERP Material ID = OPS Material ID
- Material Name
- Material Type
- Status
- Date Created
- Material Description

**Scenario 3: ERP ID and Ops ID exist and are different (i.e., no one-to-one mapping)**

- Material ID = (Concatenation of ERP ID and Ops ID)
- Material Name
- ERP Commercial Material ID
- ERP Commercial Material Name
- Ops Technical Material ID
- Material Type
- Status
- Date Created
- Material Description

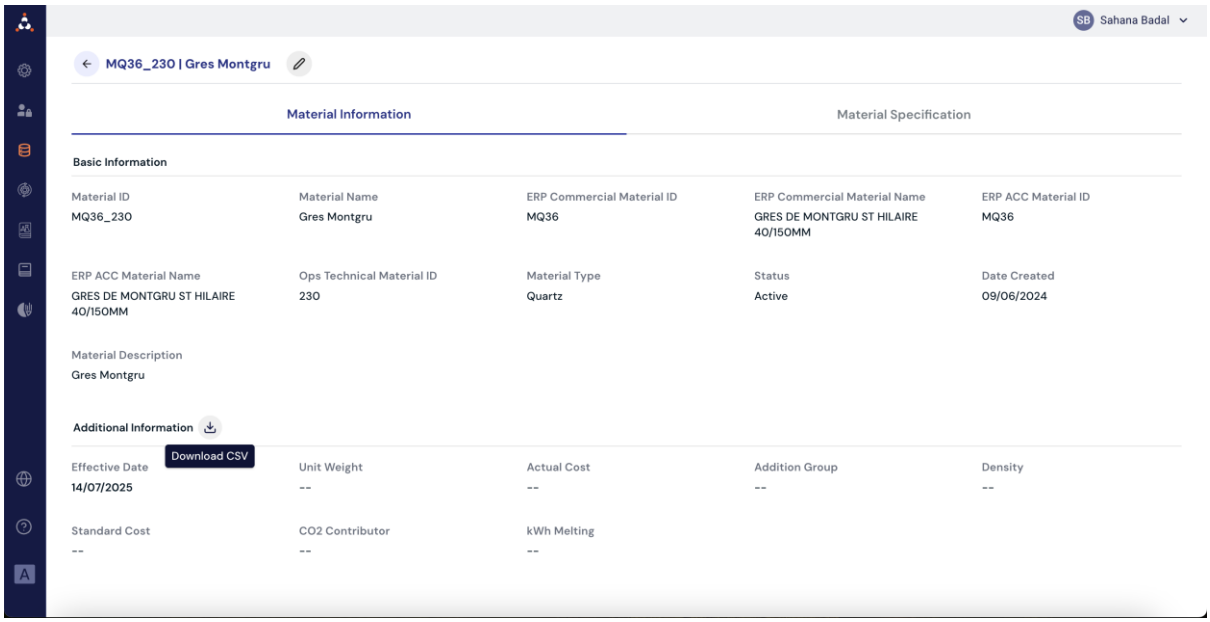
**Additional Information** - These details are to be captured here, they are the following

- **Effective Date**:
  - **Export Icon**:
    - Historical and future data can be viewed by downloading the CSV file using the download option.
    - The tooltip should read "Download CSV". - **CR-VD-4482**
    - Downloads the record in CSV format.
    - The file must include the following headers and display the values as the following example: **CR-VD-5348**
    - Exported File Name: **"FurnaceRawMaterials_Additional_Information_DD-MM-YYYY"** **CR-VD-4489**

| Effective Date | Material ID | Material Name | Material Type | Unit Weight | Actual Cost | Addition Group | Density | Standard Cost | CO2 Contributor | kWh Melting | Created At | Created By | | | Modified By | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14/07/25 | MB06_171 | Bois | Wood | 1.00t | 1.00USD | 1 | 1.00 g/cm$^3$ | 1.00 USD | 1 | 1.00kWh/t | 13/07/2025 \| 02:35 PM | sbadal \| sbadal \| Sahana Badal | | | sbadal \| sbadal \| Sahana Badal | |
| 18/07/25 | MB06_171 | Bois | Wood | 1.00t | 1.00USD | 1 | 1.00 g/cm$^3$ | 1.00 USD | 1 | 1.00kWh/t | 13/07/2025 \| 02:36 PM | sbadal \| sbadal \| Sahana Badal | | | sbadal \| sbadal \| Sahana Badal | |

- **Unit Weight**
- **Actual Cost**
- **Addition Group**

- **Density**
- **Standard Cost**
- **CO2 Contributor**
- **kWh Melting**




## Material Specification Tab

Chemistry, Physical and size specification of various elements will be available in read only mode.

**Each Chemistry element will have the following**

- Low
- Aim
- High

**Each Physical element will have the following**

- Low
- Aim
- High

**For Size specifications**

- Low
- Below Tolerance %
- High
- Above Tolerance

**Export Specification**

- Historical data can be viewed by downloading the Excel file using the download option.
- The tooltip should read “Download CSV”. **CR-VD-4481**
- Downloads the record in CSV format.
- The file must include the following headers and display the values as the following example: **CR-VD-5348**
- Exported File Name: **“FurnaceRawMaterial_MaterialSpecification_DD-MM-YYYY”** **CR-VD-4489**

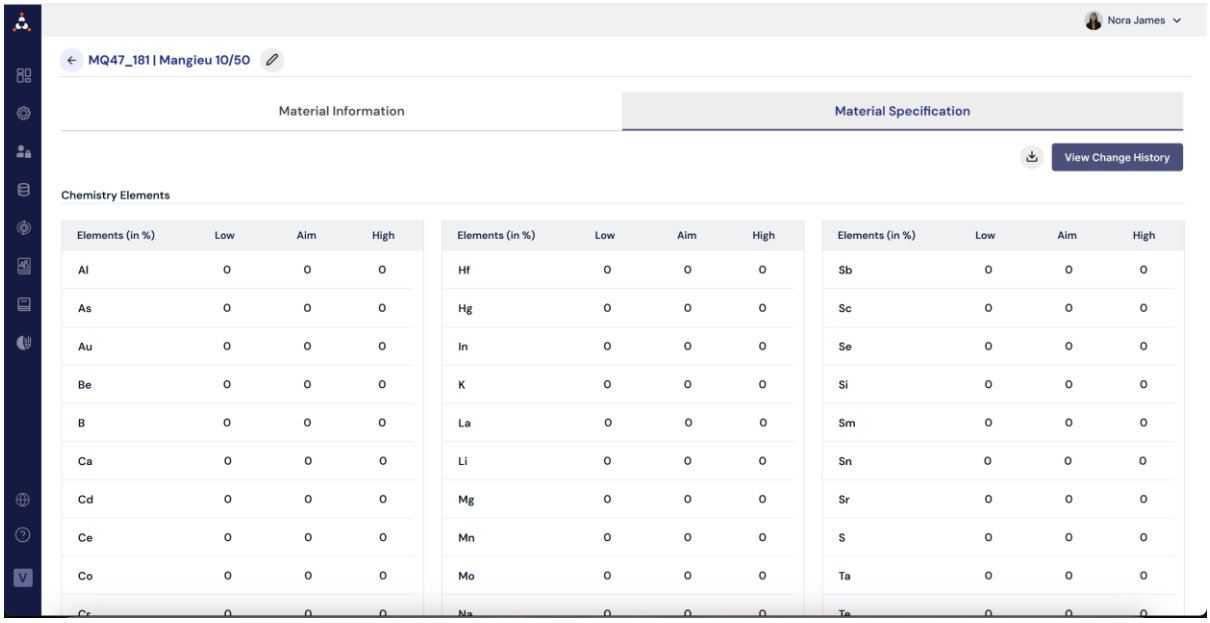
| Element (in %) | Element Group | Low | High | Low Size | High Size | Above Tolerance | Below Tolerance | Created At | | | | Modified At | Modified By | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Al | CHE | 1 | 2 | 4 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda | |
| As | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda | |
| Au | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda | |
| Be | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda | |
| B | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda | |
| Ca | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda | |
| Cd | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda | |
| Ce | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda | |
| Co | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda | |
| Cr | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cu | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| C | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Dy | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Er | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Fe | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Ga | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Gd | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Ge | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Hf | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Hg | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| In | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| K | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| La | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Li | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Mg | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mn | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Mo | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Na | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Nb | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Nd | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Ni | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Pb | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Pr | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Pt | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| P | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Re | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Sb | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Sc | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Se | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Si | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sm | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Sn | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Sr | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| S | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Ta | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Te | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Ti | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| V | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| W | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Y | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Zn | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Zr | CHE | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Ash | PHY | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Moisture | PHY | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |
| Volatiles | PHY | 0 | 0 | 0 | | | | | 09/07/2025 \| 07:07 AM | | | | 09/07/2025 \| 07:07 AM | sdevarakonda \| Sireesha Devarakonda |

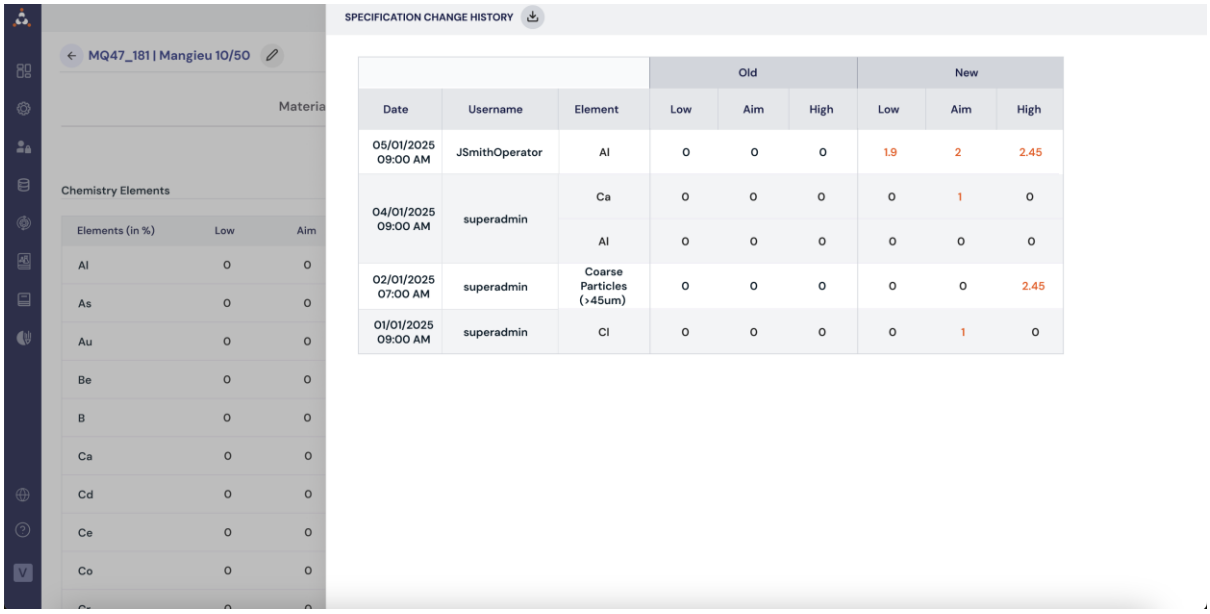
| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Size Change | Sizes | | | | | | 0 | 0 | 2025-07-09T12:07:38.575613Z | | | | 2025-07-09T12:07:38.575619Z | sdevarakonda \| Sireesha Devarakonda |




**View Change History**

This button opens a modal or section showing a chronological list of all changes made to the record, including:

- Timestamp of change
- Field(s) modified
- Previous and updated values
- Name of the user who made the change
- **Export Icon - Downloads the records in CSV format, the tooltip should read "Download CSV". CR-VD-4482**
- Export Filename - "FurnaceRawMaterials_ChangeHistory_DD-MM-YYYY" **CR-VD-4489**


MQ47_181 | Mangieu 10/50
Materia
Chemistry Elements
Elements (in %) Low Aim
Al 0 0
As 0 0
Au 0 0
Be 0 0
B 0 0
Ca 0 0
Cd 0 0
Ce 0 0
Co 0 0
SPECIFICATION CHANGE HISTORY
Old
New
Date Username Element Low Aim High Low Aim High
05/01/2025 09:00 AM JSmithOperator Al 0 0 0 1.9 2 2.45
04/01/2025 09:00 AM superadmin Ca 0 0 0 0 1 0
Al 0 0 0 0 0 0
02/01/2025 07:00 AM superadmin Coarse Particles (>45um) 0 0 0 0 0 2.45
01/01/2025 09:00 AM superadmin Cl 0 0 0 0 1 0