

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
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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”?”

The screenshot shows a list of furnace raw materials. A modal dialog titled "Deactivate Material" is open over the list, asking "Do you want to deactivate this material 'MAT ID'?". The "Deactivate" button is highlighted in blue. The list includes columns for Material ID, Material Name, Material Type, Created At, and Status. One row is selected, showing "MQ05_177" as Quartz.

Material ID	Material Name	Material Type	Created At	Status
MQ47_181	Mangieu 10/50	PSSI 4503 B Alu	10/10/2024	Active
MQ05_177	Boudeau 10/60	Quartz	10/10/2024	Inactive
MQ17_312	Mina Sonia 30/120	Quartz	10/10/2024	Inactive
MB07_172	Charbon bois Indo	Charcoal	10/10/2024	Inactive
MH36_315	Houille Colombie 1/12			Active
MH49_314	Houille Australienne 1/12			Active
MH01_174	Colombie 4/12 mm			Active
MB02_216	CdB Carbonex	Charcoal	10/10/2024	Active
MH32_176	Colombie 2/8 mm	Coal	10/10/2024	Active
MC04_173	Coke pétrole Veba	Petroleum Coke	10/10/2024	Inactive

- **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”?”

The screenshot shows a list of furnace raw materials. A modal dialog titled "Activate Material" is open over the list, asking "Do you want to activate this material 'MAT ID'?". The "Activate" button is highlighted in blue. The list includes columns for Material ID, Material Name, Material Type, Created At, and Status. One row is selected, showing "MQ05_177" as Quartz.

Material ID	Material Name	Material Type	Created At	Status
MQ47_181	Mangieu 10/50	Quartz	10/10/2024	Active
MQ05_177	Boudeau 10/60	Quartz	10/10/2024	Inactive
MQ17_312	Mina Sonia 30/120	Quartz	10/10/2024	Inactive
MB07_172	Charbon bois Indo	Charcoal	10/10/2024	Inactive
MH36_315	Houille Colombie 1/12			Active
MH49_314	Houille Australienne 1/12			Active
MH01_174	Colombie 4/12 mm			Active
MB02_216	CdB Carbonex	Charcoal	10/10/2024	Active
MH32_176	Colombie 2/8 mm	Coal	10/10/2024	Active
MC04_173	Coke pétrole Veba	Petroleum Coke	10/10/2024	Inactive

- 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.

The screenshot shows a table titled "MM : Furnace Raw Material" with two filters: "Active" (5) and "Inactive" (35). The table has columns: Material ID, Material Name, Material Type, Created At, Status, and a plus sign icon. The data rows are:

Material ID	Material Name	Material Type	Created At	Status
MQ47_181	Mangieu 10/50	Quartz	10/10/2024	Active
MQ05_177	Boudeau 10/60	Quartz	10/10/2024	Inactive
MQ17_312	Mina Sonia 30/120	Quartz	10/10/2024	Inactive
MB07_172	Charbon bol Indo	Charcoal	10/10/2024	Inactive
MH36_315	Houille Colombie 1/12	Coal	10/10/2024	Active
MH49_314	Houille Australienne 1/12	Coal	10/10/2024	Active
MH01_174	Colombie 4/12 mm	Coal	10/10/2024	Active
MB02_216	CdB Carbonex	Charcoal	10/10/2024	Active
MH32_176	Colombie 2/8 mm	Coal	10/10/2024	Active
MC04_173	Coke petrole Veba	Petroleum Coke	10/10/2024	Inactive

Showing 10 of 80 Rows Per Page : 10

Material ID	Material Name	Material Type	Created At	Status
MQ47_181	Mangieu 10/50	Quartz	10/10/2024	Active
MQ05_177	Boudeau 10/60	Quartz	10/10/2024	Inactive
MQ17_312	Mina Sonia 30/I20	Quartz	10/10/2024	Inactive
MB07_172	Charbon bois Indo	Charcoal	10/10/2024	Inactive
MH36_315	Houille Colombie 1/12	Coal	10/10/2024	Active
MH49_314	Houille Australienne 1/12	Coal	10/10/2024	Active
MH01_174	Colombie 4/12 mm	Coal	10/10/2024	Active
MB02_216	CdB Carbonex	Charcoal	10/10/2024	Active
MH32_176	Colombie 2/8 mm	Coal	10/10/2024	Active
MCO4_173	Coke petrole Veba	Petroleum Coke	10/10/2024	Inactive

Showing 10 of 80

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

MQ47_181 | Mangieu 10/50

Material Information		Material Specification		
Basic Information				
Material ID MQ47_181	Material Name Mangieu 10/50	ERP Commercial Material ID MQ47	ERP Commercial Material Name GALETS LOT STDENIS 20/80 MM	Ops Technical Material ID 181
Material Type Quartz	Status Active	Date Created 01/21/2025	Material Description Mangieu 10/50	
Additional Information				
Effective Date* 18.08.24	Unit Weight* Enter Value t	Actual Cost* Enter Value €	Addition Group Enter Value	Density Enter Value g/cm³
CO2 Contributor Enter Value	kWh Melting Enter Value kWh/t	Standard Cost* Enter Value €		
<input type="button" value="Cancel"/> <input type="button" value="Save & Continue"/>				

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**

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

Material Information
Material Specification

Chemistry Elements

Elements (in %)	Low	Aim	High
Al	0	0	0
As	0	0	0
Au	0	0	0
B	0	0	0
Be	0	0	0
C	0	0	0
Ca	0	0	0
Cd	0	0	0
Ce	0	0	0
Co	0	0	0
Hf	0	0	0
Hg	0	0	0
In	0	0	0
K	0	0	0
La	0	0	0
Li	0	0	0
Mg	0	0	0
Mn	0	0	0
Mo	0	0	0
Na	0	0	0
Sb	0	0	0
Sc	0	0	0
Se	0	0	0
Si	0	0	0
Sm	0	0	0
Sn	0	0	0
Sr	0	0	0
S	0	0	0
Ta	0	0	0
Te	0	0	0

Cancel
Save

Physical Elements

Dy	0	0	0
Er	0	0	0
Fe	0	0	0
Ga	0	0	0
Gd	0	0	0
P	0	0	0
Pb	0	0	0
Pr	0	0	0
Pt	0	0	0
P	0	0	0
Y	0	0	0
Zn	0	0	0
Zr	0	0	0

Cancel
Save

Size Specifications

Low	Below Tolerance%	Below Tolerance%	Above Tolerance%
Select		Select	

Cancel
Save

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)

MM : Furnace Raw Material					
	Material ID	Material Name	Material Type	Created At	Status
	MQ47_181	Mangieu 10/50	PSI 4503 B Alu	10/10/2024	Active
	MQ05_177	Boudeau 10/60	Quartz	10/10/2024	Inactive
	MQ17_312	Mina Sonia 30/120	Quartz	10/10/2024	Inactive
	MB07_172	Charbon bois Indo	Charcoal	10/10/2024	Inactive
	MH36_315	Houille Colombie 1/12	Coal	10/10/2024	Active
	MH49_314	Houille Australienne 1/12	Coal	10/10/2024	Active
	MH01_174	Colombie 4/12 mm	Coal	10/10/2024	Active
	MB02_216	Cd9 Carbonex	Charcoal	10/10/2024	Active
	MH32_176	Colombie 2/8 mm	Coal	10/10/2024	Active
	MC04_173	Coke pétrole Veba	Petroleum Coke	10/10/2024	Inactive

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

Basic Information		Material Specification	
Material ID MQ47_181	Material Name Mangieu 10/50	ERP Commercial Material ID MQ47	ERP Commercial Material Name GALETS LOT STDENIS 20/80 MM
Material Type Quartz	Status Active	Date Created 01/21/2025	Material Description Mangieu 10/50
Material Description Mangieu 10/50			
Additional Information			
Effective Date* 18.08.24		Unit Weight* 50.00 t	
Actual Cost* 12.00 €		Addition Group 12.00	Density 12.00 g/cm³
Standard Cost* 12.00 €		CO2 Contributor VMS Material	
		<input type="button" value="Cancel"/> <input type="button" value="Save & Continue"/>	

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

Elements (in %)	Low	Aim	High
Al	0	0	0
As	0	0	0
Au	0	0	0
B	0	0	0
Be	0	0	0
C	0	0	0
Ca	0	0	0
Cd	0	0	0
Ce	0	0	0
Hf	0	0	0
Hg	0	0	0
In	0	0	0
K	0	0	0
La	0	0	0
Li	0	0	0
Mg	0	0	0
Mn	0	0	0
Mo	0	0	0
Sb	0	0	0
Sc	0	0	0
Se	0	0	0
Si	0	0	0
Sm	0	0	0
Sn	0	0	0
Sr	0	0	0
S	0	0	0
Ta	0	0	0

- 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

MQ47_181 | Mangieu 10/50

Element	Low	Aim	High
Fe	0	0	0
Ga	0	0	0
Gd	0	0	0
Ge	0	0	0
Pr	0	0	0
Pt	0	0	0
P	0	0	0
Re	0	0	0
Zr	0	0	0

Chemistry Elements (Total Aim : 0%)

Total value of elements should be less than 100%

Element	Low	Aim	High
Ash	0	0	0
Moisture	0	0	0
Volatiles	0	0	0

Size Specifications

Low	Below Tolerance%	Above Tolerance%	Select
Select		Select	

- 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

Elements (in %)	Low	Aim	High
Al	0	0	0
As	0	0	0
Au	0	0	0
B	0	0	0
Be	0	0	0
C	0	0	0
Ca	0	0	0
Cd	0	0	0
Ce	0	0	0
Co	0	0	0
Hf	0	0	0
Hg	0	0	0
In	0	0	0
K	0	0	0
La	0	0	0
Li	0	0	0
Mg	0	0	0
Mn	0	0	0
Mo	0	0	0
Na	0	0	0
Sb	0	0	0
Sc	0	0	0
Se	0	0	0
Si	0	0	0
Sm	0	0	0
Sn	0	0	0
Sr	0	0	0
S	0	0	0
Ta	0	0	0
Te	0	0	0

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.

MM : Furnace Raw Material Active 5 Inactive 35				
<input type="text"/> Search Filters Export View				
Material ID	Material Name	Material Type	Created At	Status
MQ47_181	Mangieu 10/50	PSI 4503 B Alu	10/10/2024	Active
MQ05_177	Boudeau 10/60	Quartz	10/10/2024	Inactive
MQ17_312	Mina Sonia 30/I20	Quartz	10/10/2024	Inactive
MB07_172	Charbon bois Indo	Charcoal	10/10/2024	Inactive
MH36_315	Houille Colombie 1/12	Coal	10/10/2024	Active
MH49_314	Houille Australienne 1/12	Coal	10/10/2024	Active
MH01_174	Colombie 4/12 mm	Coal	10/10/2024	Active
MB02_216	CdB Carbonex	Charcoal	10/10/2024	Active
MH32_176	Colombie 2/8 mm	Coal	10/10/2024	Active
MC04_173	Coke pétrole Veba	Petroleum Coke	10/10/2024	Inactive

Showing 10 of 80 < 1 2 3 ... 8 > Rows Per Page: 10

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

Effe ctiv e Dat e	Ma terial ID	Mat erial Na me	Mat eria l Typ e	Uni t	Act ual Co st	Addi tion Gro up	Sta ndar d	CO2 Cont ribut or	KW h Mel ting	Create d At	Created By	Modified By
14/06 07/_1 25/71	MB 1.0 Wo Bois			t	1.0		1.	00	1.0 0k Wh	13/07/ 2025 02:35	sbadal sbadal Sahana Badal	
18/06 07/_1 25/71	MB 1.0 Wo Bois			t	1.0		1.	00	1.0 0k Wh	13/07/ 2025 02:36	sbadal sbadal Sahana Badal	

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

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

The screenshot shows the Material Information screen for material MQ36_230. The top navigation bar includes a back arrow, the material ID, and a search icon. On the far right, there's a user dropdown for 'Sahana Badal'. The main content area has two tabs: 'Material Information' (selected) and 'Material Specification'. Under 'Material Information', there are two sections: 'Basic Information' and 'Additional Information'. The 'Basic Information' section contains fields for Material ID (MQ36_230), Material Name (Gres Montgru), ERP Commercial Material ID (MQ36), ERP Commercial Material Name (GRES DE MONTGRU ST HILAIRE 40/150MM), and ERP ACC Material ID (MQ36). The 'Additional Information' section contains fields for Effective Date (14/07/2025), Unit Weight (--), Actual Cost (--), Addition Group (--), Density (--), Standard Cost (--), CO2 Contributor (kWh Melting), and kWh Melting (--). A 'Download CSV' button is located between the two sections.

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	Element	Lo w	Hi gh	Abo ve	Bel o w	Toler ance	Created At	Modified At	Mod ified By		
Al	CHE	124						09/07/2025 07:07 AM	09/07/2025 07:07 AM	sdevarakonda Sireesha Devarakonda		
As	CHE	000						09/07/2025 07:07 AM	09/07/2025 07:07 AM	sdevarakonda Sireesha Devarakonda		
Au	CHE	000						09/07/2025 07:07 AM	09/07/2025 07:07 AM	sdevarakonda Sireesha Devarakonda		
Be	CHE	000						09/07/2025 07:07 AM	09/07/2025 07:07 AM	sdevarakonda Sireesha Devarakonda		
B	CHE	000						09/07/2025 07:07 AM	09/07/2025 07:07 AM	sdevarakonda Sireesha Devarakonda		
Ca	CHE	000						09/07/2025 07:07 AM	09/07/2025 07:07 AM	sdevarakonda Sireesha Devarakonda		
Cd	CHE	000						09/07/2025 07:07 AM	09/07/2025 07:07 AM	sdevarakonda Sireesha Devarakonda		
Ce	CHE	000						09/07/2025 07:07 AM	09/07/2025 07:07 AM	sdevarakonda Sireesha Devarakonda		
Co	CHE	000						09/07/2025 07:07 AM	09/07/2025 07:07 AM	sdevarakonda Sireesha Devarakonda		
Cr	CHE	000						09/07/2025 07:07 AM	09/07/2025 07:07 AM	sdevarakonda Sireesha Devarakonda		

Cu	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
C	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Dy	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Er	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Fe	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Ga	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Gd	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Ge	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Hf	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Hg	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
In	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
K	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
La	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Li	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Mg	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda

Mn	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Mo	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Na	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Nb	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Nd	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Ni	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Pb	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Pr	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Pt	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
P	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Re	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Sb	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Sc	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Se	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Si	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda

Sm	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Sn	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Sr	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
S	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Ta	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Te	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Ti	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
V	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
W	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Y	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Zn	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Zr	CHE	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Ash	PHY	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Mois ture	PHY	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda
Volat iles	PHY	000				09/07/202 5 07:07 AM			09/07/202 5 07:07 AM	sdevarakonda Sireesha Devarakonda

Size Change	Sizes					0	2025-07-09T12:07:38.575613Z			2025-07-09T12:07:38.575619Z	sdevarakonda Sireesha Devarakonda
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Elements (in %)	Low	Aim	High
Al	0	0	0
As	0	0	0
Au	0	0	0
Be	0	0	0
B	0	0	0
Ca	0	0	0
Cd	0	0	0
Ce	0	0	0
Co	0	0	0
Cr	0	0	0
Hf	0	0	0
Hg	0	0	0
In	0	0	0
K	0	0	0
La	0	0	0
Li	0	0	0
Mg	0	0	0
Mn	0	0	0
Mo	0	0	0
Na	0	0	0
Sb	0	0	0
Sc	0	0	0
Se	0	0	0
Si	0	0	0
Sm	0	0	0
Sn	0	0	0
Sr	0	0	0
S	0	0	0
Ta	0	0	0
Te	0	0	0

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

Material		Chemistry Elements					
Elements (in %)	Low	Aim	Ca	Al	Coarse Particles (>45um)	Cl	Cr
Al	0	0	0	0	0	0	0
As	0	0	0	0	0	0	0
Au	0	0	0	0	0	0	0
Be	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0
Ca	0	0	0	0	0	0	0
Cd	0	0	0	0	0	0	0
Ce	0	0	0	0	0	0	0
Co	0	0	0	0	0	0	0
Cr	0	0	0	0	0	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
02/01/2025 07:00 AM		Al	0	0	0	0	0	0
01/01/2025 09:00 AM	superadmin	Coarse Particles (>45um)	0	0	0	0	0	2.45
		Cl	0	0	0	0	1	0