Synergi Plant Training

Thickness and corrosion management

Work Package

Two types of work package

- **Inspection associated work package**

  For managing monitor data, e.g. wall thickness loading, with linked to inspections.

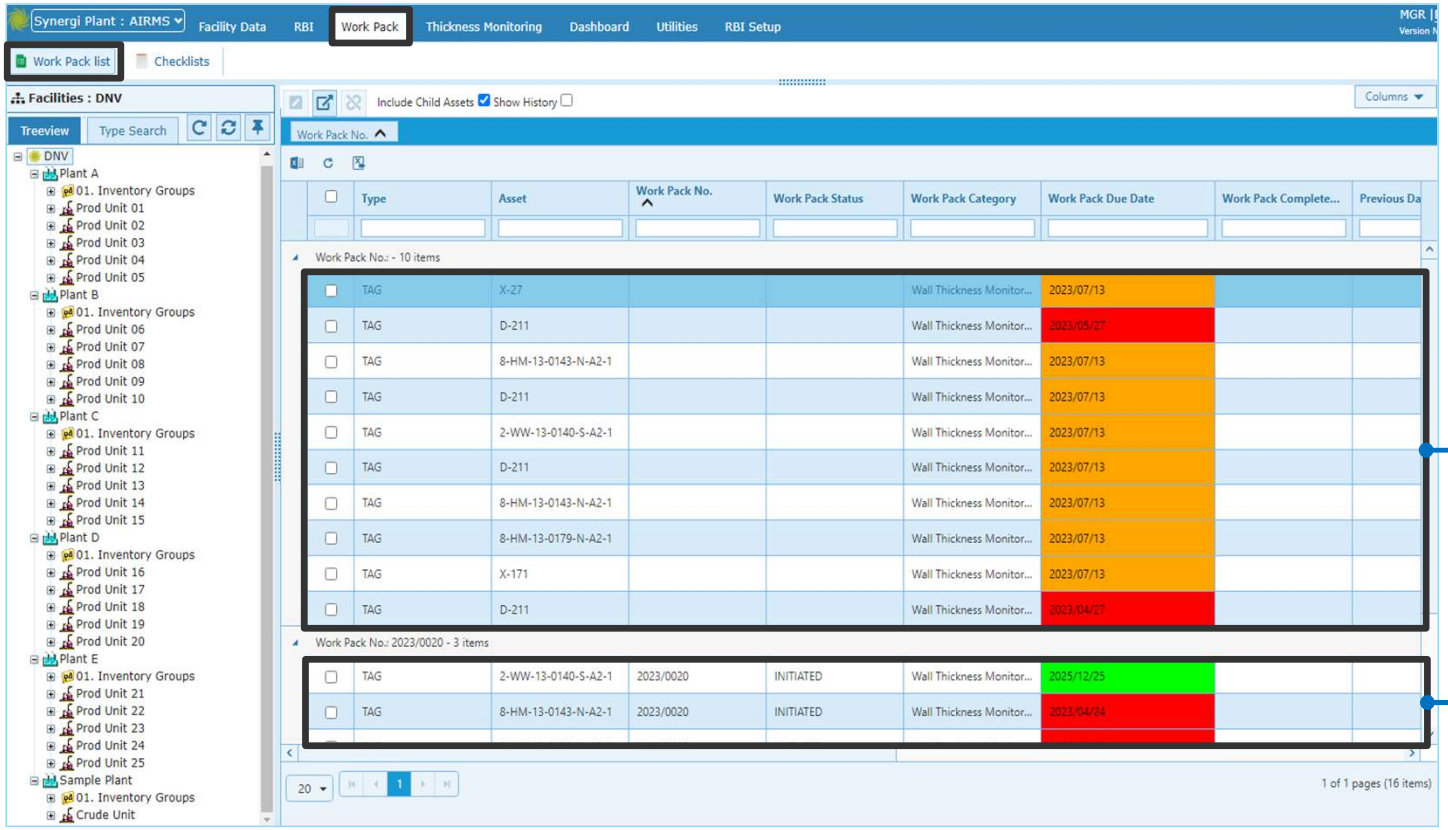
  User perform work pack no creation and grouping of inspections.

- **Ad hoc work package**

  For managing monitor data, e.g. wall thickness loading, without or not linked to inspections

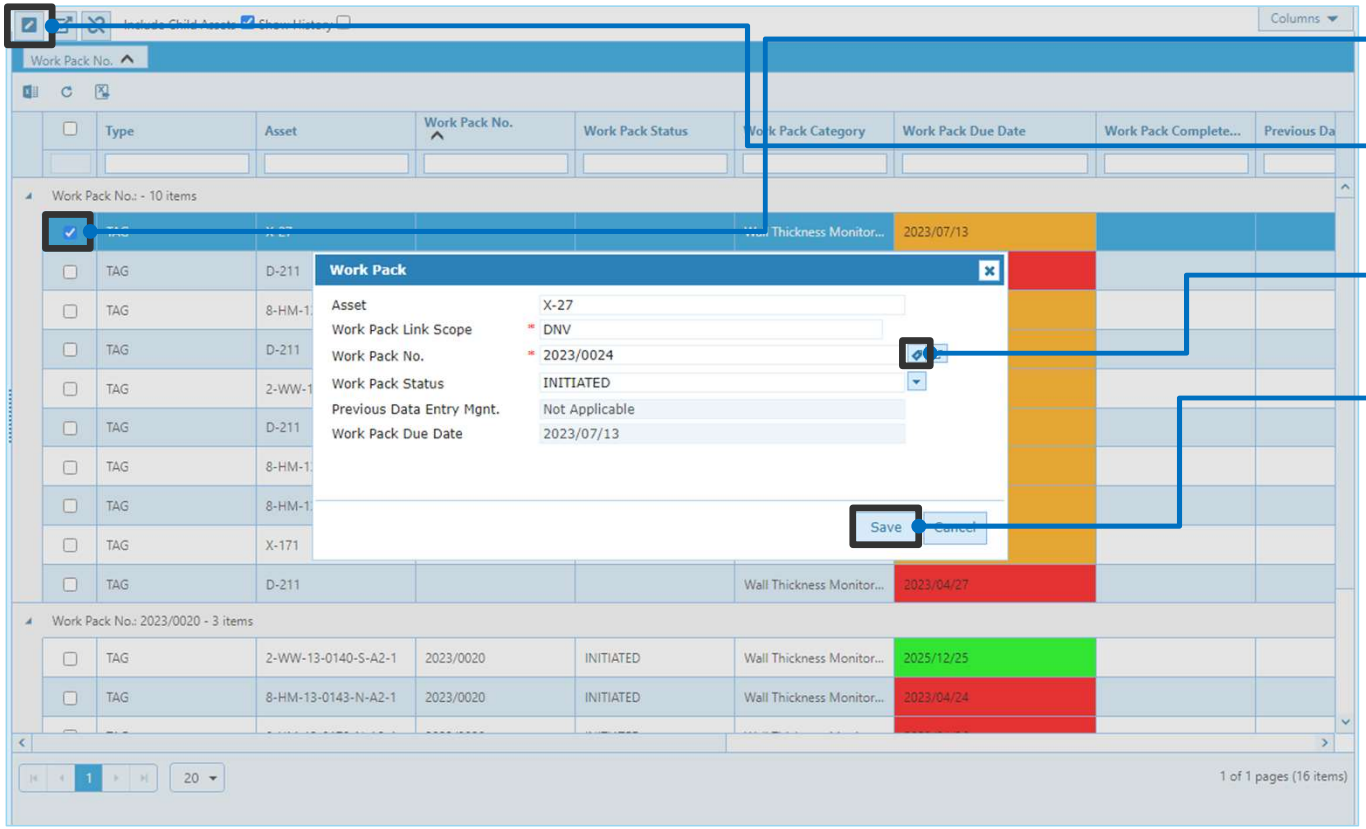
  User input ad hoc work pack no directory when generating measurement loading sheets

Inspections and Work Packages

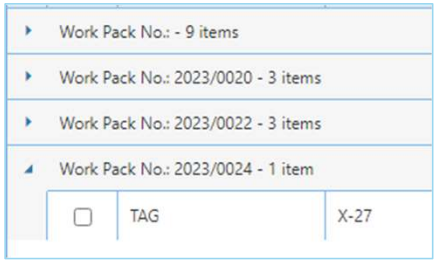


- Inspection activities without assigned work pack no.
- Inspection activities with assigned work pack no (2023/0020)

Assign Work Pack No. – For the First Inspection Activity

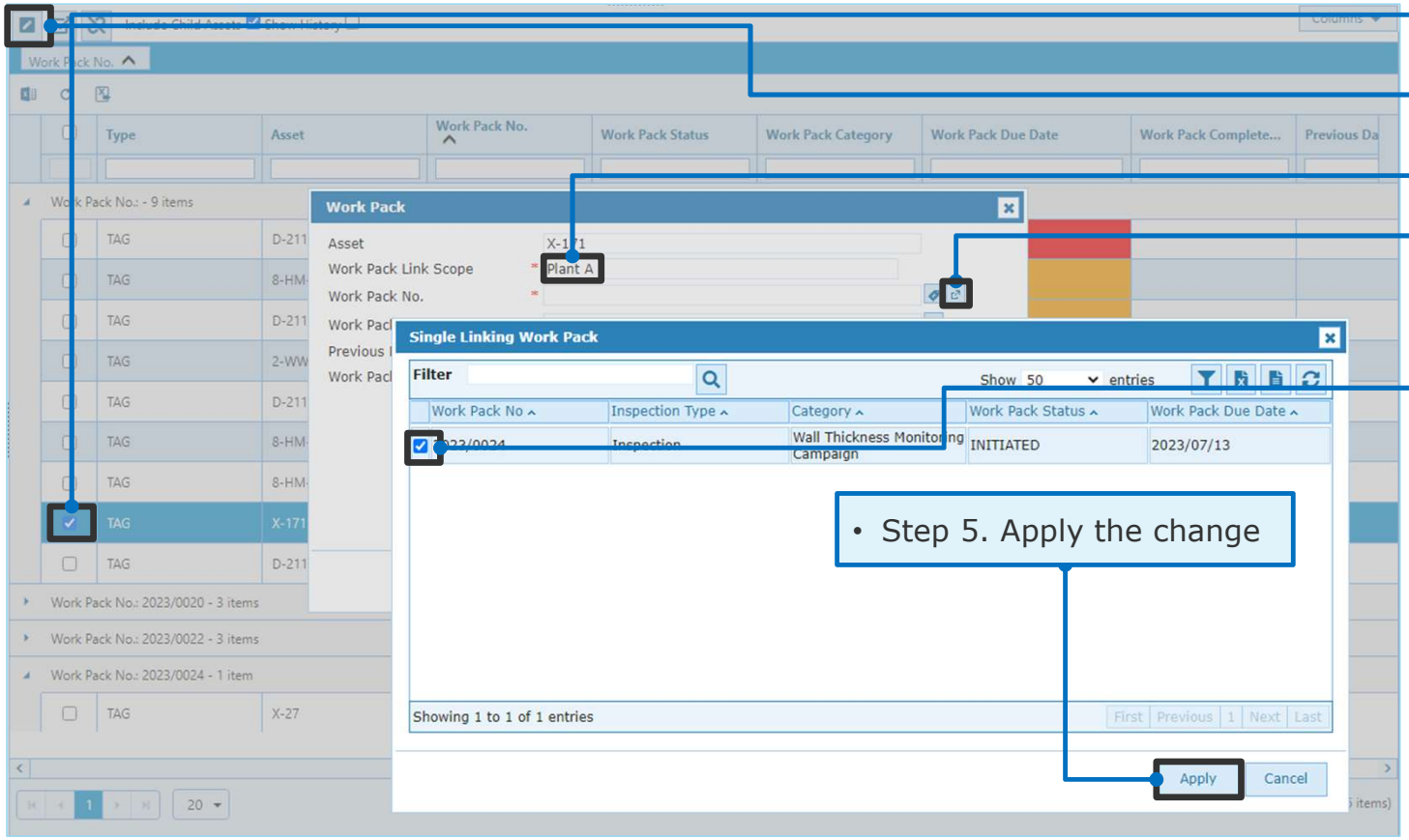


- Step 1. Select one activity
- Step 2. Modify activity
- Step 3. Generate new work pack no.
- Step 4. Save the change

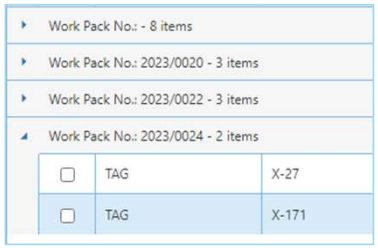


- New work pack 2023/0024

Assign Work Pack No. – For Another Inspection Activity

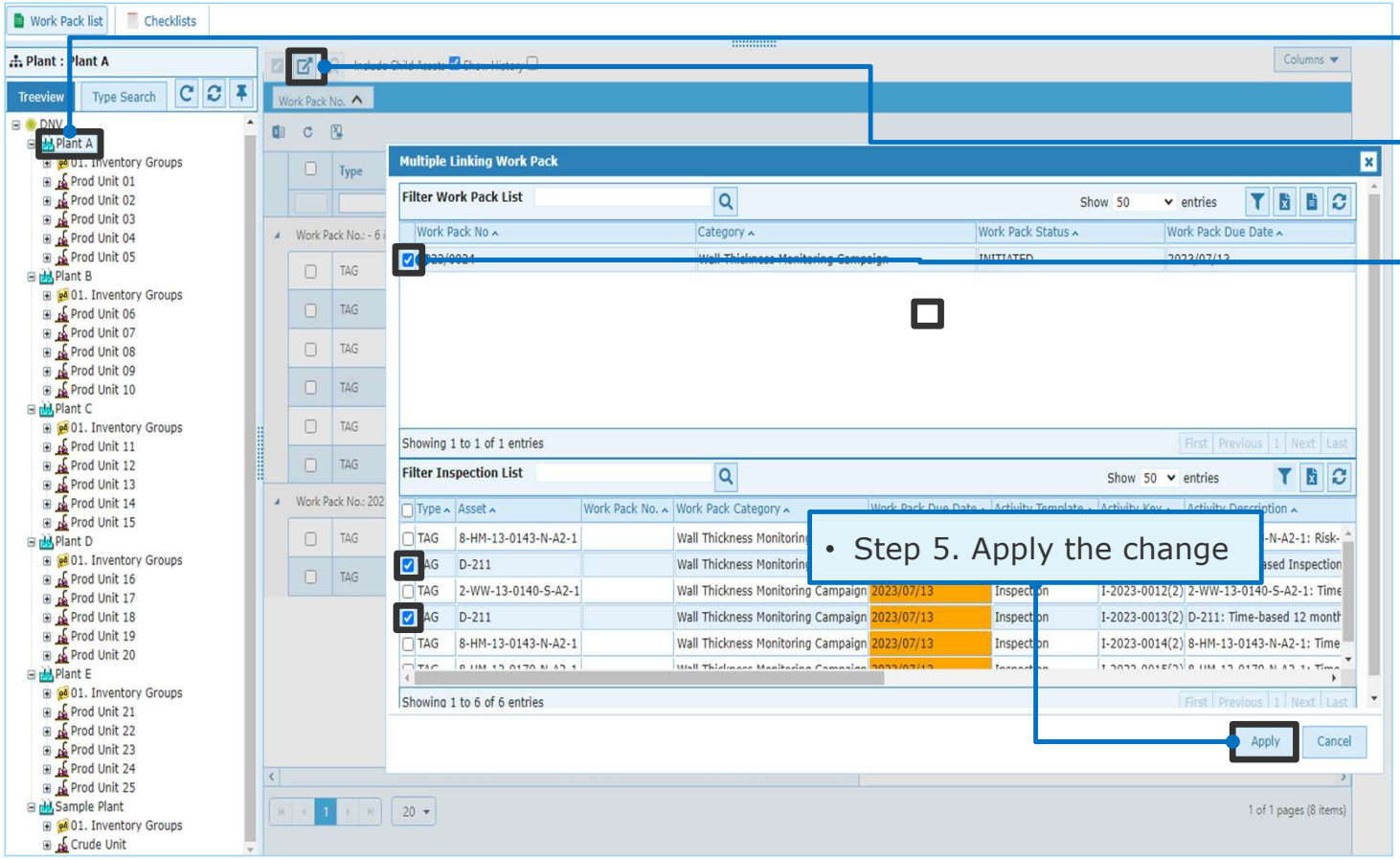


- Step 1. Select one activity
- Step 2. Modify activity
- Step 3. Specify the plant in the link scope, and select the existing work pack no.
- Step 4. select the existing work pack no.
- Step 5. Apply the change



- Two activities in work pack 2023/0024

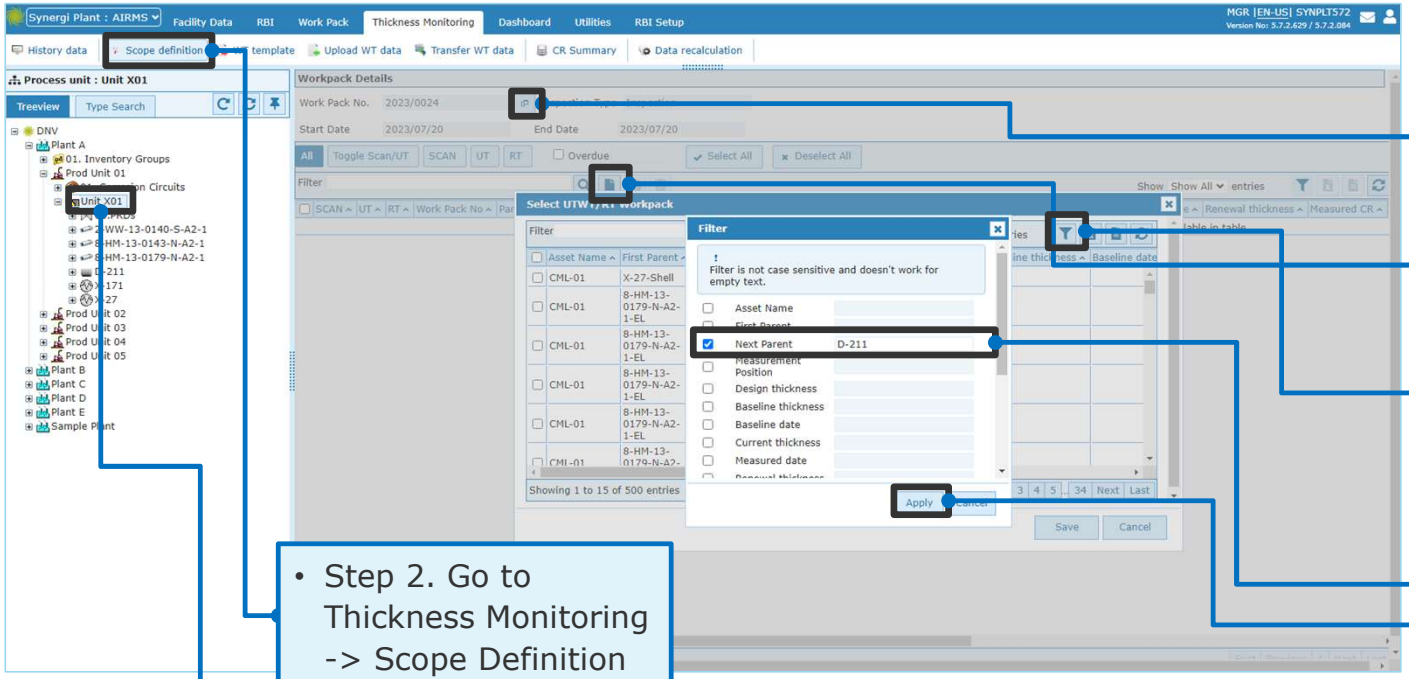
Assign Work Pack No. – Linking Multiple Activities



- Step 1. Focus on the plant
- Step 2. Click "Multiple Linking Work Pack"
- Step 3. select the existing work pack no.
- Step 4. select activities to add to the work pack.
- Step 5. Apply the change

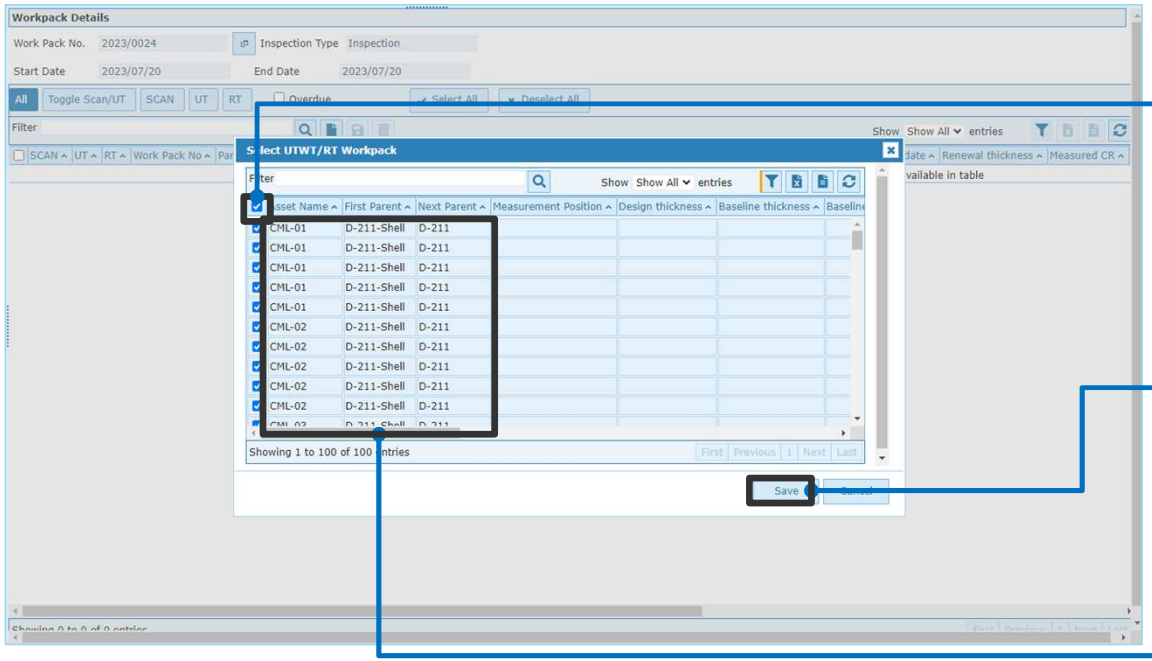
- Two more activities in work pack 2023/0024

Using Work Pack in Thickness Loading – Scope Definition (1)



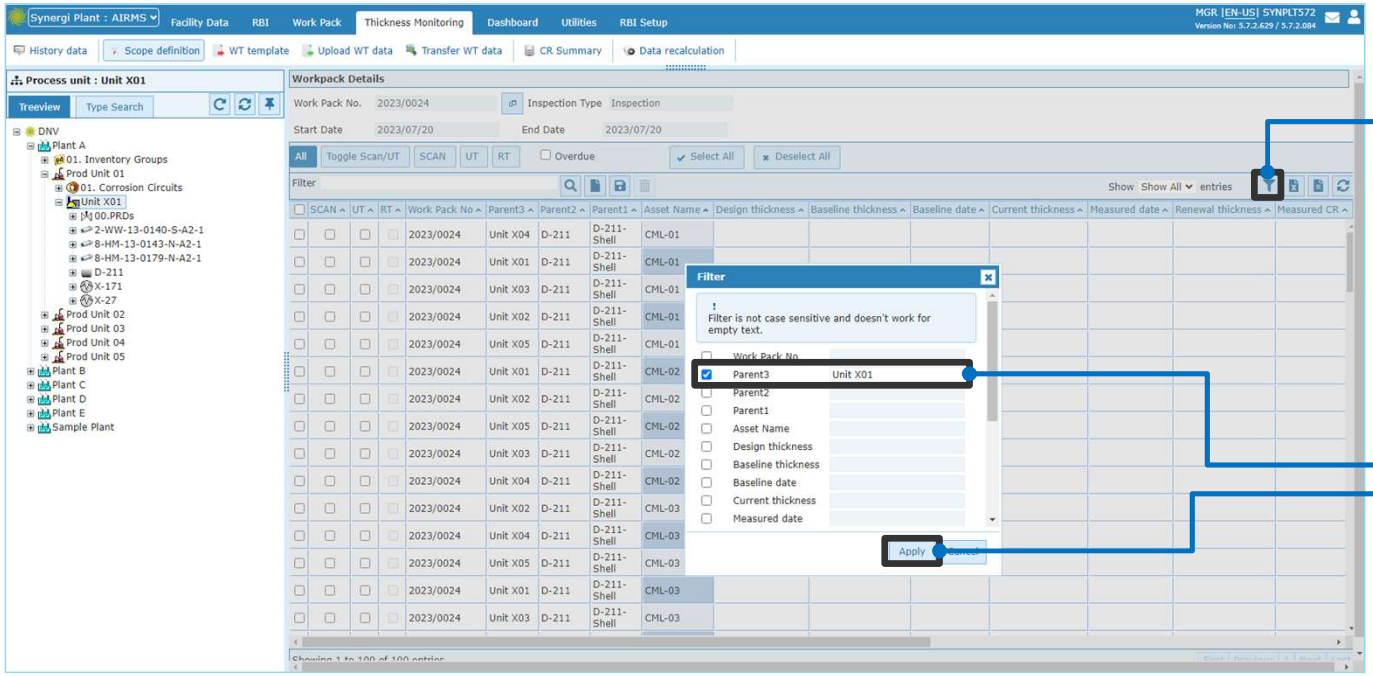
- Step 1. Focus on the Process Unit
- Step 2. Go to Thickness Monitoring -> Scope Definition
- Step 3. Select the Work Pack No.
- Step 4. Add CMLs
- Step 5. Set the select list filter.
- Step 6. Set Next Parent = D-211 as the filter. Then apply the filter.

Using Work Pack in Thickness Loading – Scope Definition (2)



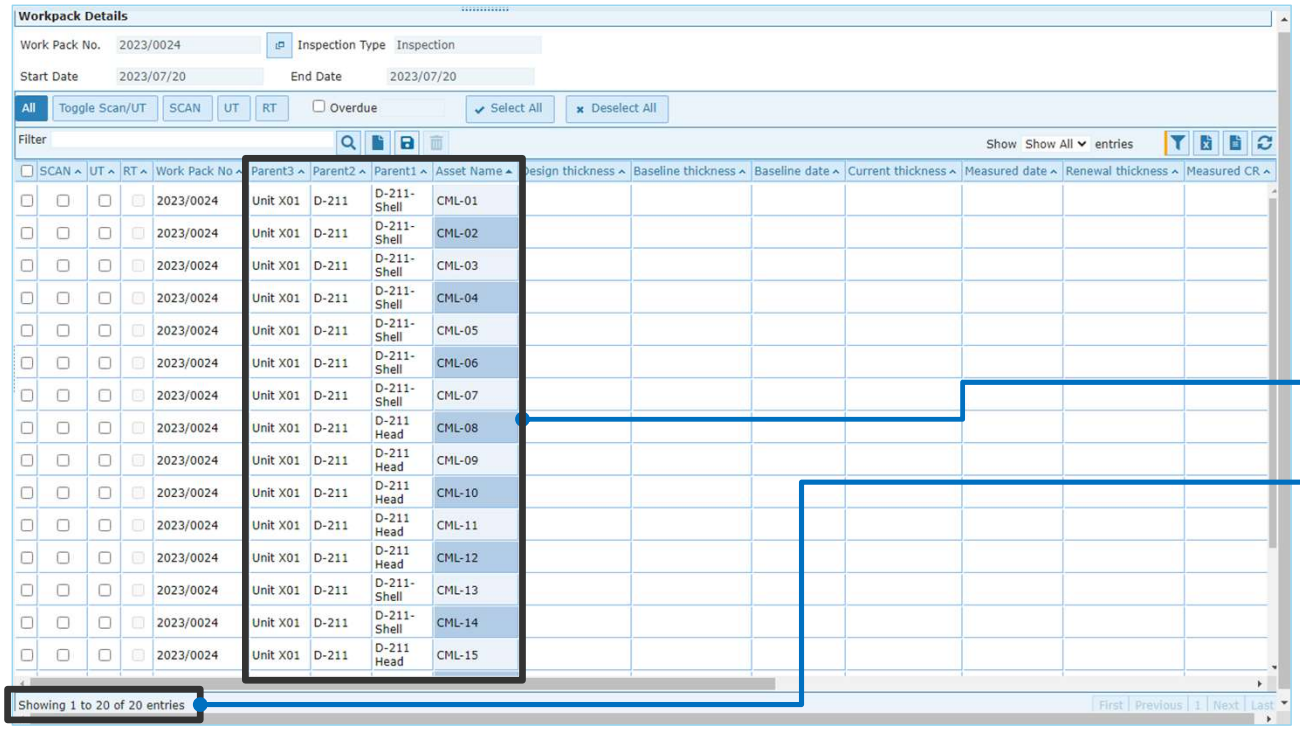
- Step 1. Click the 'Check All' checkbox to select all rows in the list
- Step 2. Click the 'Save' button to add all CMLs in the list to the scope
- As there are multiple rows for the same CML names from different units, we will apply a result list filter in the next process.

Using Work Pack in Thickness Loading – Scope Definition (3)



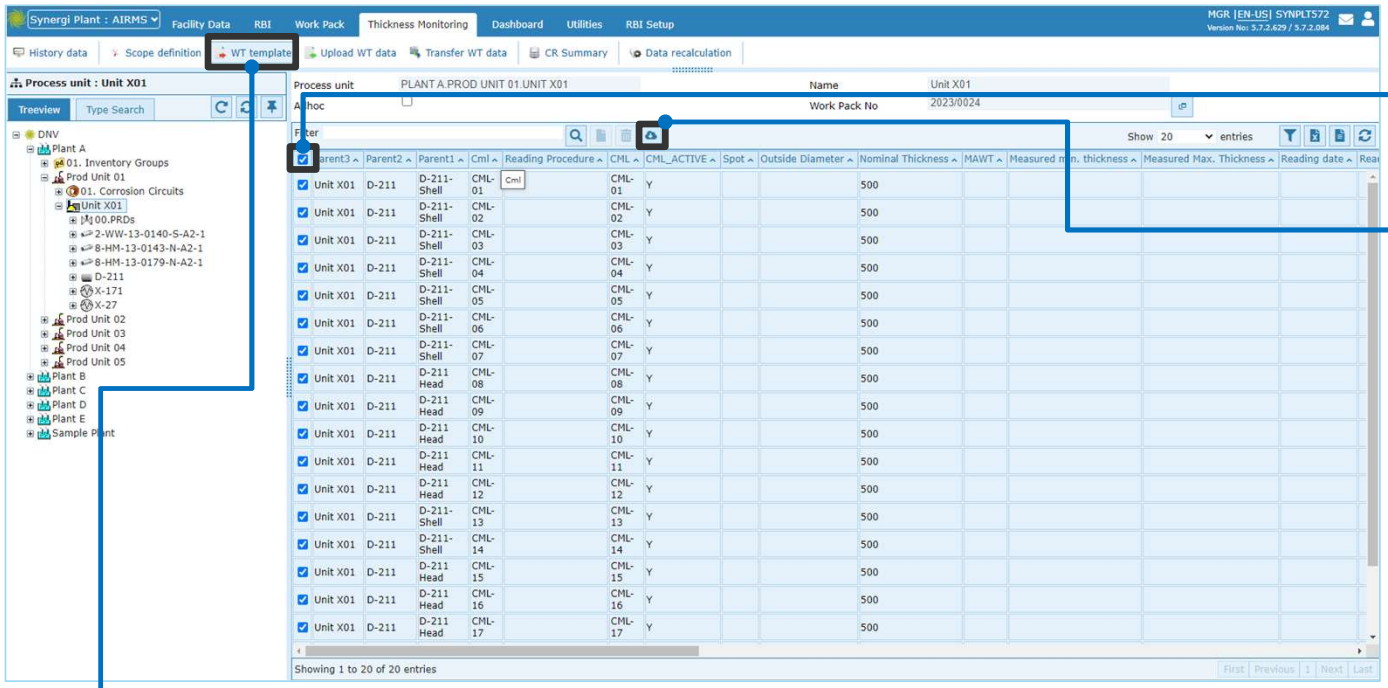
- Step 1. Click the filter button on the right-top corner of the result list to add result list filter
- Step 2. Set Parent3 to the Process Unit, e.g. Unit X01, then apply the filter.

Using Work Pack in Thickness Loading – Scope Definition (4)



- After filtered by the selection list and the result list, the CMLs in the scope should be only all CMLs of D-211 for one Process Unit. Also check the number of rows to confirm.

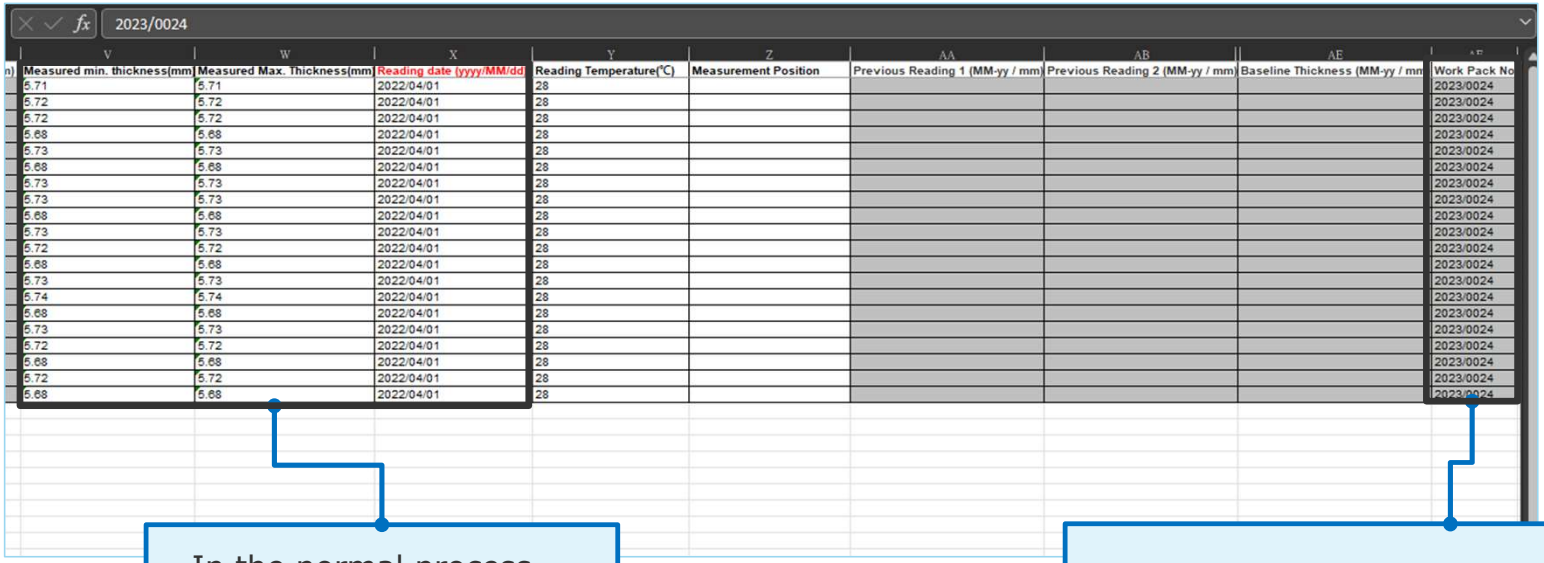
Using Work Pack in Thickness Loading – Generate Template



- Step 1. Go to Thickness Monitoring -> WT template to generate the template
- Step 2. Select all CMLs in the scope
- Step 3. Generate Excel template

- To use **Ad hoc work pack** without inspection:
  - Check the 'Adhoc' checkbox
  - Type in a 'Work Pack No'
  - Click the 'Add' button to add CMLs
  - Generate Excel template

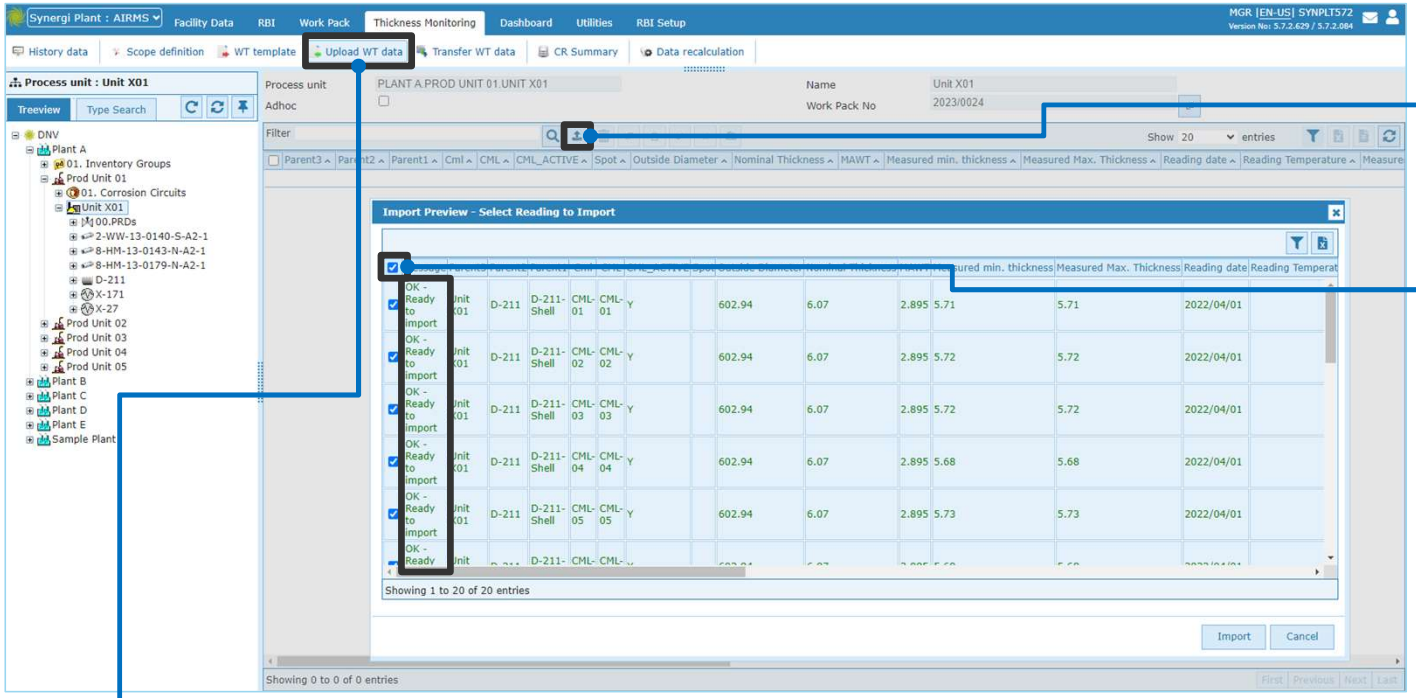
Input Thickness, Date, and Check the Work Pack No.



- In the normal process, inspector / contractor needs to input the min and max thickness, and the reading date

- If you are using the template from any previous work pack, you will need to modify the Work Pack No to match the current work pack you are loading the measurements

Using Work Pack in Thickness Loading – Upload WT Data (1)



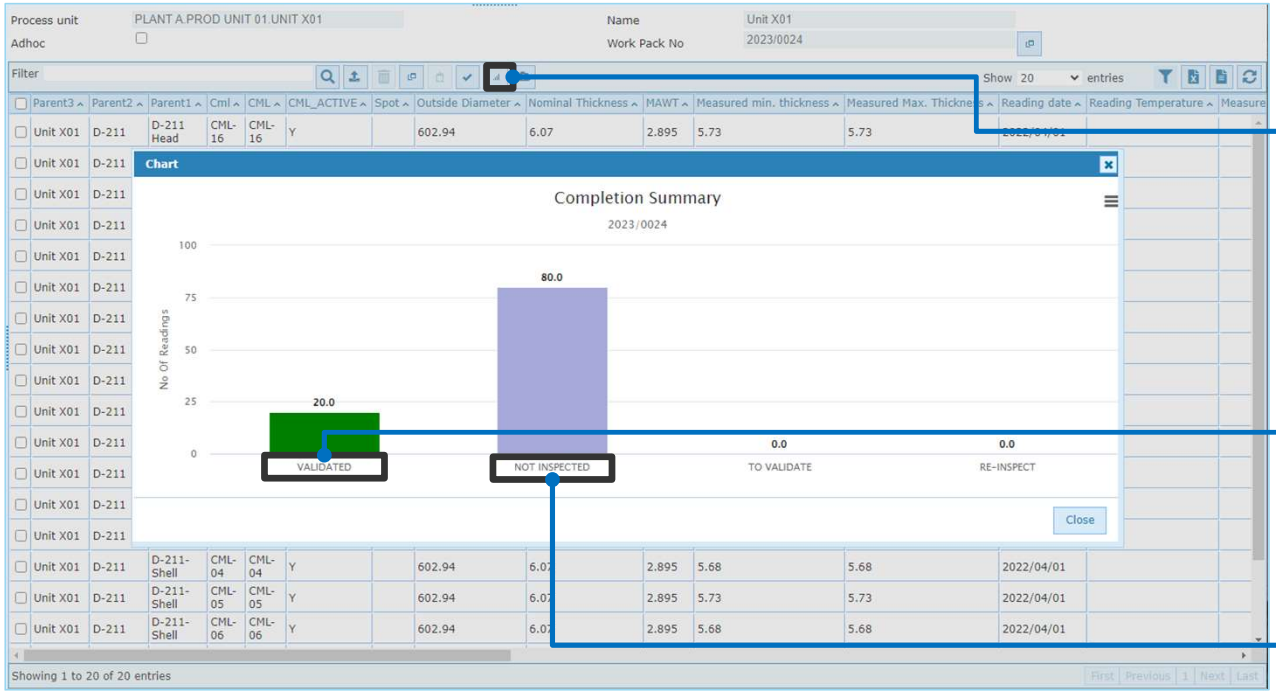
- Step 1. Go to Thickness Monitoring -> Upload WT data

- Step 2. Upload the template with thickness data in it

- Step 3. Select all CML thickness data to import

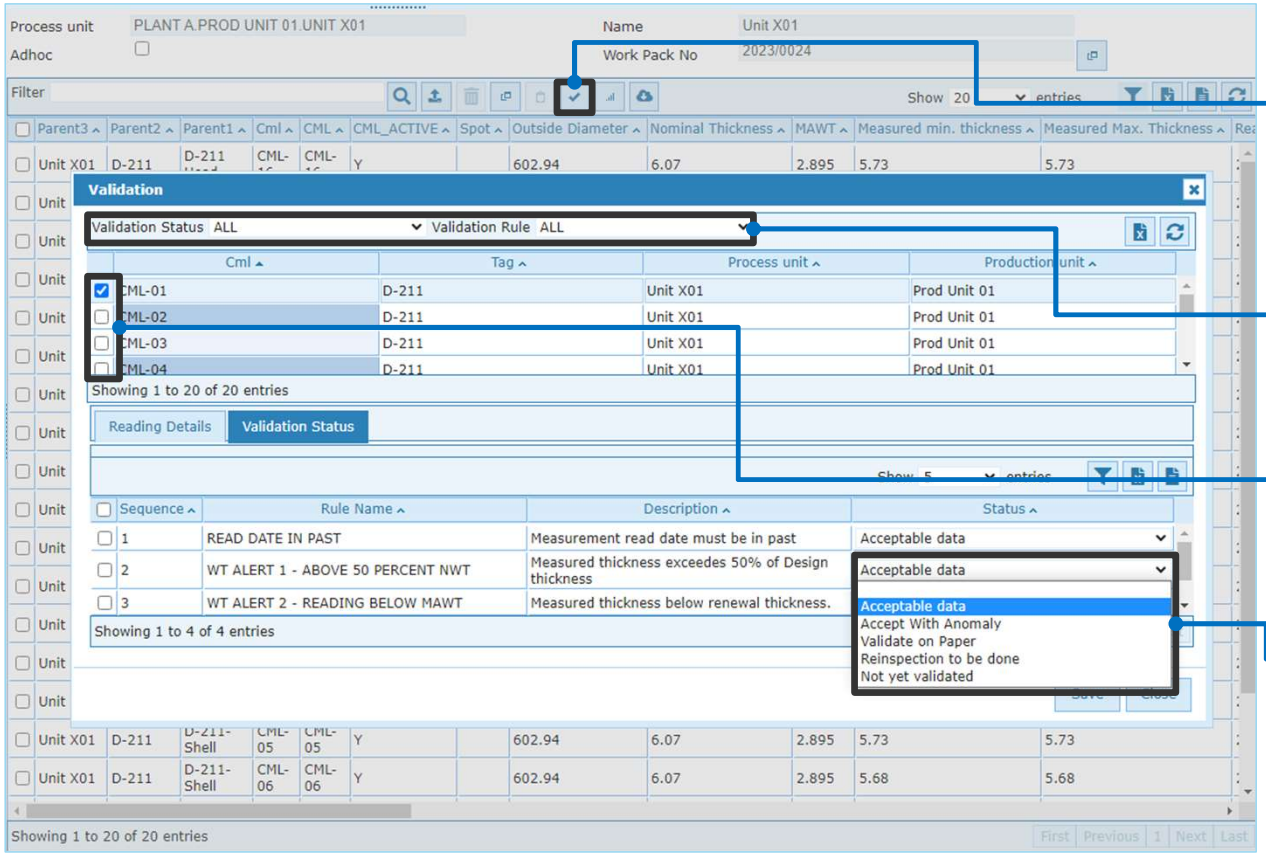
- Before import the data you should check the validation status and the color of data rows:
  - Green – Acceptable
  - Yellow – Accept with Anomaly
  - Red – Not Acceptable

Using Work Pack in Thickness Loading – Upload WT Data (2)



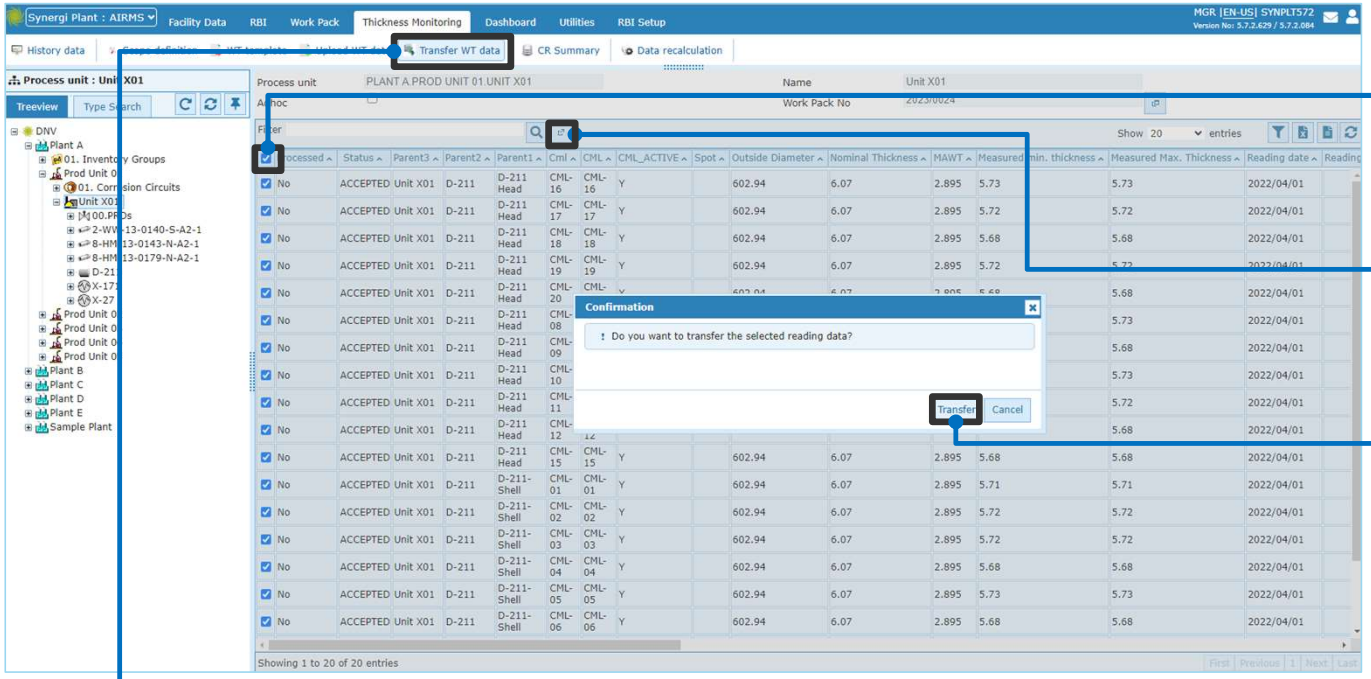
- Click the Completion Summary button to check the validation completion status
- These readings are the ones being imported
- There are other CMLs defined in the same work pack without thickness to import now, as they were filtered out of the scope

Using Work Pack in Thickness Loading – Upload WT Data (3)



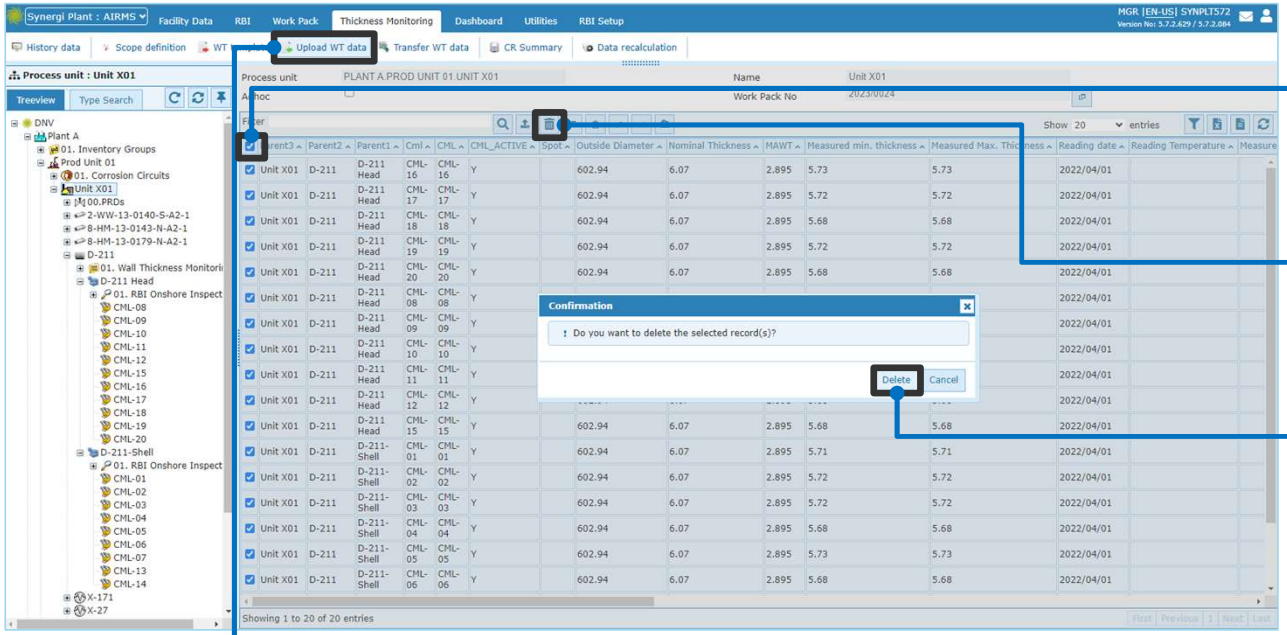
- Step 1. Click the Validation button to check the validation status of CMLs against the validation rules
- Step 2. Select Validation Status and Validation Rule filters
- Step 3. Select the CML to check its validation status
- Step 4. Override the validation status for a rule if required.

Using Work Pack in Thickness Loading – Transfer Data



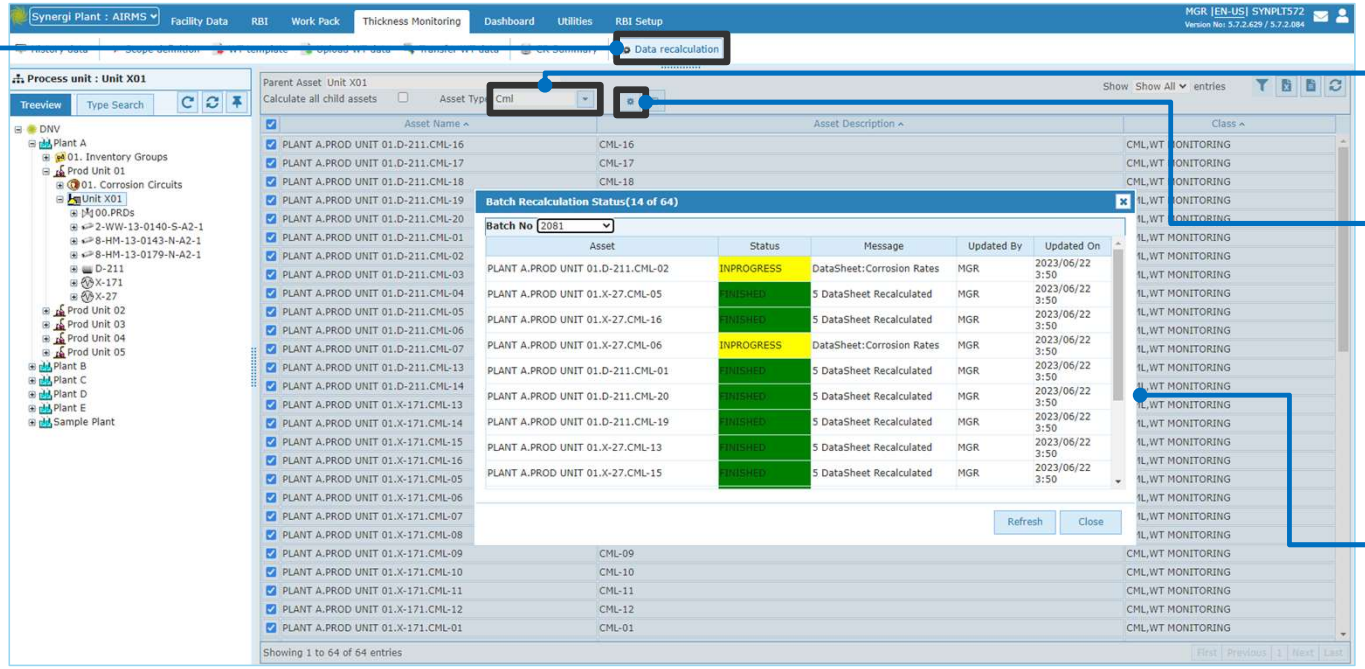
- Step 1. Go to Thickness Monitoring -> Transfer WT data
- Step 2. Select all CML thickness data to transfer
- Step 3. Click the Transfer button
- Step 4. Confirm the data transfer
- Note: Before data transfer, all imported data are still in the buffer area, not affecting the asset data

Using Work Pack in Thickness Loading – Load 2nd Readings



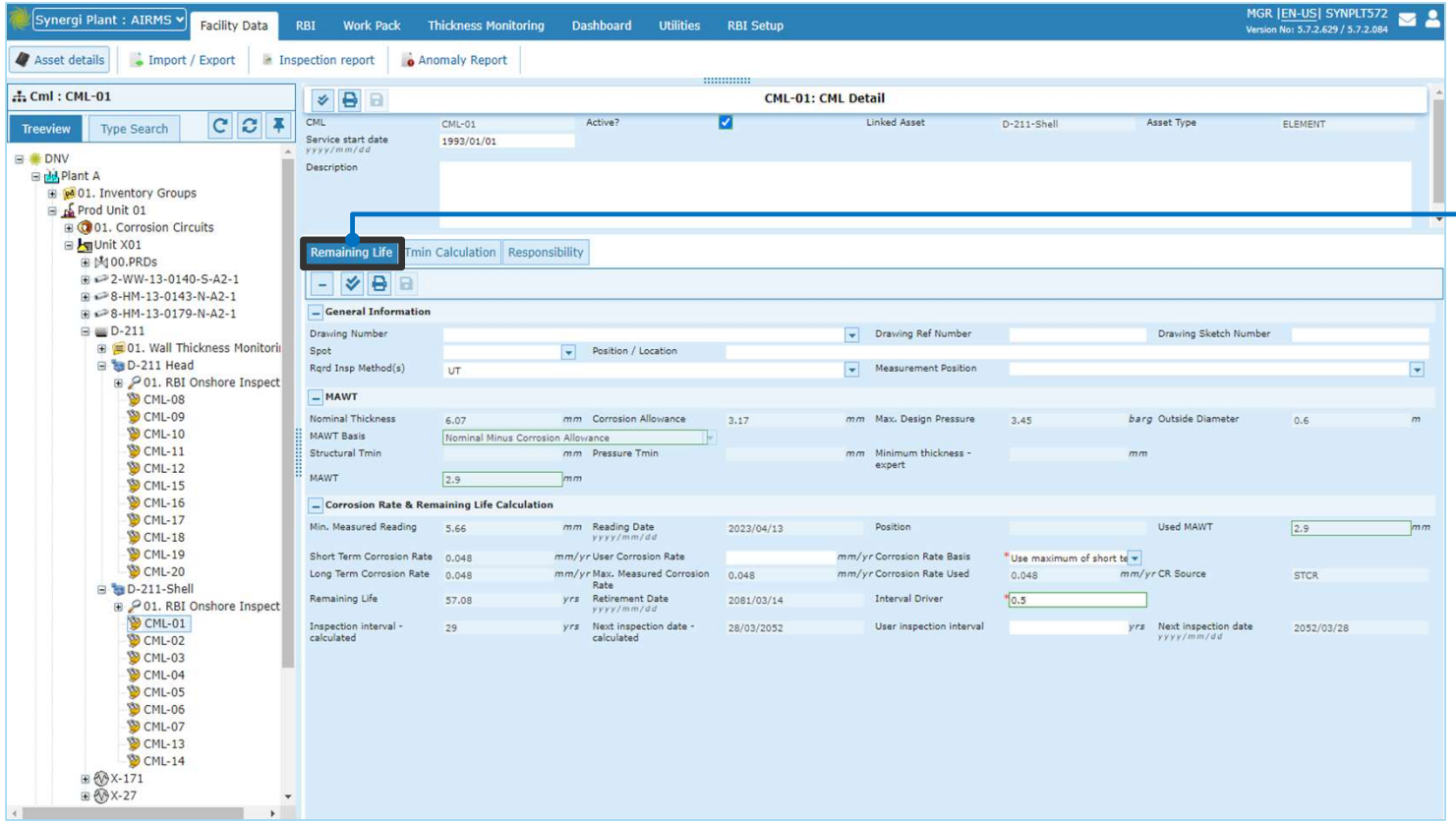
- Step 1. Go back to Thickness Monitoring -> Upload WT data
- Step 2. Select all CML thickness data to delete
- Step 3. Click the Delete button
- Step 4. Confirm the Deletion of imported data
- After deleting the imported data you can upload and import more thickness reading templates.

Using Work Pack in Thickness Loading – Data Re-calculation



- Step 2. Select CML as the asset level to recalculate
- Step 3. Click the Recalculate button
- The calculation status window will show the calculate of data
- You can close the calculation status window and work on other things if the calculation takes more time
- Step 1. Go back to Thickness Monitoring -> Data recalculation

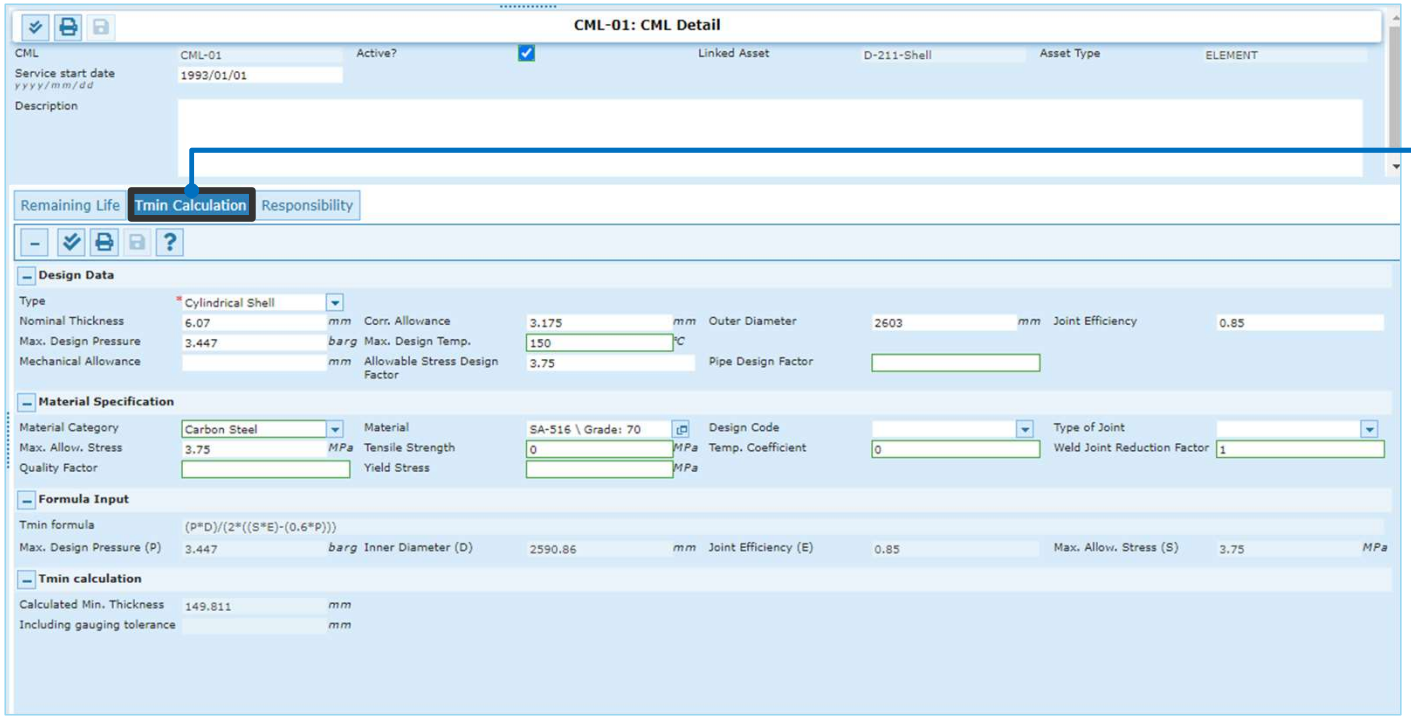
CML Remaining Life Calculation



- After thickness data are imported, transferred, and re-calculated, you can go to the CML and check the Remaining Life result.

- Note: The current configuration will only calculate the result when there are 2 measurements loaded

CML T-min Calculation



- There is a configurable Tmin Calculation engine to calculate the Tmin based on various formula

- For MAWT, there are different options:
  - Nominal – CA
  - Structure Tmin
  - Pressure Tmin
  - Min of Structure and Pressure Tmin

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