

# Mass Balance Process

## POD impacted

## Functional Overview

Syensqo buys some Raw Material which are Mass Balance Certified (e.g. RSPO RoundTable for Sustainable Palm Oil Certification). The same Raw materials are also purchased in their standard, not certified versions.

In some cases the certified and not certified versions of the same Raw Material are segregated in stock, in other cases they are stocked together and mixed.

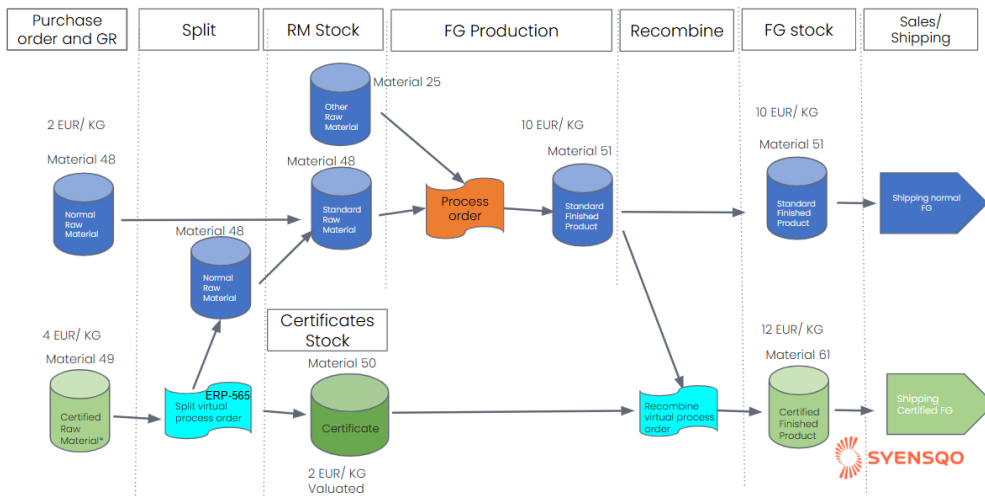
Syensqo is allowed to sell certified Finished Products only proportionally to the certified Raw Materials that have been purchased and used to produce them. Under the Mass Balance certification, there is no need to segregate the stock and there is no need to guarantee that exactly a specific certified batch of the Raw Material has been used to produce exactly a specific batch of certified Finished Product. It is sufficient to guarantee the Mass Balance, we cannot sell more Certified Finished Product than the quantity we can produce with the Certified Raw Material we have already purchased and received.

The proposed design will cover the following business use cases :

- Business use case 1 : Certified raw material and non certified raw materials are physically not segregated in the plant
- Business use case 2 : Certified raw material and non certified raw materials are physically segregated
- Business use case 3 : Recycled material usage factor

## Process flow

### Process 1 : Applicable for use case 1



### Process usage :

- Process used when certified raw material are purchased externally
- The raw materials certified and non certified are not segregated physically
- Possible to sell certified FG material and be in a negative balance for the certificates

### Process steps :

1. Certified RM are received in stock
2. An enhancement will trigger the split of certified RM to
  - a. Normal RM
  - b. Certificate material
3. Use normal RM to produce normal FG (No impact on shopfloor operations)
4. A Process order is created just before shipping the certified FG to generate the stock (
  - a. Consume normal FG
  - b. Consume certificate material

### Process Master Data prerequisites

- Material code for certified goods (RM and FG)
- Material code for certificate (one certificate code per certified RM) with same UoM then the corresponding certified RM

- Split BOM with
  - BOM header : Non certified RM
  - Component 1 : Certified RM
  - Component 2 : Certificate as By Product
- Recombine BOM with
  - BOM header : Certified FG
  - Component 1 : Non certified FG
  - Component 2 : Certificate

#### Material Master data

- Material code for Certified RM
- Material code for certificate material (Stock and value managed)
  - Certificate will have the same UoM as of the certified RM
- Material code for certified FG
- Characteristic in Material classification to identify certified material and certificate

#### Information for reporting

- Sell good movement for certified FG
- Good receipt of Certified RM
- Stock of Certificate material (virtual material)
- Link between certified RM and FG is made by the certificate material

#### Maestro Data Requirements

- **Certified Raw Material 49**
  - Immediately converted in SAP into Raw Material 48 and Certificate Material 50
  - No OnHand inventory of Certified Raw Material 49
  - A specific Type for Certified Material
- **Raw Material 48**
  - Has 2 Partsources
  - Plannable Purchase Source to buy Raw Material 48
  - Non-Plannable Make Source to create dependent demand on Certified Raw Material 49 and By-product Certificate Material 50
  - BoM is 1:1 ratio
  - Lead time = zero
- **Certified Finished Good Material 61**
  - Do not sent planned orders of material 61 back to SAP (similar to MTO-Z rule)
  - BoM has 2 components:
    - Finished Good Material 51 (1:1)
    - Certificate Material 50 (ratio sent from SAP, equivalent to the cumulative BoM ratio of FG:RM)
  - A specific Type for Certified Material
- **Certificate Material 50**
  - Certificate Material 50 needs a PartSource with zero lead time and Disabled Order Generation (do not create any planned orders)
  - Disable CTP for Certificate
  - A specific Part Type for Certificate Material to identify them

#### Solution Implementation in Maestro in case of Certificate Material Shortage:

- Certificate Shortage of X units will trigger an automation in Maestro on every data load:
  - a. Clean up of Split Work Orders
  - b. Create a Work Order on the Material 48 that will explode through the BoM
    - i. Create Co-product Supply of Certificate 50
    - ii. Create a planned purchased order for the Certified Raw Material 49
  - c. The calculations of the quantity and Due Date will be explained next
- Calculations of Shortage Quantity:
  - Using Where consumed for Demand, find any Certified Finished Product Customer Order that does not have enough supply and record the shortage supply. Record Quantity per Customer Order and equivalent Raw Material number
- Identifying the dates:
  - Using the Where consumed for demand, find the recorded records with Customer orders, Raw Material and Quantity and the earliest Synchronized Due Date (date needed for the parent).
  - Convert those records to Scheduled Receipt with the Make PartSource.

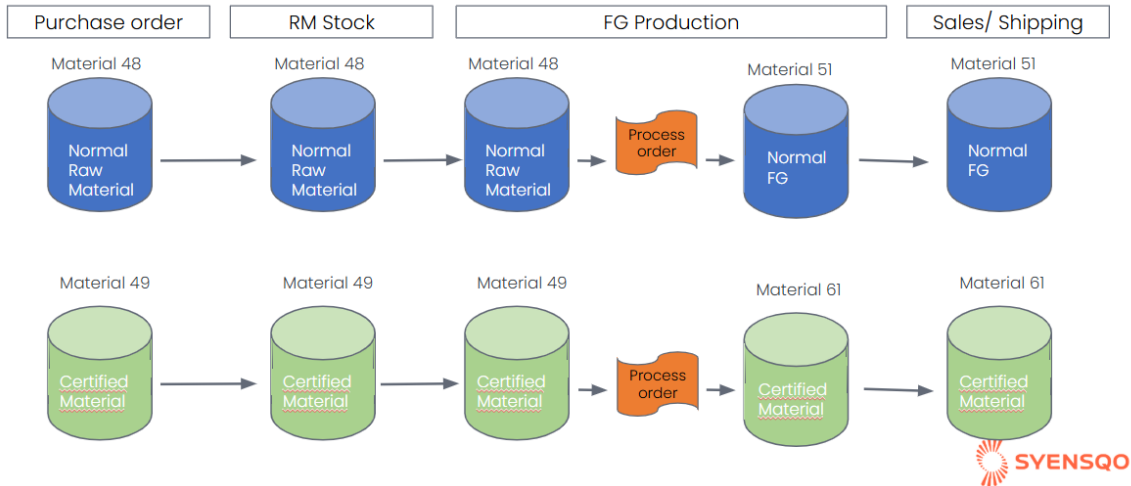
#### Maestro Report Development Requirement:

- Develop a Full-Level Pegging report to show when a Certified FG uses a Standard Raw Material vs. Certified Raw Material.

#### Maestro Closed Loop Requirement:

- Send Certified Raw Material 49 planned Purchased Orders
- Send Certified Raw Material 48 Split Work Orders

#### **Process 2 : Applicable for use case 2**



Process usage :

- The raw materials certified and non certified are separated physically
- The process to produce certified FG is separated

Process steps :

1. Certified RM are received in stock
2. Certified RM are stored separately
3. Use certified RM to produce certified FG (No impact on shopfloor operations)

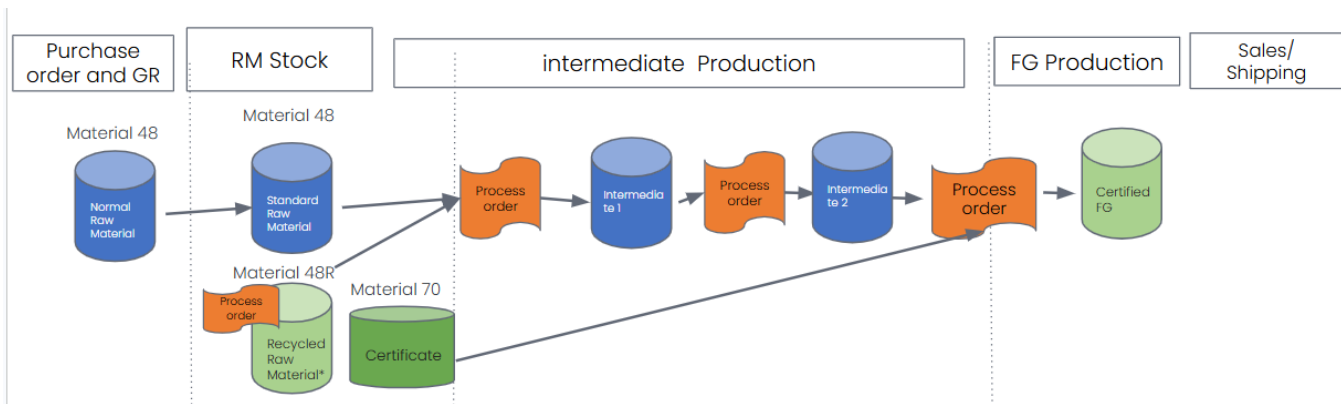
Process Master Data prerequisites

- N/A : Normal production master data used

Material Master data

- No deviation

**Process 3 : Applicable for use case 3**



Process usage :

- Process used when certified raw material are produced internally
- Possible to sell certified FG material and be in a negative balance for the certificates

Process steps :

1. Recycled RM stock is generated via a process order
  - a. A certificate stock is generated at the same time as by product
2. Recycled RM is consumed during production of intermediates
3. At last level of product : Process order is created to produce finished good
  - a. Consume certificate material generated in step 1

Process Master Data prerequisites

- Material code for certified RM
- Material code for certificate (one certificate code per certified RM) with same UoM then the corresponding certified RM
- BOM for recycling with
  - BOM header : Certified RM
  - Component 1 : Certificate as By Product

Material Master data

- Material code for Certified RM
- Material code for certificate material (Stock managed and non valuated)
  - Certificate will have the same UoM as the certified RM
- Characteristic in Material classification to identify certified material and certificate

Information for reporting

- Sell good movement for FG
- Good receipt of Certified RM
- Stock of Certificate material (virtual material)
- Link between certified RM and FG is made by the certificate material

Maestro Data Requirements:

- **Recycled Raw Material 48 R**
  - Recycled Raw Material 48 R needs a Buy PartSource with zero lead time and Disabled Order Generation (do not create any planned orders)
  - A specific Type for Certified Material
  - With Certificate Material 70 as by product with Ratio 1:1
  - Receive OnHand Recycled Material 48R from SAP
- **Certified FG**
  - Has a make Partsource with 2 components:
    - Intermediate
    - Certificate Material 70
- **Certificate Material 70**
  - By product of Recycled Material 48R with Ratio 1:1
  - Certificate Material 70 needs a Buy PartSource with zero lead time and Disabled Order Generation (do not create any planned orders)
  - Disable CTP for Certificate
  - A specific Part Type for Certificate Material to identify them
  - Receive on Hand Certificate Material 70 from SAP
- **Immediate Parent**
  - Has 2 components Standard Raw Material and Recycled Raw Material

Maestro Solution Development:

- Data Automation that runs on every data update
  - For every Certified FG Planned Order and Scheduled Receipt:
    - Create Scheduled Receipt of Recycled Raw Material 48R
      - Due Date = Immediate parent Available Date
      - Quantity = Certified FG Quantity / cumulative Quantity per Intermediate parent
    - Automatic creation of By product Certificate Material 70
      - Due Date = ScheduledReceipt of Recycled Raw Material 48R Due Date
      - Quantity = ScheduledReceipt of Recycled Raw Material 48R Quantity
- Dev Requirement: Develop a Full-Level Pegging report to show when a Certified FG uses a Standard Raw Material vs. Recycled Raw Material.

## WRICEFS

Dev : Split process order [ERP-565 Manufacturing Mass Balance: Create process Order from Goods Receipt](#)

Request / Reporting :



ERP-1422 - Jira project doesn't exist or you don't have permission to view

it.