LafargeHolcim

# Iventory Management User Manual

## Physical Inventory Management

**Author: EBM Manufacturing Core Team**
**Version 1 - 29.06.2016**

# Document Control

### Document Information – Saved under document properties

| | |
|---|---|
| **Document Type** | IT User Manual |
| **Document Name** | MAN - EBM Inventory Management_Physical Inventory_Training User Manual |
| **Owner – Prepared by** | EBM MAN Core Team |
| **Review – Reviewed by** | |
| **Group – Approved by** | EBM MAN Core Team |
| **Valid From** | 01.08.2014 |
| **Storage** | https://drive.google.com/drive/folders/0B8ML4_Kt9PXkNzZUTkhidlBDODA |

### Revisions & Status

| Version | Date | Description of changes | Modifications done by |
|---|---|---|---|
| 0.1 | 01.08.2014 | Initial Version | RPI |
| | | | |
| | | | |

### Referred documents and references

| Document / Reference | Storage |
|---|---|
| **EBM Business Blueprint Manufacturing** | |
| **MAN8 & MAN9 & MAN10 - EBM MAN - Inventory Management - Physical Inventory Management** | **https://docs.google.com/a/lafargeholcim.com/presentation/d/1rCdlTfeq9lC7pz2KakGlViQvq_JevAlo4SlGVVMMLmc/edit?usp=sharing** |

### Distribution List

| Function / Role | Company |
|---|---|
| | |
| | |

# Table of Contents

# 1. Introduction

This is the document that provides all the necessary information to enable the End User to perform their activities of SAP and no SAP systems, related with Inventory Management, on the respective go-life date, in line with the following criteria:

- Speed of execution of tasks
- Quality of data entry
- Compliance with management rules
- Maximum user ease

Throughout this document explains in detail each of the activities necessary to carry out the processes in Inventory Management.

# 2. Glossary & Abbreviations

The table below lists all the abbreviations used in the document with their complete description.

| Abbreviation | Description |
|---|---|
| CEM | Cement |
| AFR | Alternative Fuels and Raw Materials |
| RMX | Ready mix |
| MIC | Mineral components |
| EMEA | Europe, Middle East and Africa |
| EBM | European Business Model |
| LHARP | LafargeHolcim Accounting and Reporting Principles |
| LHAC | LafargeHolcim Asset Coding |
| TIS | Technical Information System |
| BOM | Bill of Material |
| MRP | Material Requirements Planning |
| CKD | Clinker Kiln Dust |
| MEC | Month End Closing |
| MM | Material Management |

| | |
|---|---|
| IM | Inventory Management |
| MOBISYS | Mobile application (Bar coding; Scanner) |
| PPI | Process Performance Indicator |

# 3. Organizational Elements

## 3.1 Organizational Elements used in Inventory Management Processes

### *3.1.1 Plant*

*General Concept*

The plant represents a physical location within LafargeHolcim where products are manufactured, received or distributed.
In EBM, a plant could be:

- **Manufacturing plant:** cement plant, grinding station, blending station, AFR unit, MIC plant, quarry, pit, RMX plant (fix/mobile), asphalt plant, etc.

- **Shipping point / terminal / storage location**: when it is not located in the same physical location as the production plant and transportation costs must be added to the cost of products.

- **Office / headquarters / trading plant**: when they are not located in a production plant
- Third parties (suppliers): O2C tech.& legal requirement to create them as virtual plants (just 1 per country).

- **Power generation plants**: just if it is not located next to a CEM plant. If the power generation plant is located next to the CEM plant, only 1 plant code will be created in SAP for both CEM and power plant.

- **Mixed plants**: LHARP rule 11.1 2.2.2.5 to be followed. If the secondary business is below 20% of cash cost and below 1 Mio. USD, only 1 plant is created, assigned to the main business segment and secondary business is treated as by-product. If the thresholds are achieved, 2 plants should be created and assets properly split.

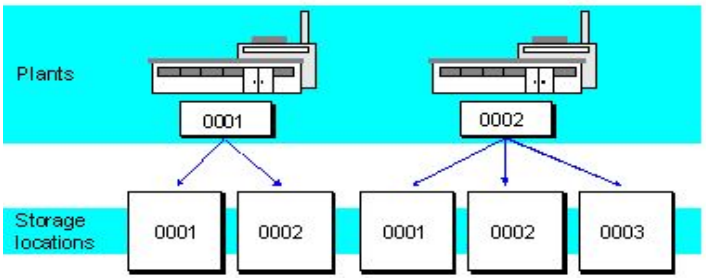
The material stocks will be managed and valuated at plant level.

### *3.1.2 Storage Location*

*General Concept*

Organizational unit that allows to differentiate between various types of stock within a plant.

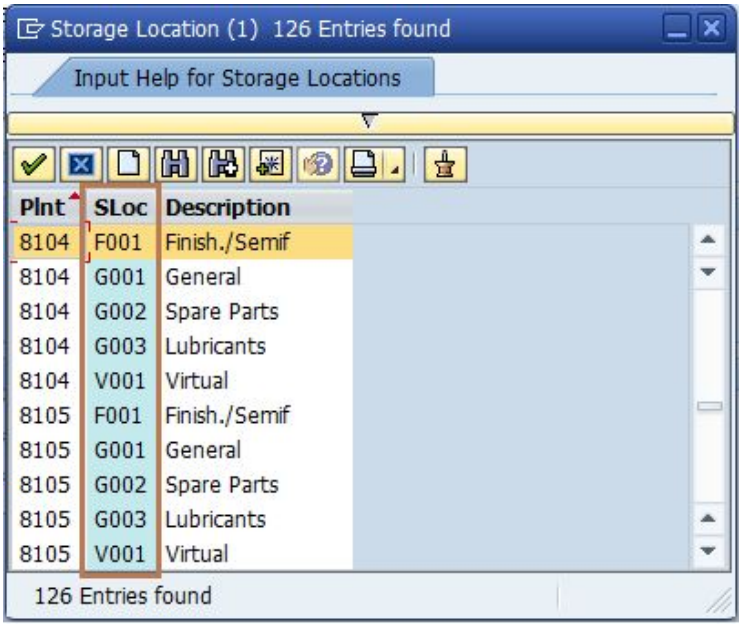
- Storage locations are created at plant level.
- Inventory Management is carried out at storage location level (Goods movements).
- Stocks are managed only on a quantity basis and not on a value basis at storage location level.
- Simplification of goods movements (Receipts, issues, transfers,…) management .
- Physical inventories are carried out at storage location level.




*Coding*

It has a 4 digit coding, "**XYYY**", where the first digit identifies the usage of the storage location and the remaining 3 are sequential numbers

- ***F***: For finished/semi-finished products
- ***G***: For general materials (maintenance materials, production materials – fuels, raw materials, packing,…)
- ***V***: For virtual warehouse




*Storage Location for Finished and Semi-finished products*

Follows the General EBM concept. A single storage location is created for each plant for finished/semi-finished products (Simplification)

It allows «negative stocks». Due to the fact that Process Order Confirmations are done on a weekly/monthly basis and outbound deliveries daily, it is necessary to allow the negative stocks during the month. As part of the Month End Closing the stocks are adjusted.

It is codified with a «***F***» letter as first digit:

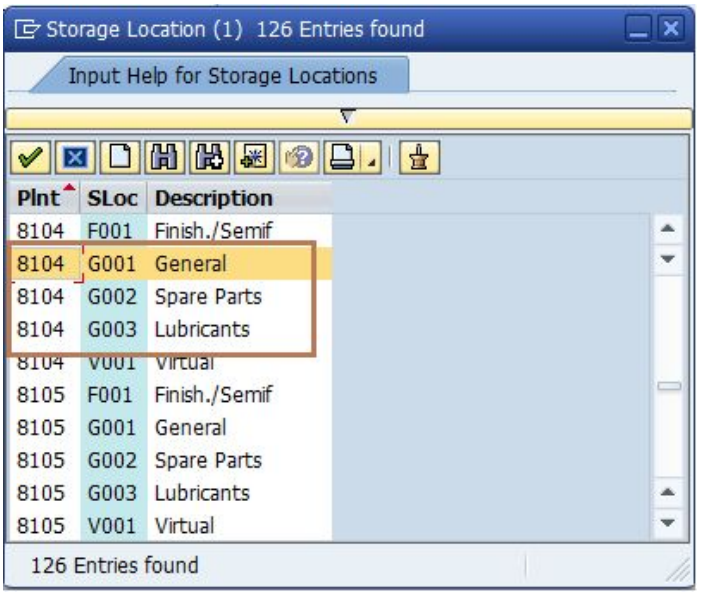
- **F001**: Finished/Semi-finished products

*Storage Location for Production Materials*

Follows the General EBM concept. A single storage location is created for each plant for production materials (Simplification).

It is codified with a «***G***» letter as first digit

- **G100**: General Storage for Production Materials
- **G200**: General Storage for Maintenance Materials




Detailed coding of storage location is described in Manufacturing Blueprint.

| | | Plant segment | | | |
|---|---|---|---|---|---|
| | | **CEM** | **AGG** | **RMX** | **AFR** |
| **Material types** | **Finish and semi-finish** | F001<br>F900 *(stock in transit)*<br>F002 *(quarry with internal transfer)*<br>F00X *(ship / train loadings)* | F00X<br>F900 | | F001 |
| | **Production and Raw** | G100<br>G106 *(Intermediate stock)* | G1XX | G100 | G100 |
| | **Maintenance** | G200<br>G2XX *(special-legal storages)*<br>G299 *(obsoletes)* | G200<br>G2XX<br>G299 | G200<br>G2XX<br>G299 | G200<br>G2XX<br>G299 |
| | **Virtual** | V200 | V200 | | |
| | **Packaged** | | | | G101<br>G161 |
| | **Handling** | | | | H101<br>H161 |

# 4. Physical Inventory

Overview


## 4.1 Process Background

Physical Inventory refers to process of physically determining and recording existing stocks in order to ensure the level of stock currently on hand. Actual stock levels determined are compared with the book inventory balances and any differences is found, may be adjusted/corrected as necessary.

In Inventory Management, physical inventory is carried out at storage location level. In this process, unrestricted use stock, quality inspection stock, vendor consignment stock and blocked stock all can be inventoried.

## 4.2 Process Objectives

The objectives of this process are the following:

Update the stock figures (Quantities) reflecting the reality into the transactional system.

## 4.3 Relevant Process Steps

Physical Inventory Management *for Maintenance Materials* includes the following steps:

- Create Physical Inventory Document.
- Block Material for Posting.
- Print and Distribute Inventory Document (if the inventory count is not done using Mobisys)
- Counting Stock.
- Entering Result of Count on Physical Inventory Document (or into Mobisys handheld terminal)
- Entering Result of Count into the System.
- Initiating a recount if necessary.
- Posting Inventory Differences.

And the steps for Physical Inventory Management *for Production Materials*:

- Create Physical Inventory Document

- Order Supplier for topographic measurement (* Process step relevant for AGG & RMX inventory management)
- Print and Distribute Inventory document
- Measure and calculate Stock
- Entering result of calculation of physical stock pile on physical inventory document
- Initiating a recount if necessary

## 4.4 Physical Inventory Preparation

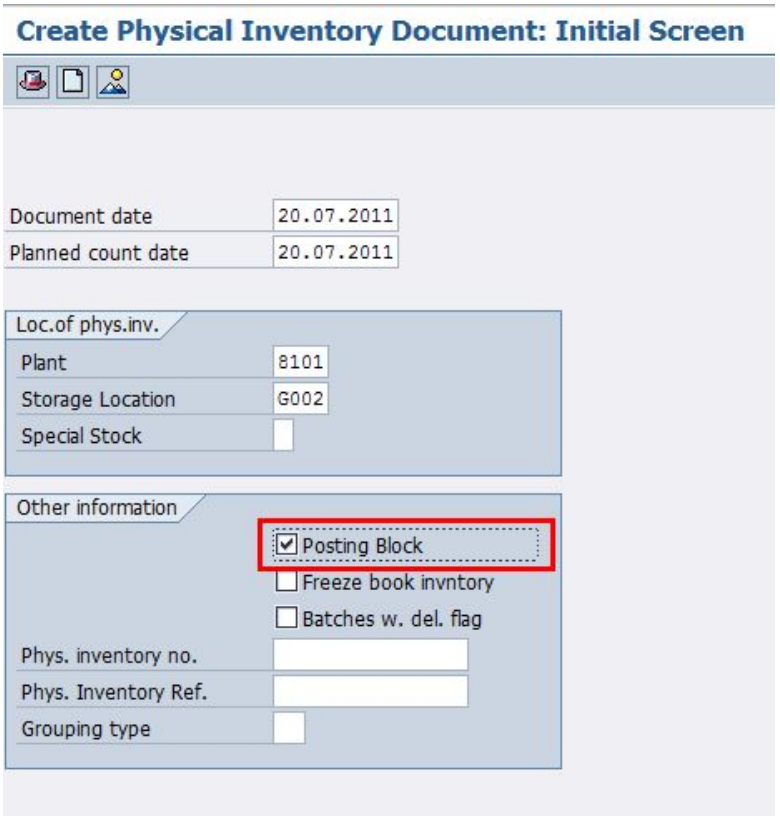
### *4.4.1 Create a physical inventory document*

The inventory document can be created for only some specific materials or in a mass way.

#### *4.4.1.1 For specific materials*

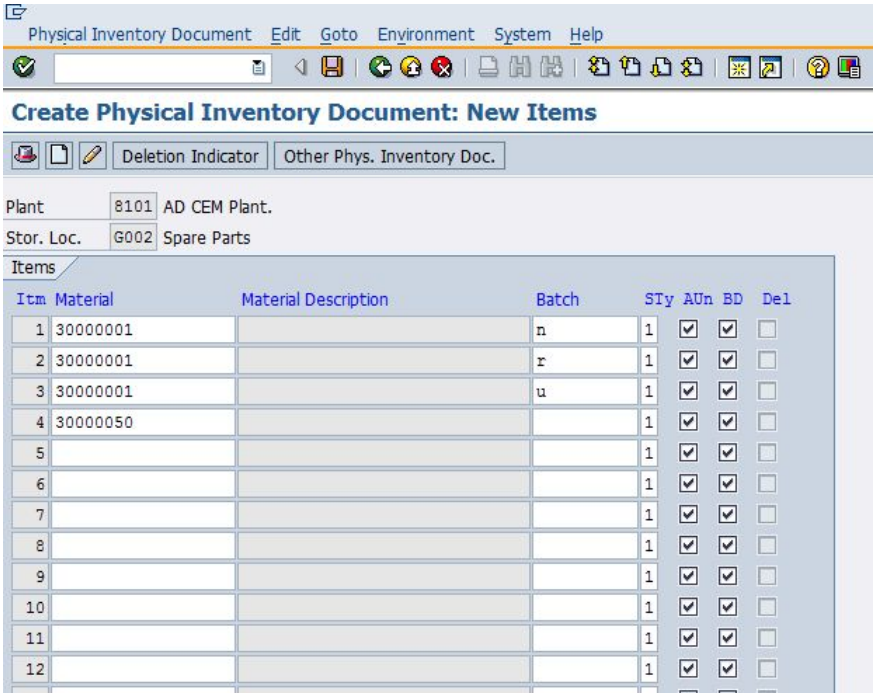
***SAP Path:***
*Logistics ☾ Materials Management ☾ Physical Inventory*
***Transaction:***
*MI01 – Create*

***Initial Screen***



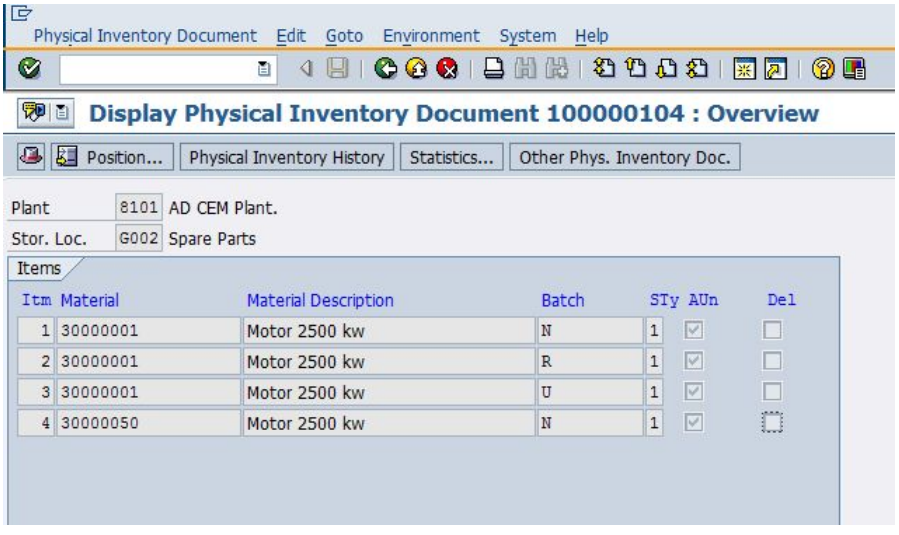

Enter the Header Data for the Inventory Document. Mark the checkbox: *Posting Block*
*(*Indicates that no **goods movements** involving the materials listed in the physical inventory document can be posted for the duration of a **physical inventory count**)
FOR THE

***New Items***




Enter the material numbers for which you want to perform the physical inventory.

***SAP Path:***
*Logistics ☾ Materials Management ☾ Physical Inventory*
***Transaction:***
*MI03 – Display*



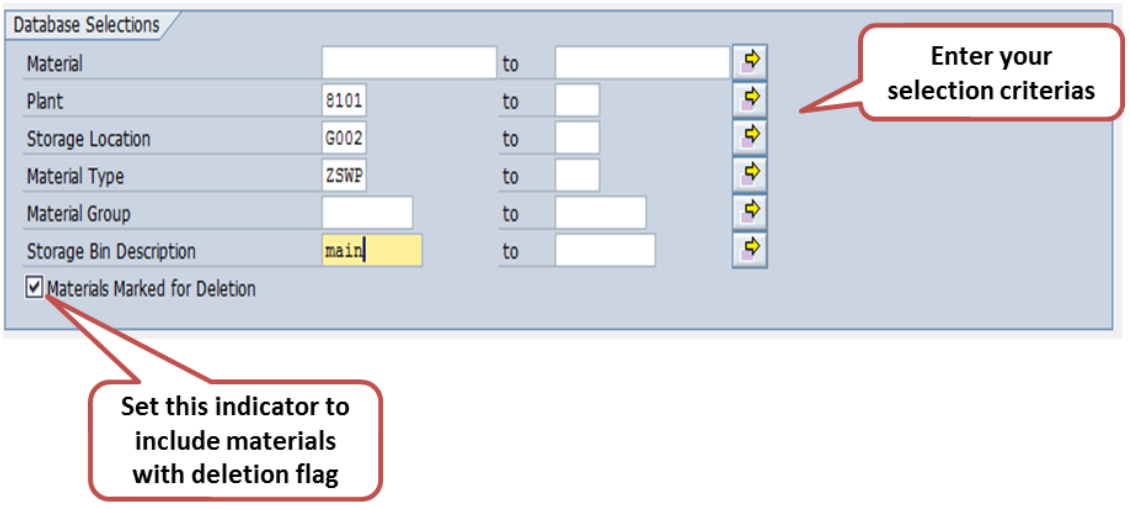

The new material document has been created.

#### *4.4.1.2 Mass way*

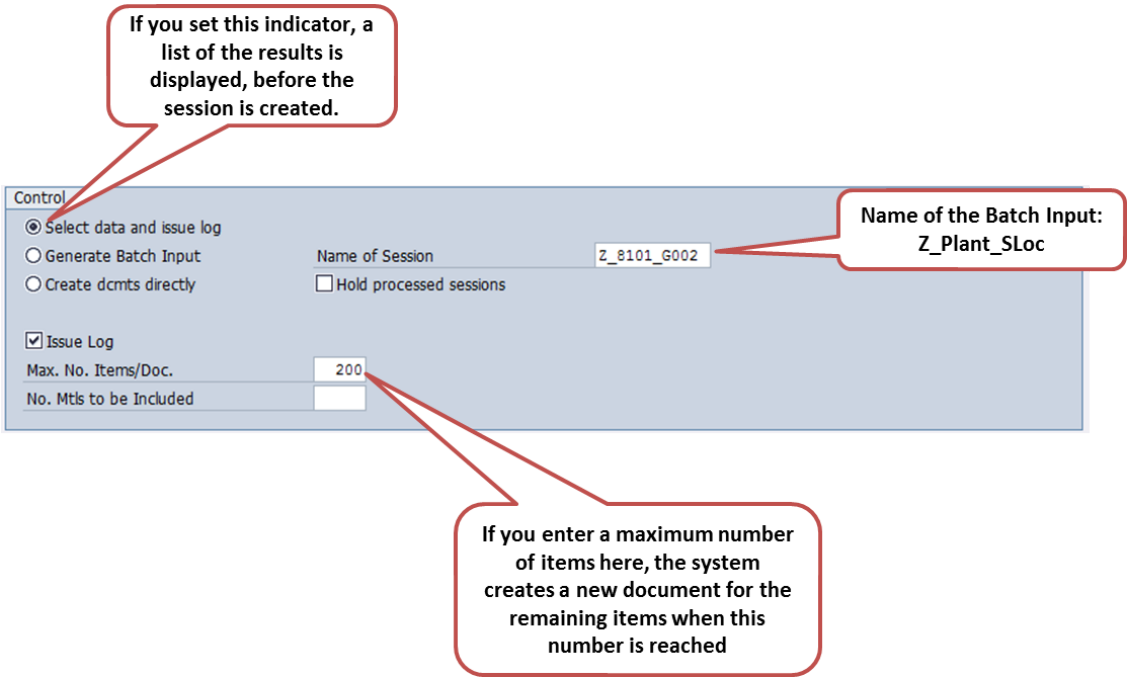
With this transaction you can create a **batch input session**, which creates physical inventory documents based on you selection for standard stock without special stock.

***SAP Path:***
*Logistics ☾ Materials Management ☾ Physical Inventory ☾ Sessions ☾ Create Physical Inventory Documents*
***Transaction:***
*MI31 – Without Special Stock*

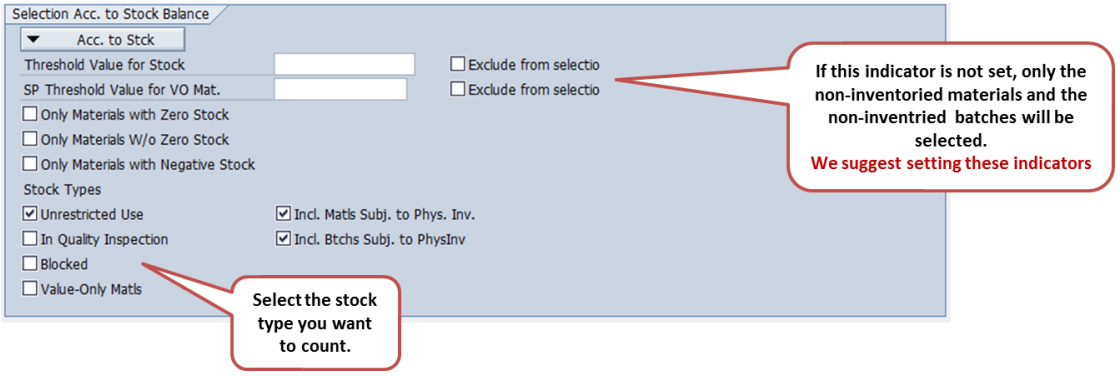
***Database Selections:***



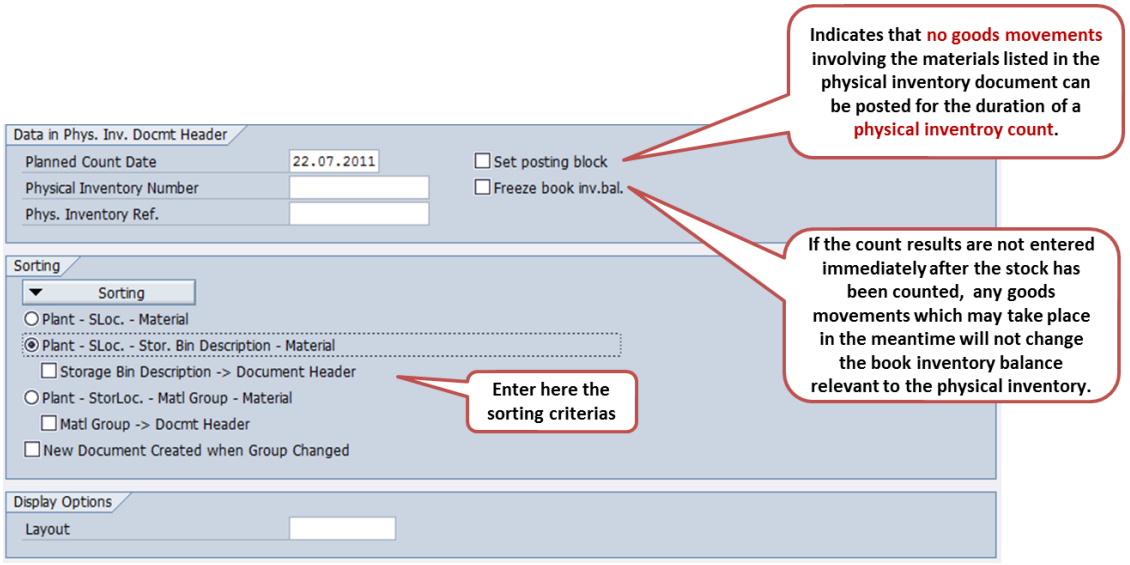
### *Control:*



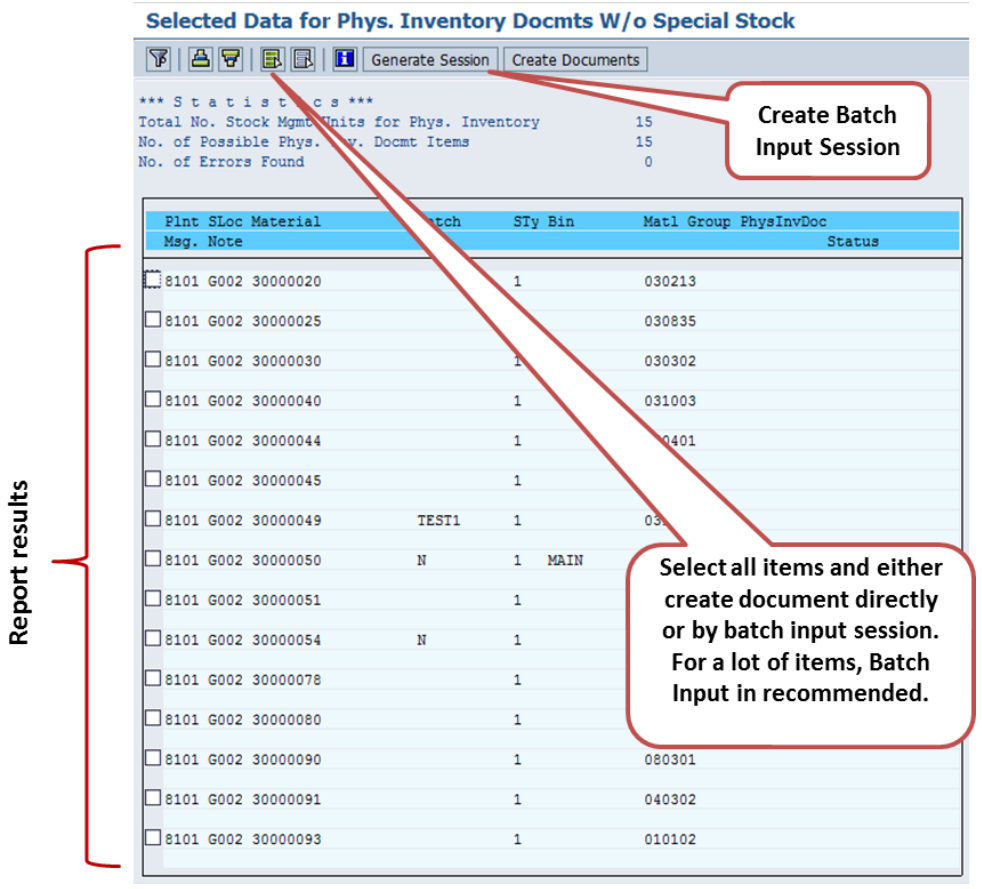

### *Selection criteria's*

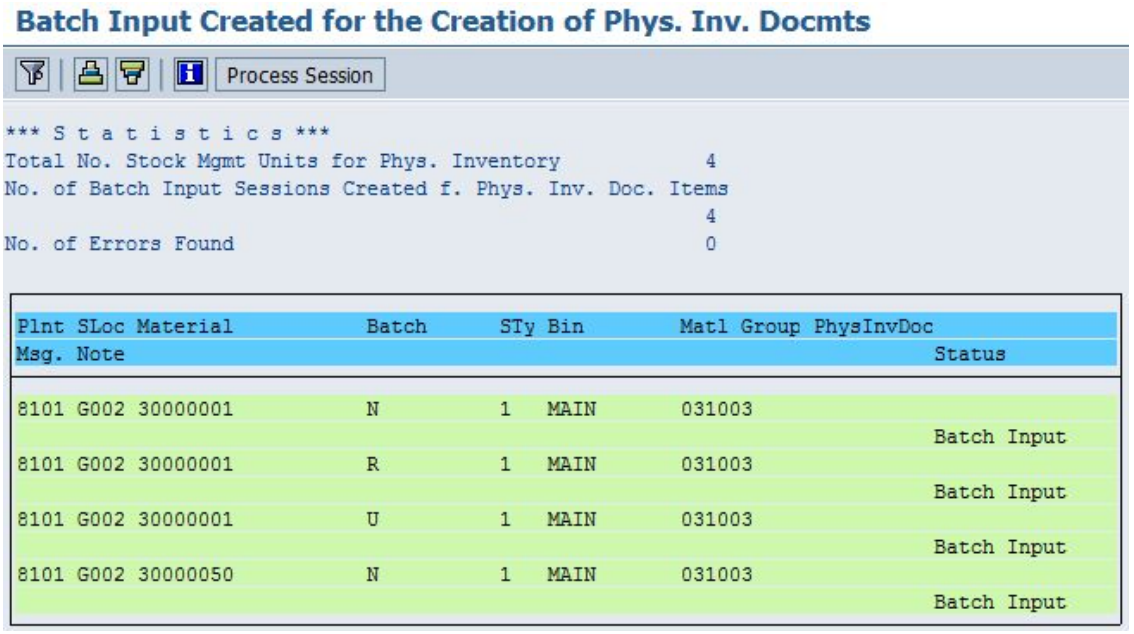


### *Count date / Sorting*

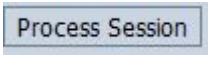



Enter your selection and execute the report with: 

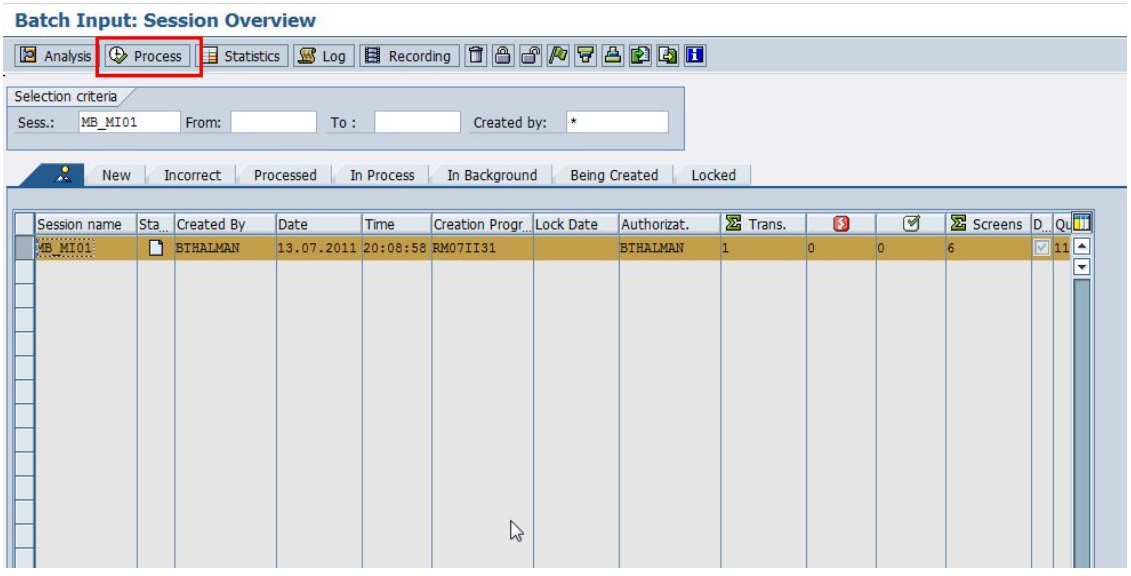


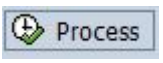



After execution of the program the statistic above is created indicating all materials created for the inventory document and the batch input session is created.

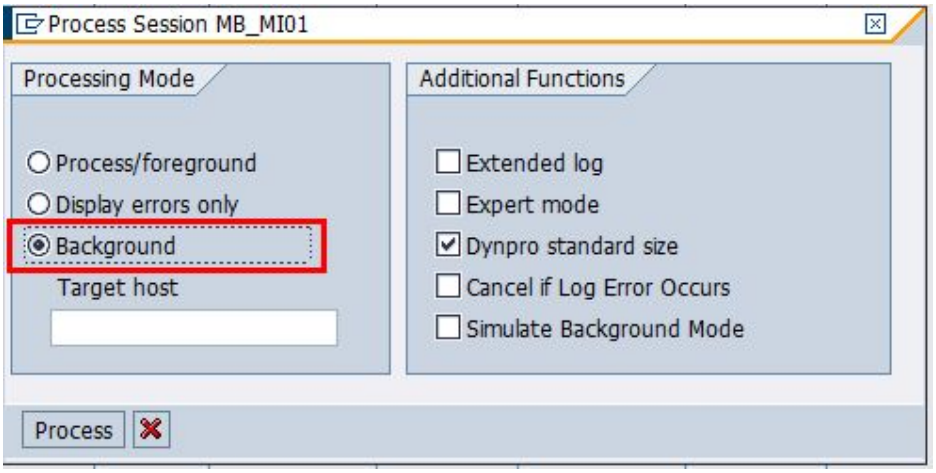
To execute the batch input please press: 

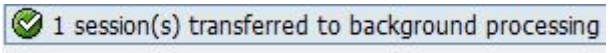

You receive a batch input session overview:



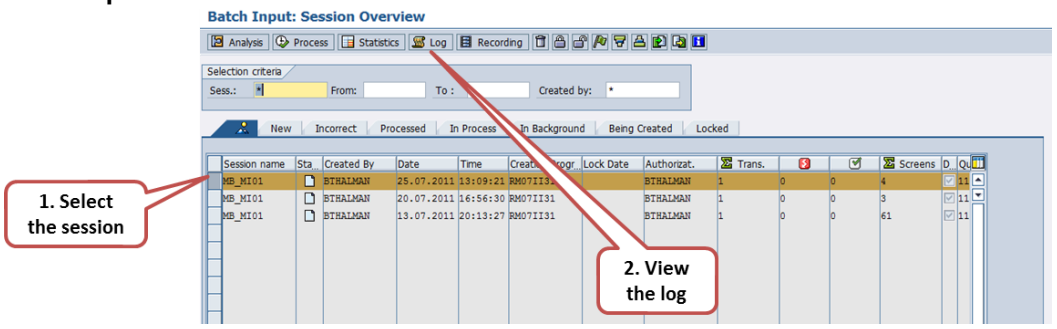

Select the session you want to process and hit 

Run the session with the processing mode: *Background*

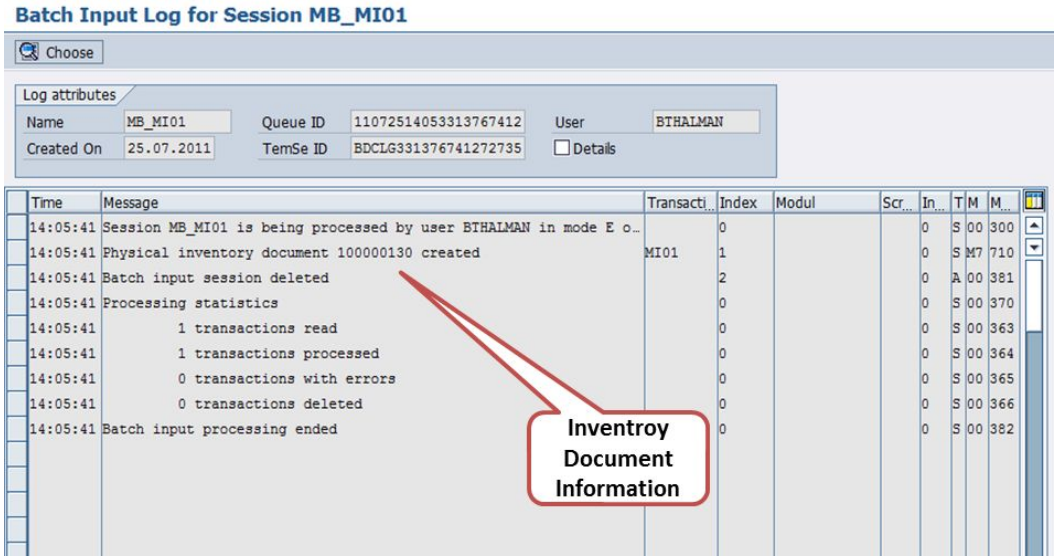


## Batch Input: Session Overview




## Batch Input Log

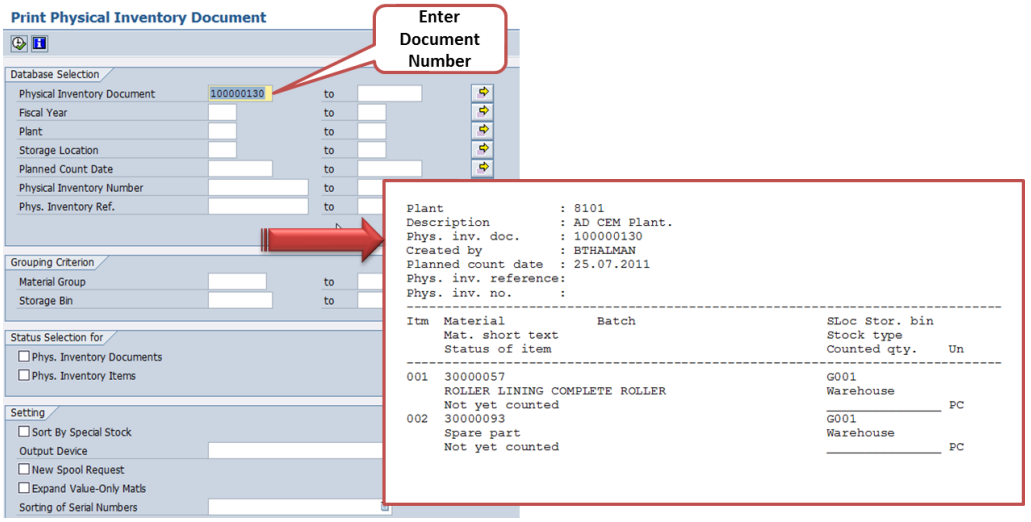



The Inventory document has been created now.

### *4.4.2 Print inventory document*

After the Inventory Document has been created, you can print and distribute it (not with MOBISYS).

***SAP Path:***
*Logistics ☾ Materials Management ☾ Physical Inventory ☾ Physical Inventory Document*
***Transaction:***
*MI21 – Print*

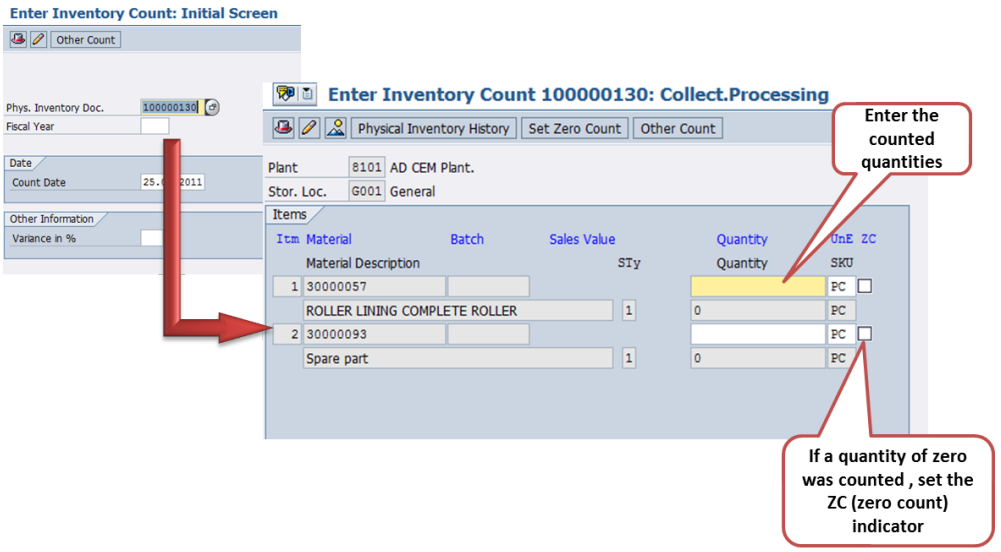



## 4.5 Physical Inventory Count

### *4.5.1 Counting stocks*

After the count has been performed, you must enter the results of the count on the physical inventory document.
In the next step, the count results will be entered into the system with reference to a physical inventory document,

***SAP Path:***
*Logistics ☾ Materials Management ☾ Physical Inventory ☾ Inventory count*
***Transaction:***
*MI04 – Enter*

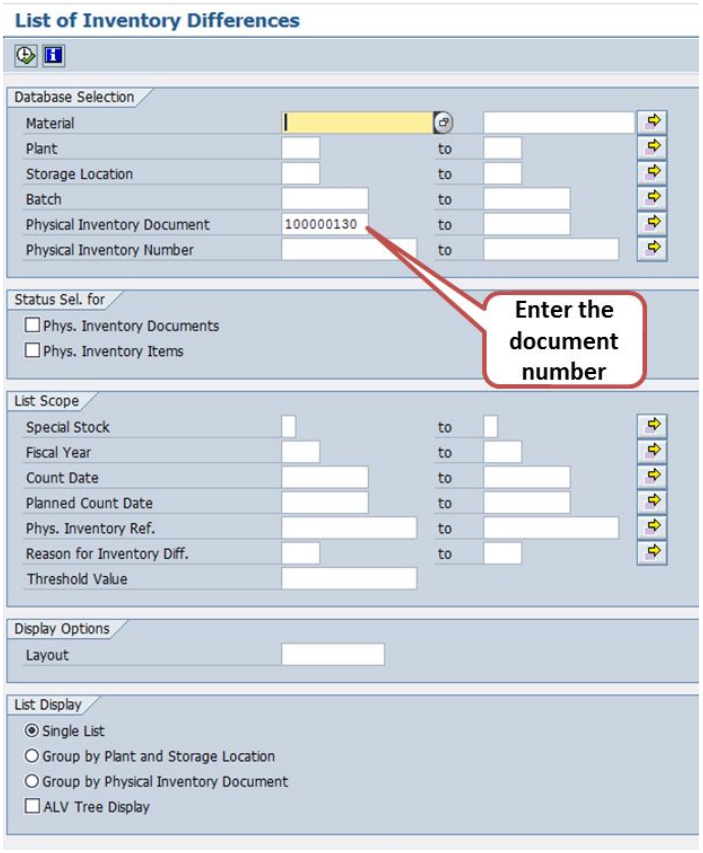



## 4.6 Physical Inventory Analysis

### *4.6.1 Inventory Analysis / Recount / Posting*

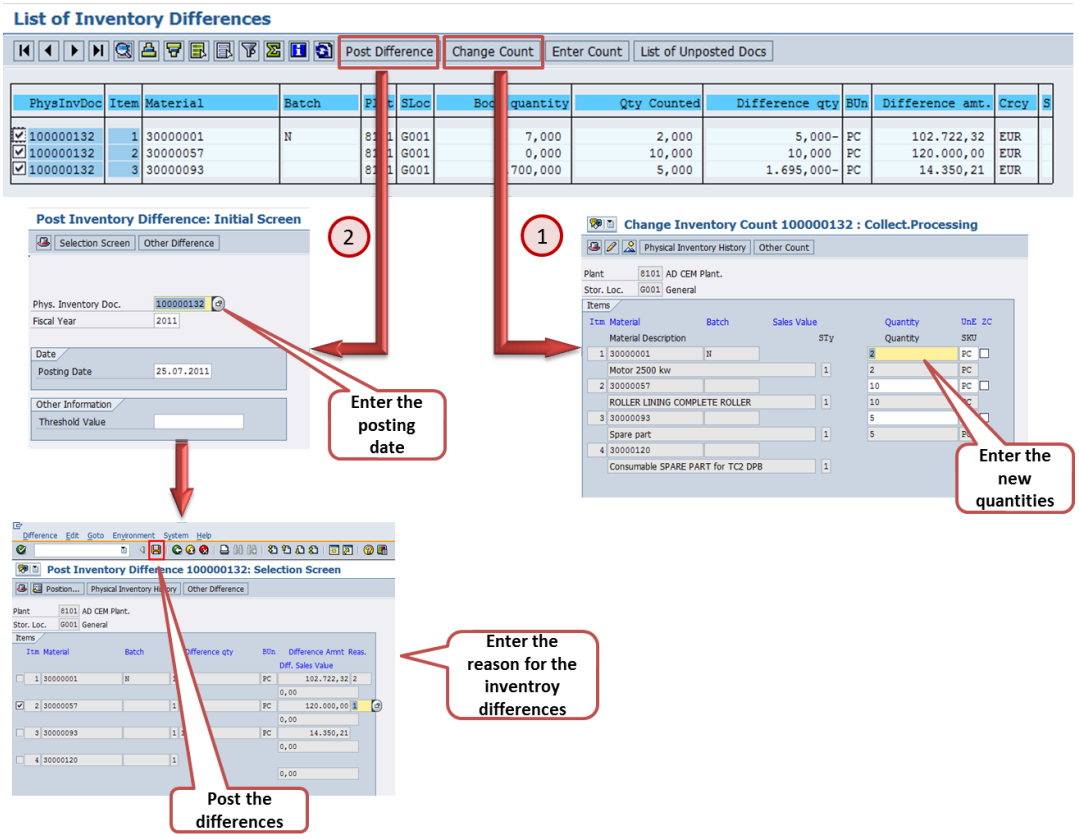
After the count has been entered into the system the differences can be changed (recount), missing counts can be entered and in the end, the differences will be posted.

***SAP Path:***
*Logistics ☾ Materials Management ☾ Physical Inventory ☾ Differences*
***Transaction:***
*MI20 – Difference List*




Run the program with  .

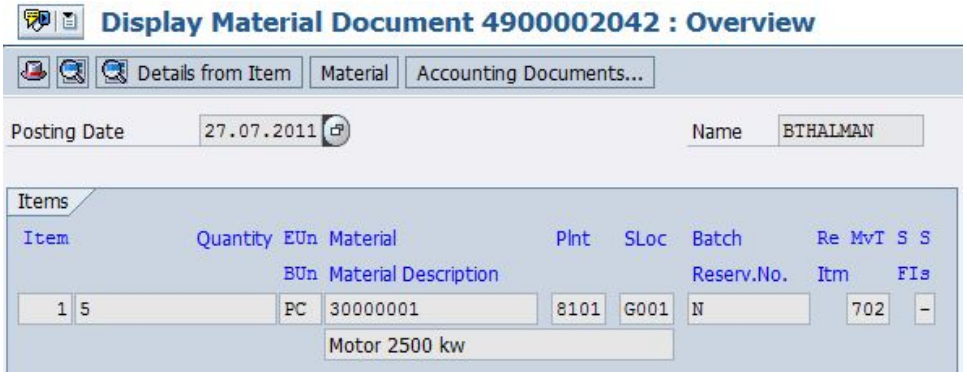
Mark the items to change or to post and continue as described below:



### *4.6.2 MM / FI Documents*

After the differences are posted, the MM- and FI-Documents are generated.

*MM-Document (MB03)*




*FI-Document (FB03)*

# 5. Process Performance Indicators

For the PPI indicator point of view the indicator that are more affected are the ones highlight in green of the following lilist of Inventory management indicators

| PPI notation | Functional definition | Priority | UoM | Business objective |
|---|---|---|---|---|
| Non-standard material movements [count] | Number of non-standard material movements<br>The categorization of the goods movement is completed and delivered as per the attached document.<br>This is a combination of the input from the workstreams, a precaution principle was applied and the highest criticality was allocated in case of conflict.<br>It includes as well the movements not identified by the workstreams but existing in the system in configuration and/or used in the movement extraction from 2012 available (to which the highest criticality was applied).<br>Some arbitrage were done after review with the various team members in accordance with the best practices. | 1 | # | Inventory management exceptions (inventory differences, scrapping, reversals, transfers) should be minimized |

Note:

- *The Standard movement types (regular business process) are as following :*
  *101, 102, 161, 162, 201, 202, 221, 222, 231, 241, 242, 251, 252, 261, 262, 291, 292, 301, 302, 303, 304, 305, 306, 309, 310, 311, 312, 313, 314, 315, 316, 321, 322, 323, 324, 325, 326, 341, 342, 343, 344, 351, 352, 411, 412, 541, 542, 543, 544, 601, 602, 631, 632, 633, 634, 641, 642, 643, 644, 647,648, 653, 654, 655, 656, 703, 704, Z01, Z02*
- *The Critical movement types (foreseen but monitoring required) are as following :*
  *103, 105, 122, 511, 512, 531, 532, 551, 552, 553, 554, 555, 556, 701, 702*
- *The Exeptional movement types (not foreseen but configured and not blocked by the system and/or used despite not foreseen) are as following :*
  *141, 142, 232, 281, 282, 317, 318, 319, 320, 331, 332, 333, 334, 335, 336, 340, 349, 350, 413, 414, 415, 416, 441, 442, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 501, 502, 503, 504, 505, 506, 521, 522, 523, 524, 525, 526, 557, 558, 561, 562, 563, 564, 565, 566, 571, 572, 573, 574, 575, 576, 581, 582, 603, 604, 606, 621, 622, 646, 651, 661, 662, 671, 672, 6A5, 6A6, 6B5, 6B6, 6W5, 6W6, 707, 708, 711, 712, 713, 714, 715, 716, 717, 718, 721, 722, 731, 732*

| PPI notation | Functional definition | Priority | UoM | Business objective |
|---|---|---|---|---|
| **Slow moving stock (no consumption within last 365 days) [value ratio]** | Materials for which no goods movements were posted within the period of analysis<br>This analysis is based on quantity managed material master records that have a positive stock quantity at the moment of analysis and no client or plant deletion indicator set. Slow or non moving stock is defined as materials for which no goods movements were posted within the period of analysis or the latest goods movement is more than 365 days ago. | 1 | % | Slow / non moving inventory PPI will help identifying inadequate inventory management / materials planning procedures. (eg: materials used in a maintenance process but not decreased from inventory in connection to a work order, materials stored but never used in any process).<br>Slow / non moving inventory may result in write-offs and as a result, capital loss (not driven by the PPI but by LHARP process).<br>Therefore, due to the impact on costs, un necessary funds immobilization, slow moving stock should be limited as much as possible. |
| **MRP usage** | Nr of PCS03 &PCS04 in MRP vs total number of PCS03 & PCS04<br>It measures the ratio of purchase requisitions created through the MRP to the total of created purchase requisitions (for the PCS 03* and 04*) . | 2 | % | |
| **Use of bar coding system** | Nr of WH activities w/ bar coding vs total material documents<br>This measures the usage of the Bar Coding system: Goods Issue , Goods Receipt and physical inventory(for the PCS 03* and 04*) | 2 | % | Optimice the GI posting by using the tool and saving time avoiding manual tasks |
| **Reversal material movements** | Number of reversed material documents<br>In a good process there should not be reversals of goods movements | 2 | % | Material movement reversals should be minimized |
| **Material inactive with pending open items (Count)** | Volume of material flagged for deletion or inactive with existing inventory<br>To be detailed : Materials can be flagged for deletion but having existing stock registered and valuated.<br>The stock level is not allowed for transfer, sell, usage in production hence should be disposed. | tbd | # | To be detailed : The aim is to avoid managing inventory level of items that cannot be used for any business purpose and still need to be inventoried, physically handled on a regular basis. |

# 6. Annexes

## 6.1 Transaction List

| Transaction | Description |
|---|---|
| ***Physical Inventory*** | |
| MI01 | Create Physical Inventory Document |
| MI02 | Change Physical Inventory Document |
| MI03 | Display Physical Inventory Document |
| MI04 | Enter Inventory Count with Document |
| MI05 | Change Inventory Count |
| MI06 | Display Inventory Count |
| MI07 | Process List of Differences |
| MI08 | Create List of Differences with Doc. |
| MI09 | Enter Inventory Count w/o Document |
| MI10 | Create List of Differences w/o Doc. |
| MI11 | Recount Physical Inventory Document |
| MI12 | Display changes |
| MI20 | Print List of Differences |
| MI21 | Print physical inventory document |
| MI22 | Display Phys. Inv. Docs. f. Material |
| MI23 | Disp. Phys. Inv. Data for Material |
| MI24 | Physical Inventory List |
| MI31 | Batch Input: Create Phys. Inv. Doc. |
| ***Stock levels*** | |
| MMBE | Stock Overview |
| MB51 | List of Material Documents |
| MB52 | Display Stock List |
| MB5T | Display Stock in Transit |
| MB5B | Display Stocks for Posting Date |
| MB54 | Display Consignment Stocks |

| | |
|---|---|
| MD04 | Display Stock/ Requirement Situation |

**LafargeHolcim - European IT Services S.L.**
C/ Albasanz 14
Madrid, Spain
info@lafargeholcim.com
www.lafargeholcim.com
Phone +34 91.410.1412
Fax +34 91.410.1450