|  |  |
| --- | --- |
|  |  |
| Test Script  SAP S/4HANA - 20-08-20 | public |
| Mass Change Manufacturing Bill of Material for Production (3LP\_DE) |

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# Purpose

This scope item covers the material and component change-master-controlled mass change process of one or more Manufacturing Bills of Material(BOMs). To control the replacement date of the follow-up component or material, you first create a date-effective-controlled change master. When you start the Where-Used List application with the component or material to replace, all BOMs are listed. To replace the component or material of one or more Manufacturing BOMs, the BOMs must be selected. The change number is used to manage the phase in date.

The change process is followed by the production process which uses one of the changed manufacturing bills of materials in the respective change-master validity period.

This document provides a detailed procedure for testing this scope item after solution activation, reflecting the predefined scope of the solution. Each process step, report, or item is covered in its own section, providing the system interactions (test steps) in a table view. Steps that are not in scope of the process but are needed for testing are marked accordingly. Project-specific steps must be added.

# Prerequisites

This section summarizes all the prerequisites for conducting the test in terms of systems, users, master data, organizational data, other test data and business conditions.

## System Access

|  |  |
| --- | --- |
| System | Details |
| System | Accessible via SAP Fiori launchpad. Your system administrator provides you with the URL to access the various apps assigned to your role. |

## Roles

Assign the following business roles to your individual test users. Alternatively, if available, you can create business roles using the following spaces with pages and predefined apps for the SAP Fiori launchpad and assign the business roles to your individual test users.

Note These roles or spaces are examples provided by SAP. You can use them as templates to create your own roles or spaces.

For more information about business roles, refer to Assigning business roles to a user in the [Administration Guide to Implementation of SAP S/4HANA with SAP Best Practices](https://help.sap.com/viewer/S4HANA2020_AdminGuide) .

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name (Role) | ID (Role) | Description (Space) | ID (Space) | Log On |
| BOM Engineer | SAP\_BR\_BOM\_ENGINEER | BOM Management | SAP\_BR\_BOM\_ENGINEER |  |
| Production Supervisor - Discrete Manufacturing | SAP\_BR\_PRODN\_SUPERVISOR\_DISC | Discrete Manufacturing Execution Management | SAP\_BR\_PRODN\_SUPERVISOR\_DISC |  |

## Master Data, Organizational Data, and Other Data

The organizational structure and master data of your company have been created in your system during activation. The organizational structure reflects the structure of your company. The master data represents materials, customers, and suppliers, for example, depending on the operational focus of your company.

Use your own master data or the following sample data to go through the test procedure.

|  |  |  |  |
| --- | --- | --- | --- |
| Master | Value | Details | Comments |
| Material | FG111\_A | Finished Good MTS for Discrete Industry (PD planning) |  |
| Material | FG111\_B | Finished Good MTS for Discrete Industry (PD planning) |  |
| Material | FG111\_C | Finished Good MTS for Discrete Industry (PD planning) |  |
| Material | SG21 | Semifinished Good Repetitive Manuf. |  |
| Material | SG22 | Semifinished Good Phantom |  |
| Material | SG23 | EMI23, PD, Subcontracting |  |
| Material | SG25 | Semifinished Good Ext. Procurement |  |
| Material | SG124 | Semifinished Good Subassembly |  |
| Material | RM13 | RAW13, PD, Subcontracting |  |
| Material | RM14 | RAW14, PD, Subcontracting |  |
| Material | RM16 | Raw Material Ext. Procurement |  |
| Material | RM17 | Raw Material Ext. Procurement |  |
| Material | RM18 | Raw Material Ext. Procurement |  |
| Material | RM20 | Raw Material Ext. Procurement Contract |  |
| Material | RM27 | RAW Material Packaging Box |  |
| Material | RM120 | RAW Material Ext. Procurement with QM in Procurement |  |
| Material | RM122 | RAW Material, Ext. Procurement, Batch controlled (FIFO-strategy) |  |
| Material | RM124 | RAW Material Ext. Procurement Consumption based |  |
| Material | RM128 | RAW Material Ext. Procurement with Consignment |  |
| Material | RM27\_1 | RAW27\_1,PD,Packaging |  |
| Plant | 1010 | Plant 1 DE |  |

Bill of Material Structure

This overview shows the bill of material structure and the usage of each component if you have activated all optional enhancements.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Material | Level | Material Type | Unit | Characteristics of Material | Optional Enhancements |
| FG111\_A  FG111\_B  FG111\_C | 0 | FERT | PC | MTS-DI, PD |  |
| SG21 | 1 | SEMI | PC | SF Repetitive Manufacturing | Only if test script Make-to-Stock Production - Repetitive Manufacturing (BJH) is activated. |
| RM12 | 2 | RAW | PC | External procured |  |
| SG22 | 1 | SEMI | PC | SF, Phantom Assembly |  |
| RM16 | 2 | RAW | PC | External procured |  |
| RM17 | 2 | RAW | PC | External procured |  |
| RM18 | 2 | RAW | PC | External procured |  |
| RM120 | 1 | RAW | PC | External procured with Quality Management |  |
| RM122 | 1 | RAW | PC | External procured with Batch Management |  |
| RM128 | 1 | RAW | PC | External procured with Consignment Processing | Only if test script Procurement and Consumption of Consigned Inventory (BMR) is activated |
| SG23 | 1 | SEMI | PC | External procured with subcontract |  |
| RM13 | 2 | RAW | PC | External procured |  |
| RM14 | 2 | RAW | PC | External procured |  |
| SG25 | 1 | SEMI | PC | SEMI25, PD, External Procurement |  |
| SG124 | 1 | SEMI | PC | Internal production of subassembly (MTS strategy) |  |
| RM124 | 2 | RAW | PC | External procured using Fixed Bin |  |
| RM20 | 1 | RAW | PC | External procured contract |  |
| RM27 | 1 | RAW | PC | External procured - Packaging Box |  |

For more information on creating master data objects, see the following [Master Data Scripts (MDS)](https://support.sap.com/content/dam/SAAP/Sol_Pack/BP_OP_ENTPR/BP_OP_ENTPR_S4HANA2020_7_Master_Data_EN_XX.htm) :

Table 1: Master Data Script Reference

|  |  |
| --- | --- |
| Master Data ID | Description |
| BNR | Create Product Master of Type "Raw Material" |
| BNS | Create Product Master of Type "Semi-Finished Good" |
| BNT | Create Product Master of Type "Finished Good" |
| BNK | Create Material BOM for Production and Sales |

## Business Conditions

Before you can test this scope item, the following business conditions must be met.

|  |  |
| --- | --- |
| Scope Item ID | Business Condition |
| BNR - Create Product Master of Type "Raw Material" | You can create raw materials using the Create Material (MM01) App. |
| BNS - Create Product Master of Type "Semi-Finished Good" | You can create semi-finished products using the Create Material (MM01) App. |
| BNT -Create Product Master of Type "Finished Good" | You can create finished products using the Create Material (MM01) App. |

For testing purposes, the materials listed in Master Data, Organizational Data, and Other Data chapter were already created automatically in your system. If you want to test with your own materials, refer the Master Data Scripts above how to create them.

From a business process point of view, all parts used for the Bill of Material (BoM Header material and BoM Item materials) along with the related technical specifications and design documents (that is, part specifications, CAD documents, and schematics) need to be ‘released’ by the Design Engineer / Technical department so that they can be used by the BOM Engineer.

# Overview Table

This scope item consists of several process steps provided in the table below.

If your system administrator has enabled spaces and pages on the SAP Fiori launchpad, the homepage will only contain the essential apps for performing the typical tasks of a business role.

You can find all other apps not included on the homepage using the search bar.

If you want to personalize the homepage and include the hidden apps, navigate to your user profile and choose Settings > App Finder .

|  |  |  |  |
| --- | --- | --- | --- |
| Process Step | Business Role | App/Transaction | Expected Results |
| [Display Where-Used List of the Material](#unique_8) [page ] 9 | BOM Engineer | Material where used list in BOMs - where used list, hierarchy and replace Materials in BOMs (F2214) | A where-used list is displayed for selected component. |
| [Create Change Master](#unique_9) [page ] 10 | BOM Engineer | Create Change Master (CC01) | A new Change Master is created. |
| [Replace Material](#unique_10) [page ] 11 | BOM Engineer | Material where used list in BOMs - where used list, hierarchy and replace Materials in BOMs (F2214) | A component is replaced in the Bill of Materials. |
| [Check Draft BoM](#unique_11) [page ] 13 | BOM Engineer | Maintain Bill Of Material (F1813) | A draft is saved for bill of material. |
| [Confirm Material Exchange](#unique_12) [page ] 14 | BOM Engineer | Material where used list in BOMs - where used list, hierarchy and replace Materials in BOMs (F2214) | A component is replaced in the Bill of Materials. |
| [Set Change Master Status to Inactive](#unique_13) [page ] 15 | BOM Engineer | Change Change Master (CC02) | Change Master Status is set to Inactive. |
| [Manually Create Production Order](#unique_14) [page ] 16 | Production Supervisor - Discrete Manufacturing | Create Production Order (CO01) | A production order is created. |

# Test Procedures

This section describes test procedures for each process step that belongs to this scope item.

## Display Where-Used List of the Material

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Purpose

This process step shows you how to check the where-used information of a material across multiple bills of materials.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instructions | Expected Result | Comments |
| 1 | Log On | Log on to the SAP Fiori launchpad as BOM Engineer or as aProduction Engineer - Discrete Manufacturing. | The SAP Fiori launchpad displays. |  |
| 2 | Access the App | Open Material where used list in BOMs - where used list, hierarchy and replace Materials in BOMs (F2214). | The Material Where-Used screen displays. |  |
| 3 | Search a Material | Make entries similar to the following example, and choose Go.   * Component: RM27 * BOM Usage: Production * Plant:1010 | All bill of materials that use the searched material as a component are listed in the search results.  Note To customize the view settings of the search results, choose the Settings icon displayed on the top-right of the list. In the View Settings dialog box, make the desired settings, and choose OK. |  |
| 4 | View Hierarchy | Select a row and choose View Hierarchy. | The hierarchical view of the bill of materials displays. You can:  Choose a node in the hierarchical view to collapse or expand the node.  Hover over a node to view the details of the node. |  |

## Create Change Master

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Purpose

This process step shows you how to create the Change Master that will be used for the Bill of Material change.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instruction | Expected Result | Pass / Fail / Comment |
| 1 | Log On | Log on to the SAP Fiori launchpad as a BOM Engineer | The SAP Fiori launchpad displays. |  |
| 2 | Access the App | Open Create Change Master (CC01). | The Create Change Master displays. |  |
| 3 | Enter Change Number | On the Create Change Master: Initial Screen, enter data as provided in the following example and press Enter.  Change Number: 3LP\_XX (XX change be any number)  Remain default values in other fields. |  |  |
| 4 | Enter Change Master Data | On the Create Change Master: Change Header screen, enter data as provided in the following example and press Enter.   * In the field beside Change Number: Change Master for BOM FG111 * Valid From: Today +5 days * Change no. status: 01 Active |  |  |
| 5 | Select checkboxes for Bill of Material | On the Create Change Master: Object Types screen, from Object types table, Bill of Material row, select the following checkboxes:   * Actv. * Object * MgtRec |  |  |
| 6 | Choose Save | Choose Save. | The Change Master is created. |  |

## Replace Material

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Purpose

This process step shows you how to mass change bill of materials and replace a component material with another material.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instructions | Expected Result | Comments |
| 1 | Log On | Log on to the SAP Fiori launchpad as a BOM Engineer or a Production Engineer - Discrete Manufacturing. | The SAP Fiori launchpad displays. |  |
| 2 | Access the App | Open Material where used list in BOMs - where used list, hierarchy and replace Materials in BOMs (F2214). | The Material Where-Used screen displays. |  |
| 3 | Search a Material | Make entries similar to the following example, and choose Go.   * Component: RM27 * BOM Usage: Production * Plant: 1010 | The list of bill of materials that use the searched material as a component displays.  Note To customize the view settings, choose the Settings icon displayed on the top right corner of the list. In the View Settings dialog box, customize the settings, and choose OK. |  |
| 4 | Replace the Material with another Material | 1. In the list, select the bill of materials for which you want to replace the component material. For example, FG111\_A, FG111\_B and FG111\_C. 2. Choose Replace Material. 3. In the Replace Material dialog box, make the entries similar to the following example, and choose OK.    * Replacement Material: RM27\_1    * Quantity and Unit of Measure：100 PC    * Change Number: 3LP\_XX (change number created in previous step) |  |  |

## Check Draft BoM

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Purpose

This process step shows you how to check if draft version of bill of material is generated for finished goods.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instruction | Expected Result | Pass / Fail / Comment |
| 1 | Log On | Log on to the SAP Fiori launchpad as a BOM Engineer. | The SAP Fiori launchpad displays. |  |
| 2 | Access the App | Open Maintain Bill Of Material (F1813). | The Maintain Bill of Material screen displays. |  |
| 3 | Search BoM | * Material: FG111\_A, FG111\_B, FG111\_C * Plant: 1010 * BOM Usage: Production |  |  |
| 4 | Check BoM Draft | Check that Draft BoM is created for each finished goods. |  |  |

## Confirm Material Exchange

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Purpose

This process step shows you how to change multiple bill of materials to replace a component material with another material.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instructions | Expected Result | Comments |
| 1 | Log On | Log on to the SAP Fiori launchpad as a BOM Engineer or a Production Engineer - Discrete Manufacturing. | The SAP Fiori launchpad displays. |  |
| 2 | Access the App | Open Material where used list in BOMs - where used list, hierarchy and replace Materials in BOMs (F2214). | The Material Where-Used screen displays. |  |
| 3 | Search a Material | Make entries similar to the following example, and choose Go.   * Component: RM27 * BOM Usage: Production * Plant: 1010 | The list of bill of materials that use the searched material as a component displays.  Note To customize the view settings, choose the Settings icon displayed on the top right corner of the list. In the View Settings dialog box, customize the settings, and choose OK. |  |
| 4 | Replace the Material with another Material | In the list, select the bill of materials forFG111\_A, FG111\_B and FG111\_C.  Choose Confirm Replacement. | The Material Replacement Confirmed message displays. |  |

## Set Change Master Status to Inactive

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Purpose

This process step shows you how to set the Change Master Status to Inactive so that this specific Change Master cannot be used anymore for managing further changes.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instruction | Expected Result | Pass / Fail / Comment |
| 1 | Log On | Log on to the SAP Fiori launchpad as a BOM Engineer | The SAP Fiori launchpad displays. |  |
| 2 | Access the App | Open Change Change Master (CC02). | The Change Change Master screen displays. |  |
| 3 | Enter Change Number | On the Change Master: Initial Screen, make entries similar to the following example and choose Enter.  Change Number: 3LP\_XX (Change master created in previous step) |  |  |
| 4 | Set Change Master Status | In the Change No.Status field, select 02-Inactive. | The Change Master Status is set to Inactive; then the Change Master can't be used anymore. |  |
| 5 | Choose Save | Choose Save. | The Change Master isa saved. |  |

## Manually Create Production Order

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instruction | Expected Result | Pass / Fail / Comment |
| 1 | Log On | Log on to the SAP Fiori launchpad as a Production Supervisor - Discrete Manufacturing | The SAP Fiori launchpad displays. |  |
| 2 | Access the App | Open Create Production Order (CO01). | The Production Order Create: Initial Screen displays. |  |
| 3 | Enter the Order Information | Make the following entries and choose Enter:   * Material: FG111\_A * Production Plant: 1010 * Order Type: YBM1 |  |  |
| 4 | Enter the Order Details | Make the following entries:   * Total Qty: 10 * End: <Today's date +10 Days> | Start date is calculated and the date falls after the valid-from date of change master. |  |
| 5 | Check Component | Choose Component. | Component RM27\_1 displays instead of RM27. |  |
| 6 | Save | Choose Save and make a note of your production order number. |  | You can continue process the production order by following the steps in Make-to-Stock Production - Discrete Manufacturing (BJ5) scope item to finish production of this production order. |

# Appendix

## Process Integration

The process to be tested in this test script is part of a chain of integrated processes.

### Preceding Processes

The following processes and conditions can proceed this process.

|  |  |
| --- | --- |
| Process | Business Condition |
| BNR | Create Product Master of Type "Raw Material" |
| BNS | Create Product Master of Type "Semi-Finished Good" |
| BNT | Create Product Master of Type "Finished Good" |

### Succeeding Processes

After completing the activities in this test script, you can continue testing the following business processes:

|  |  |
| --- | --- |
| Process | Business Condition |
| BLD | Create Production Version |
| BJ5 | Make-to-Stock Production - Discrete Manufacturing |

Typographic Conventions

|  |  |
| --- | --- |
| Type Style | Description |
| Example | Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options.  Textual cross-references to other documents. |
| Example | Emphasized words or expressions. |
| EXAMPLE | Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE. |
| Example | Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools. |
| Example | Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation. |
| <Example> | Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system. |
| EXAMPLE | Keys on the keyboard, for example, F2 or ENTER. |

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|  |
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