

20. How to work with both Produmex Manufacturing and Produmex WMS

20.1. Recommended installation steps

First install Produmex Manufacturing.

Then install Produmex WMS. In order to install Produmex WMS in a way that it will be integrated with Produmex Manufacturing, Produmex Manufacturing database elements should be existent in the company database.

Execute the installation as described in the [Produmex WMS Installation Guide](#). Do not forget to enable the [stored procedures](#) and the [Notification Listener stored procedures](#). Make sure that the 'Integration with Produmex Manufacturing' checkbox is checked before you start the database upgrade.



20.2. Prerequisites

Produmex Manufacturing

Install the initial manufacturing data as described in [Setup initial data](#).

Produmex WMS

Set up the production line(s). For more information about the production line settings please see: [Production line](#). Configure the production settings on the [Production controller](#). In order to execute the production picking based on a pick list, enable the *Create proposal for picking* option on the [Picking for production controller](#).

For more information about the Produmex WMS extensions on the Bill of Materials and the Production order please see: [Configurations/Production](#)

For more information about other production settings for Produmex WMS please see: [Configuration settings for the production](#)

Setup Time UoM

In order to create [operations](#), add the following time units of measure to the Units of Measure - Setup (OUOM) standard table:

- min - Minutes
- hr - Hours
- week - Week
- S - Seconds
- day - Day

#	UoM Code	UoM Name	Length	Width	Height	Volume	Volume UoM	Weight
1	Manual	Manual					ci	
2	min	Minutes					ci	
3	hr	Hours					ci	
4	week	Weeks					ci	
5	S	Seconds					ci	
6	day	Day					ci	
7							ci	

BOM Setup with unfinished products

The material flow of the unfinished products can be monitored with the help of the 'Unfinished Product' items. Set the 'Qty tolerance %' to 100 for the unfinished product on the 'Unfinished material' line in order to allow pick list to be created even though no pickable stocks of the unfinished materials are found.

#	Row Type	Type	No.	Quantity	UoM N...	Warehouse	Milestone Type	Issue Method	Qty tolerance %
1	Material	Item	ITEM01	1	PCS	02	Depends On Begin	Manual	0.000
2	Material	Item	ITEM10	2	CAN	02	Depends On Begin	Manual	0.000
3	Operation	Item	oPAS	180	min	02	Milestone	Backflush	0.000
4	Unfinished Product	Item	UFPR01	-1		02	Depends On Every	Manual	0.000
5	Unfinished Material	Item	UFPR01	1		02	Depends On Every	Manual	100
6	Operation	Item	oPCU	5	min	02	Milestone	Backflush	0.000

During a production it is possible that not the total produced quantity of the unfinished product is consumed. In order to avoid stock allocation on pick list/pick list proposals for unfinished products only store the remaining unfinished products on a location that verifies one of the following:

- **Disallowed location**
- Location where the 'Block stock from being used for the picking process' option is enabled.

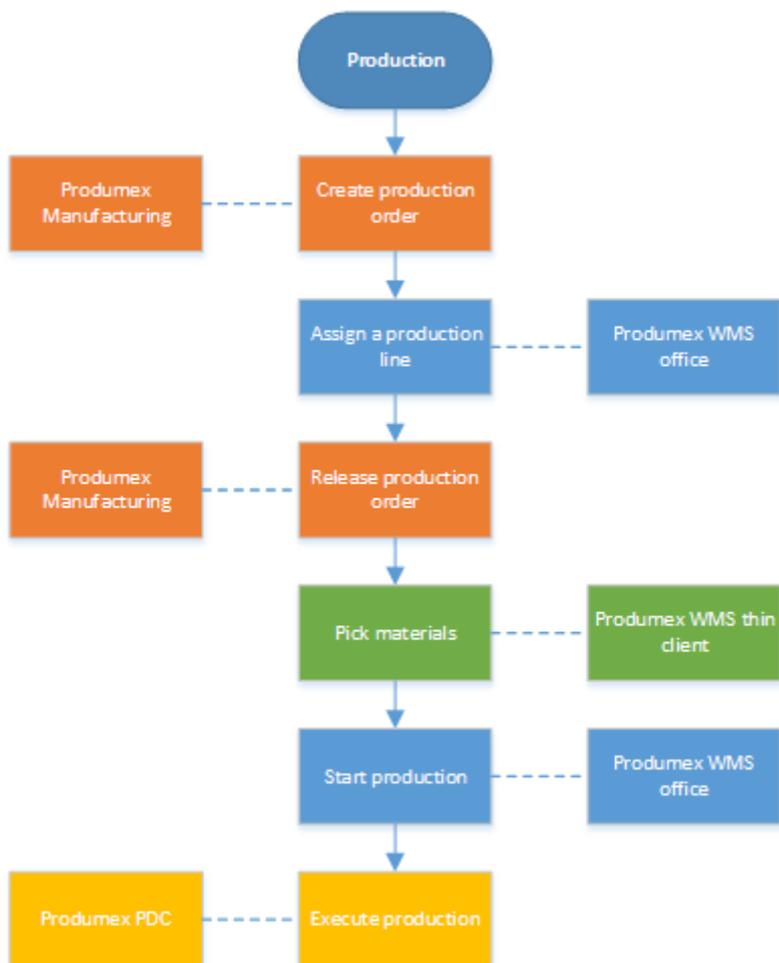
20.3. Production steps

In order to work with both Produmex Manufacturing and Produmex WMS you have to create a

production order in a WMS managed warehouse. Otherwise the production flow will be the same as described in [Produmex Manufacturing Functional Guide](#).

Make sure that both add-on runs.

Please note: The 'Backflush' issue type is only supported for operation and cost items for production orders in a Produmex WMS warehouse.



20.3.1. Create production order

First create the production order(s). Production orders can be created:

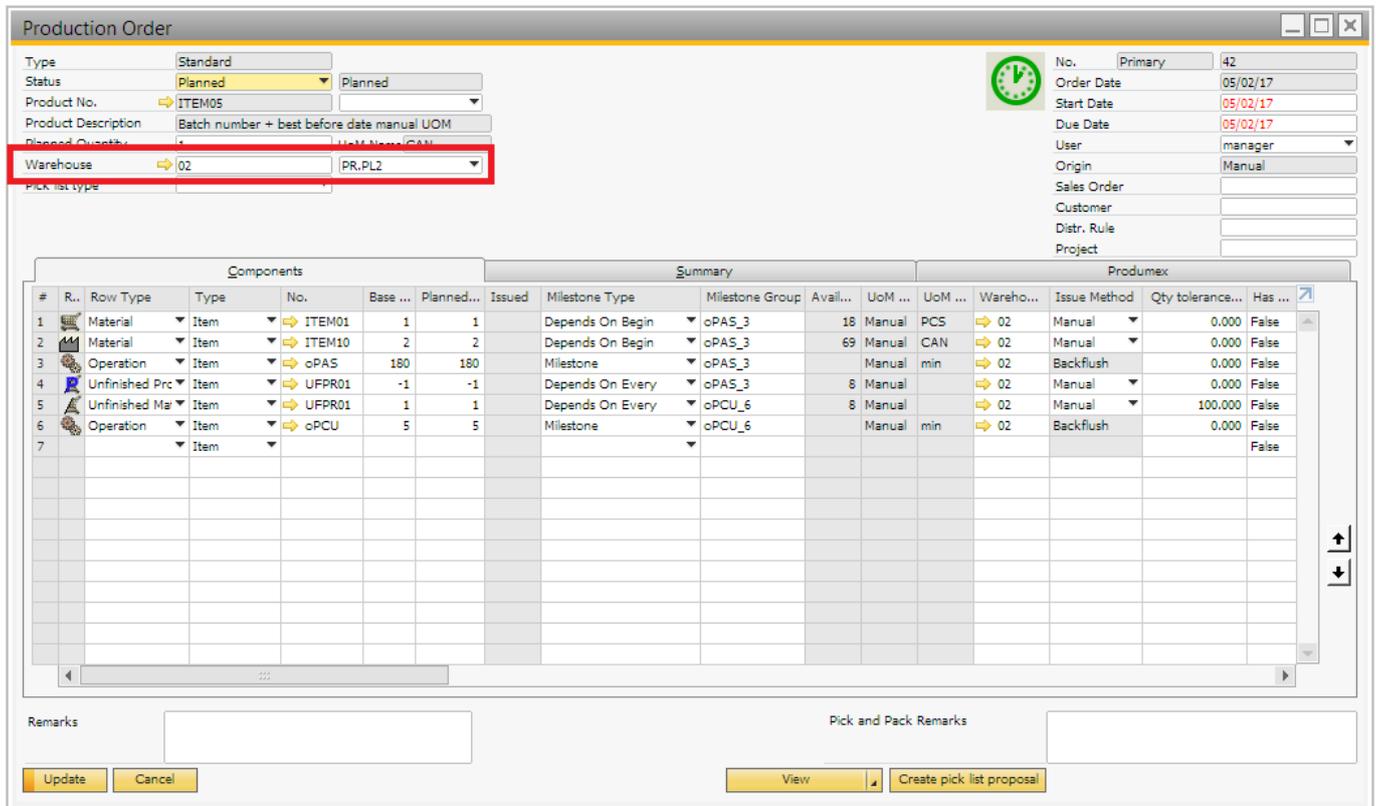
- manually
- from MRP recommendations (For more information please see: [Everyday work](#))
- from MTO recommendations (For more information please see: [Make to Order manufacturing](#))

20.3.2. Assign the production line

20.3.2.1. Assign production line to a single production order

Assign a production line to the production order by selecting a production line from the dropdown menu next to the warehouse field. Every active [production line](#) from the warehouse can be selected.

A production line can only be assigned while the production order status is 'Planned'.



The assigned production line defines the input, output and lined up locations for the production. During the production, materials will be consumed from the input location, lined up location and the production line and the products and by-products will be received into the output location.

20.3.2.2. Assign production line to multiple production orders

Open the [Production Management Cockpit](#) from the Production module. Select the production orders and click on the 'Set Production Line' button. On the opening screen select the production line from the dropdown list then press 'Update'.

Please note: The production line can only be set for 'Planned' production orders. The selected production orders must be from the same warehouse.

20.3.3. Release production order

As the next step release the production order. The production order can be released in the following ways:

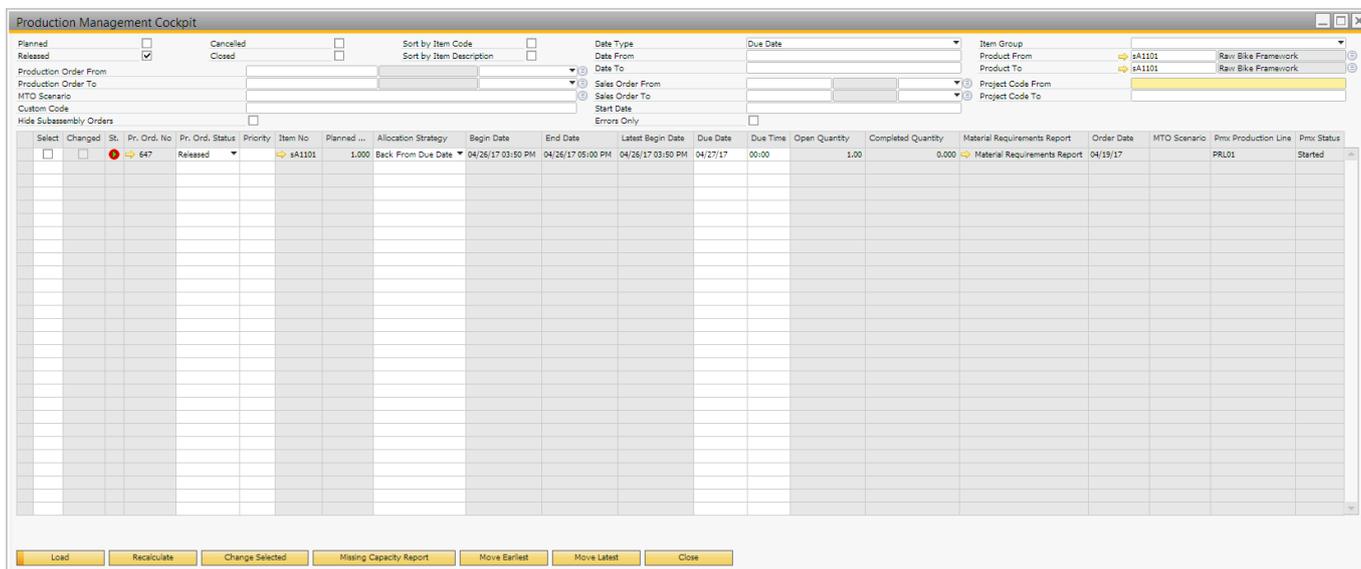
20.3.3.1. Single order release

- **On the production order**

- Set the status of the production order to 'Released' then click on the 'Update' button.
- **On the Production Manager**
 - Open the Production Manager from the Produmex Production module. Click on the 'Production orders' button. On the 'Production order' screen select the production line from the dropdown menu. Select the production order and click on the 'Release order' button.
 - For more information please see: [Release the production order](#)

20.3.3.2. Mass order release

Open the [Production Management Cockpit](#) from the Production module. Select the production order(s) and click on the 'Change Selected' button. On the opening form select 'Released' as the *Pr.Ord. Status* from the dropdown menu and click on 'OK'. Recalculate the production orders by clicking on the 'Recalculate' button.



The following additional columns are displayed on the Production Management Cockpit:

- **Pmx Production Line:** The code of the assigned production line.
- **Pmx Status:** The Produmex status of the production order. Possible values: Planned/Started/On hold/Closed

20.3.4. Pick components

The picking can be executed in the following ways:

- Based on the production order. The stock to be picked will not be locked and the system allows overpicking. For more information please see: [Picking for production](#).
- Based on a pick list. The stock to be picked will be locked for the pick list and the system only allows overpicking if the 'Allow continuous picking for production' option is enabled on the [Picking for production controller](#). For more information please see: [Pick list for production](#). When creating a pick list proposal, every item on a material line will be proposed, if there is available stock except for lined up materials with the 'Allow to pick lined up?' option set to 'False'.

Please note: *A pick list proposal cannot be created if there is a material with a non-Produmex warehouse set.*

20.3.5. Start the production

Usually is not required to set the PMX status to start in order to work with Produmex PDC. However we recommend to do so for better visibility: started production orders are marked on the [Production Management Cockpit](#).

Starting the production order with Produmex is only required in the following cases:

- To assign lined-up locations
- To pre-assign batch based on the batch number generator for production
- If the batch has a best before date definition

Start the production in the office environment. After the production is started, the Produmex status of the order will be changed to *'Started'*.

The production order can be started by clicking on the 'Start' button on the production order, or from the Production Manager: Open the Production Manager from the Produmex Production module. Click on the 'Production orders' button. On the opening *Production order* screen select a production line from the dropdown menu. Select the production order and click on the 'Start production' button. Only released production orders can be started. The *Start production* screen will open.

On the Start production screen define the batch number and the best before date for the product and the source locations for the lined up components. For more information please see: [Start production order/4.1.Office](#)

Define the batch number and best before date of the product

If the product is managed by batches, a *'Batch number'* field is shown on the screen. For more information about the settings of the second batch number please see: [Batchnumber production company](#)

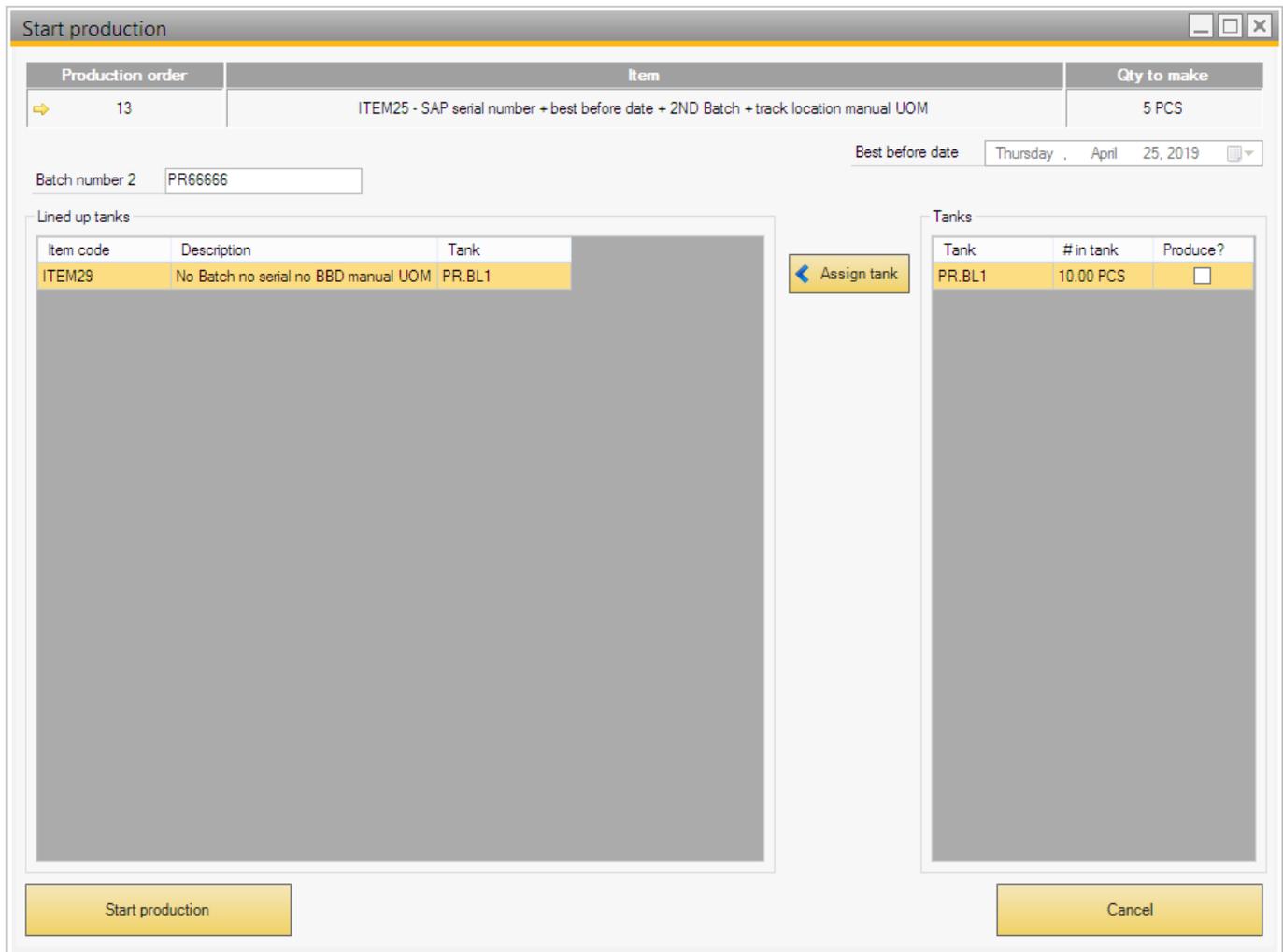
If the product has a second batch number, a *'Batch number 2'* field is shown on the screen. For more information about the settings of the second batch number please see: [Batchnumber production company](#)

If the product has a best before date, an additional *'Best before date'* field is shown on the screen. The default best before date depends on the [Expiry definition](#) set on the [Produmex Production tab](#) of the Item Master Data. The adjustment of the default best before date can be enabled on the [Best before for production generator](#).

Define the batch number and best before date of the product

If there are components on the production order that has to be lined up, assign a lined up location for the component. For more information about assigning a lined up location for an item please see: [Start production order/4.1.1. Assign a tank](#)

To start the production, click on the *'Start production'* button. The Produmex status of the production order will be changed to *'Started'*.



20.3.6. Execute the production or the shopfloor

Execute the production on the shopfloor with Produmex PDC as described in [Production Data Collector](#). Because the materials will be issued from the input/lined up location or the production line and the (by-)products will be received to the output location, the steps of the material issue and the product receipt will differ from the standard PDC steps.

Please note: The integrated production execution will not work when using the PDC legacy mode.

20.3.6.1. Receive main product and by-products

Receive the main product or by-products on the 'Products' screen. On the grid the main product, the by-products and the unfinished product(s) are listed. The main product is always listed first.

The default quantity of the main product is the produced quantity defined on the partial or complete job/setup screen. The quantity of the main product cannot be adjusted.

The default quantity of the by-product and the unfinished product is calculated based on the quantity received from the main product and the base quantity on the production order. The quantity of the by-product and the unfinished product can be adjusted.

Mobile PDC TEST_WMSMF (PMX_BUDTOSH2) - John Doe 04/20/17 04:53 PM

Server: 17.05.31007.18920 Client: 17.05.31007 [Products]

Production Order #666 sA1101 (Raw Bike Framework) UoM pcs

Operation 167-1 (oPCU - Cutting)

Product SSCC

Quantity 0

Item	Name	SSCC	Quantity
sA1101	Raw Bike Framework		0 of 1 pcs

Done Cancel Serial / Batch

Destination SSCC

Main product and by-product(s)

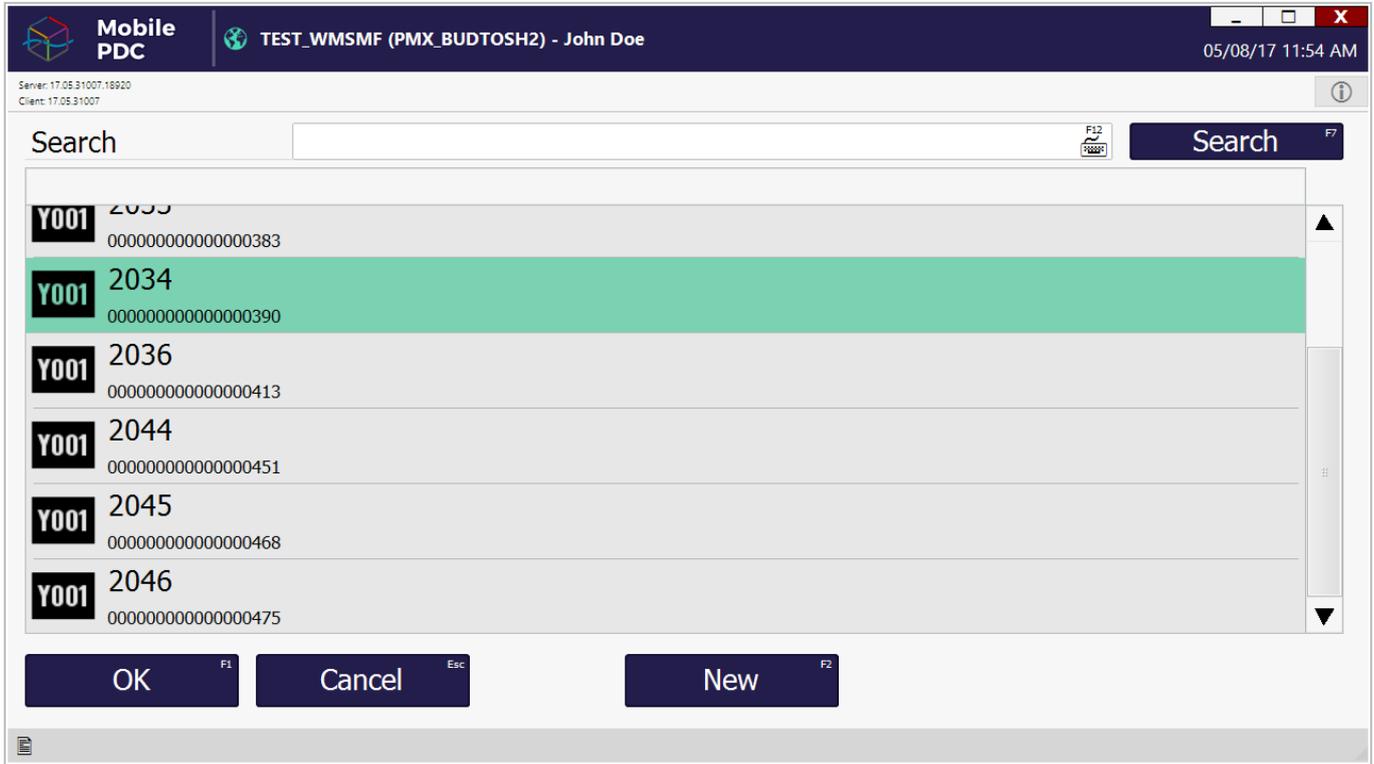
To add the main product/by-product into an existing logistic unit, scan the SSCC or select it from a list after pressing the SSCC field. On the next screen select the SSCC from the list. Only SSCC's stored on the output location of the production line can be scanned or selected. To add the main product/by-product into an SSCC, select the SSCC and press the 'Ok' button.

It is also possible to add the produced product into a new SSCC. Press the 'New' button. A new SSCC will be added to the list.

The list of SSCC's can be filtered on the Search field. Add the text/numbers to search for then press the 'Search' button. Only the SSCC's containing the entered text/numbers will be listed.

If no SSCC number has been selected, the system will automatically add the main products/by-products onto a new SSCC.

After the product receipt booking has been processed, the main product and the by-product(s) are received to the output location of the production line.



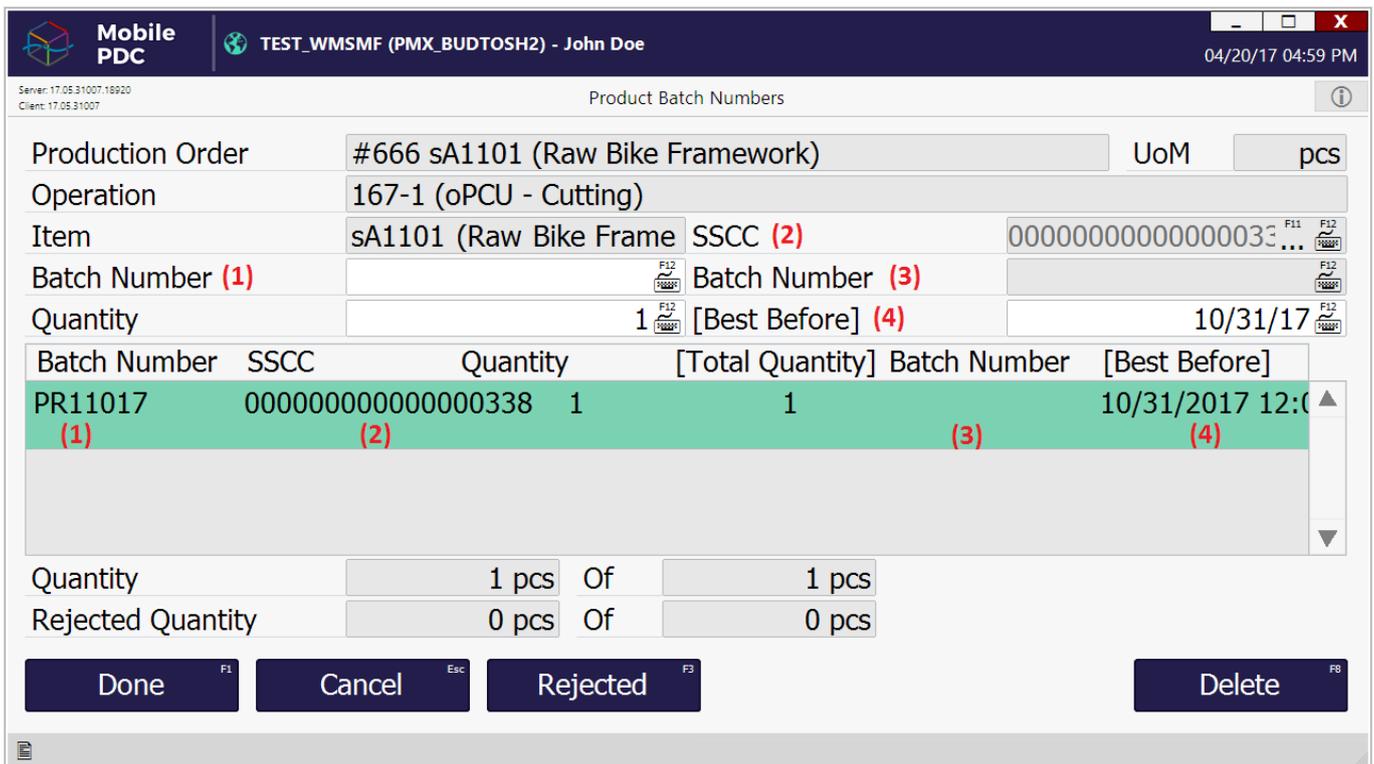
Unfinished product

The produced unfinished product will be received onto the production line from where it can be consumed in the next operation. Unfinished products will not be received onto an SSCC, regardless whether the user defined one or not.

Batch number and best before date

If the main product/by-product is managed by batches and/or has a best before date, press the 'Serial/Batch button'.

The 'Product Batch Number' screen will open.



1. **Batch number:** The default batch number is the batch number specified on the Start production screen of the Production Manager. The batch number can be modified on this screen regardless of the [Batch number production company controller](#) setting.
Please note: Every product produced during a job has to have the same batch number and best before date.
2. **SSCC number:** The SSCC number of the destination logistic unit. Cannot be modified.
3. **Second batch number:** The default batch number is the batch number specified on the Start production screen of the Production Manager. The batch number can be modified on this screen regardless of the [Batch number production company controller](#) setting.
4. **Best before date:** The default date is the best before date set on the Start production screen of the Production Manager. The best before date can be modified on this screen regardless of the [Best before for production generator](#) setting.

Serial numbers

If the main product/by-product is managed by SAP serial numbers, press the 'Serial/Batch' button. The 'Product serial numbers' screen will open. Add the serial numbers as described in [Product Serial numbers](#).

Please note: Do not select a bin location for the serial numbers.

Batch Attributes

If the *Enable batch attributes in PDC* option is enabled on the Thin Client 2 tab of Produmex Manufacturing settings, an additional 'Attributes' button is displayed on the screen.

Press the 'Attributes' button to add the batch attributes of the product.

On the next screen every required and optional batch attribute that is defined for the product on the [Produmex Attributes tab](#) is listed.

The *Attribute Name* is the name of the [batch attribute type](#). The Required column marks whether the batch attribute is set as required or optional. If a batch attribute is required, the user must set a value in order to proceed. On the value column the current batch attribute value is displayed.

Mobile PDC TEST_WMSMF (PMX_BUDTOSH2) - John Doe 02/05/18 10:37 AM

Server: 17.12.15001.18920 Client: 17.12.15001 [Batch Attributes]

Production Order #164 MLCHB (Mild Cheddar Block) UoM PCS
 Operation 164-0 (oPAS - Bike Assembly)
 Item MLCHB (Mild Cheddar Block)
 Batch Number BN2018020005 Quantity 4

[Attribute Name]	[Required]	Value
Country of origin	True	
Manufacturing date	True	
Moist	True	
Fat content	True	

Done ^{F1} Cancel ^{Esc} Set Value ^{F3}

To set a value, select the line of the batch attribute and press the 'Set value' button. On the next screen set the value. The method for entering the value varies according to the batch attribute convertor:

- List: Select the value from the list. Every value that is defined for the batch attribute type on the [Batch attribute valid values user table](#) is listed.

Mobile PDC TEST_WMSMF (PMX_BUDTOSH2) - John Doe 02/05/18 10:37 AM

Server: 17.12.15001.18920 Client: 17.12.15001 [Batch Attribute Value]

Production Order #164 MLCHB (Mild Cheddar Block) UoM PCS
 Operation 164-0 (oPAS - Bike Assembly)
 Item MLCHB (Mild Cheddar Block)
 Batch Number BN2018020005 Quantity 4

[Attribute Name] Country of origin [Required]
 [Attribute Value] Hungary

[VV Code]	[VV Description]
00001	Belgium
00002	USA
00003	Canada
00004	Hungary

Set ^{F1} Cancel ^{Esc}

- Date: Enter the date in the following format: *mm/dd/yy*. To select the date on a form, press F12 and set the date with the up and down arrows. By default the current date is displayed. Press the icon to set the date back to the current date. Press the icon to close the date selector. Press the icon to set the date.

The screenshot shows the Mobile PDC interface for a 'Batch Attribute Value' form. The form contains the following fields: Production Order (#164 MLCHB (Mild Cheddar Block)), Operation (164-0 (oPAS - Bike Assembly)), Item (MLCHB (Mild Cheddar Block)), Batch Number (BN2018020005), and Quantity (4). The [Attribute Name] is 'Manufacturing date' and is marked as [Required]. The [Attribute Value] field is currently empty, and a date selection dialog is open, showing '02 05 18 Monday'. The dialog has navigation arrows and a '1' button. At the bottom, there are 'Set' (F1) and 'Cancel' (Esc) buttons.

- Int: Enter the value to the *Attribute Value* field. You can add a whole number as the value.
- Double: Enter the value to the *Attribute Value* field. You can add a number with decimals as the value.
- String: Enter the value to the *Attribute Value* field. You can add a sequence of alphanumeric characters as the value.

The screenshot shows the Mobile PDC interface for a 'Batch Attribute Value' form. The form contains the following fields: Production Order (#164 MLCHB (Mild Cheddar Block)), Operation (164-0 (oPAS - Bike Assembly)), Item (MLCHB (Mild Cheddar Block)), Batch Number (BN2018020005), and Quantity (4). The [Attribute Name] is 'Comment' and is marked as [Required]. The [Attribute Value] field contains the text 'Add your comment here'. At the bottom, there are 'Set' (F1) and 'Cancel' (Esc) buttons.

After the booking is processed, you can see the booked batch attributes on the [PDC Bookings Administration](#) form.

Select the line of the booking. On the product grid click on the golden arrow in the *Compl. Qty.* column. On the opening form you can see the batch attribute values.

PDC Bookings Administration												
Productio...	Item Code	Item Name	Serial Batch No	Is Serial Number	Quantity	UoM	Pr.Ord.Op.ID	Work Center	Is Rejected	Attribute Name	Attribute Is Required	Attribute Value
00047303	⇒ BATCH_ATTR	Batch attributes	BN222	<input type="checkbox"/>	2,000		⇒ 00047299	⇒ wAS	<input type="checkbox"/>		<input type="checkbox"/>	
				<input type="checkbox"/>	0,000				<input type="checkbox"/>	Comment	<input checked="" type="checkbox"/>	Comment
				<input type="checkbox"/>	0,000				<input type="checkbox"/>	Country of origin	<input checked="" type="checkbox"/>	00002
				<input type="checkbox"/>	0,000				<input type="checkbox"/>	Fat content	<input checked="" type="checkbox"/>	2,000000
				<input type="checkbox"/>	0,000				<input type="checkbox"/>	Manufacturing date	<input type="checkbox"/>	20180204

OK

Modify batch attributes

Batch attributes can be modified after the booking is created. On the Admin screen, press the Modify button and navigate to the Batch Attributes screen.

For more information about the Admin screen please see: [Admin](#)

20.3.6.2. Issue Materials

Specify the consumed quantities on the 'Materials' screen. Every material linked to the milestone operation are listed. Add the quantities as described in: [2.2.5. Materials](#)

Materials will be consumed from the input location/lined up location of the production line or from the production line directly therefore no bin locations can be selected.

Stocks to be consumed from a lined up will be sorted based on the [consumption algorithm](#) of the lined up location. Other stocks will be sorted by FEFO, then in the order they were moved to the production input line: PMX_ITRI."BestBeforeDate", PMX_INVT."InternalKey".

After the PDCProcessor processed the booking, the material(s) will be issued in SAP Business One with the specified quantities.

Batch number

Press the 'Serial/Batch' button to identify the batch number. Follow the steps described in: [Material Batch Number Picker](#)

Because the materials are issued from the input location/lined up location/production line, no bin locations can be selected and the 'Split' button is not displayed.

Serial numbers

Press the 'Serial/Batch' button to scan the serial numbers. Follow the steps described in: [Material Serial Number Picker](#)

20.3.7. Close production order

After the production has been finished, close the production order. First set the 'Prod.Status' UDF to 'Closed' on the production order then change the 'Status' on the header to 'Closed'.

#	Row Type	Type	No.	Base ...	Planned...	Issued	Milestone Type	Milestone Group	Avail...	UoM ...	UoM ...	Wareho...	Issue Method
1	Material	Item	ITEM01	1	1		Depends On E	cPAS_3	28	Manual	PCS	02	Manual
2	Material	Item	ITEM10	1	1		Depends On E	cPAS_3	87	Manual	CAN	02	Manual
3	Operation	Item	cPAS	180	180	180	Milestone	cPAS_3		Manual	min	02	Backflush
4	By-Product	Item	ITEM10	-1	-1		Depends On E	cPAS_3	87	Manual	CAN	02	Manual
5													

20.4.Limitations

- Advanced outsourcing with unfinished products
- Items having a second batch number or a best before date that are not managed by batches are not supported as products or by-products.
- Materials with PMX serial number
- Do not use the *Skip material serial/batch quantities* screen setting

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