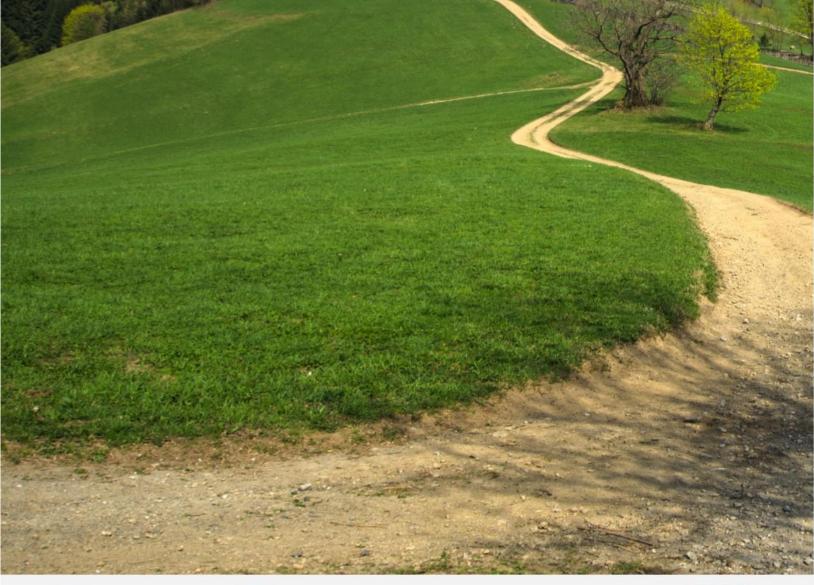
ProcessForce User's Guide

Author: Piotr Koszela [CompuTec]

Version: 2

Date: 2018.06.22







This document has been exported from CompuTec documentation portal

Exported on 2018-10-17,

from https://connect.computec.pl/display/PF930EN/ProcessForce+User%27s+Guide,

by Winicjusz Bartoszewicz [CompuTec]

Copyright Notice

The following document is a property of CompuTec SA. No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of CompuTec. The information contained herein may be changed without prior notice.

Data contained in this document serves informational purposes only.

National product specifications may vary.

© 2018 CompuTec SA. All rights reserved.

www.computec.pl

Table of Contents

Table of Contents	rts3 ProcessForce Routings4			
How to Guide – Proces	ssForce Routings	4		
	outing			
1.1.1	Adding and Changing Operation data	5		
1.1.2	Operation Properties	6		
1.1.3	Adding and Changing Resource data	7		
1.1.4	Resource Properties	8		
1.1.5	Instructions tab	8		
1.1.6	Advanced Operations Relations	8		
1.2 Op	perations	14		
1.2.1	Operations	14		
1.2.2	Properties for Operations	16		
1.2.3	I/O Properties for Operations	16		
1.3 Re	esources	17		
1.3.1	Resources	18		
1.3.2	Resource Groups	26		
1.3.3	Properties for Resources	27		
1.3.4	Resources Accounting	27		
1.3.5	Resource Calendar	29		
1.3.6	Alternative Resource	32		

How to Guide – ProcessForce Routings

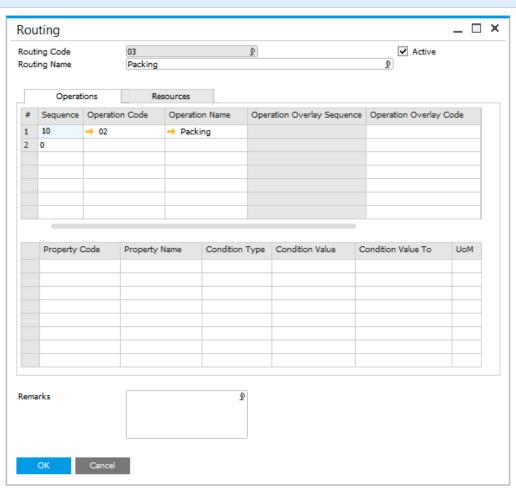
The following pages contain information for working with Routings.

Routing is a sequence of specific operations performed on specific resources characteristic for a certain item. Routing and Bill of Materials constitute a production process for item.

Related pages:

- Routing
 - AdvancedOperationsRelations
- Operations
- Resources

Path Production > Routings



1.1 Routing

Routing consists of Operations and Resources. You can set required values for both of it.

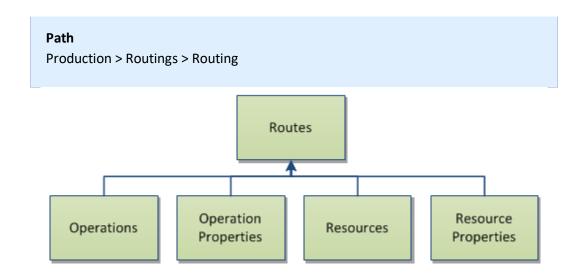
Multiple Routings can be defined for a product, but a specific routing has to be defined as the default within the Bill of Material.

Routes may be active or non-active by checking the active checkbox within the form header.

Routings are an optional function to be used in conjunction with Bills of Materials and Manufacturing Orders.

On this page

- Adding and Changing Operation data
- Operation Properties
- Adding and Changing Resource data
- Resource Properties
- Instructions tab

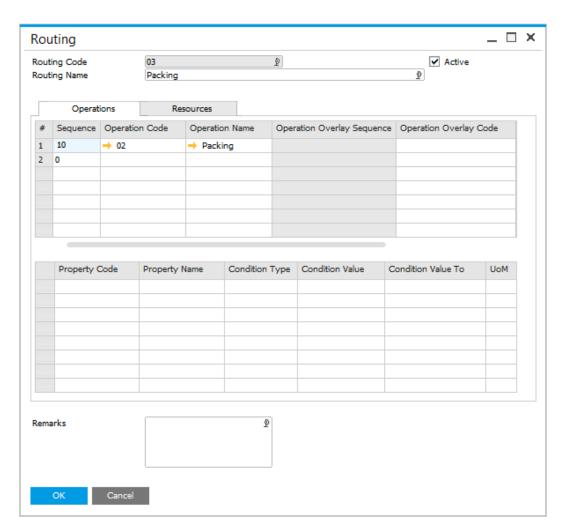


1.1.1 Adding and Changing Operation data

The top grid within this tab allows the user to select, add and remove operations

The user can also define the operation which it overlays or operates in parallel with and define the overlay percentage.

This data will be used for scheduling purposes.



<u>↑ Top</u>

1.1.2 Operation Properties

Data is presented to the user within the grid, when the user selects the row within the top grid.

The properties of the selected operation are defaulted into this tab.

This grid allows the user to select and add additional properties for this operation/routing combination and change or remove the defaulted values.

↑ Top

1.1.3 Adding and Changing Resource data

The top grid within this tab allows the user to select, add and remove resources.

Drop down box selection allows the user to choose the resource already defined on the operation.

The details of the selected resources are defaulted into this tab from the Operations definition.

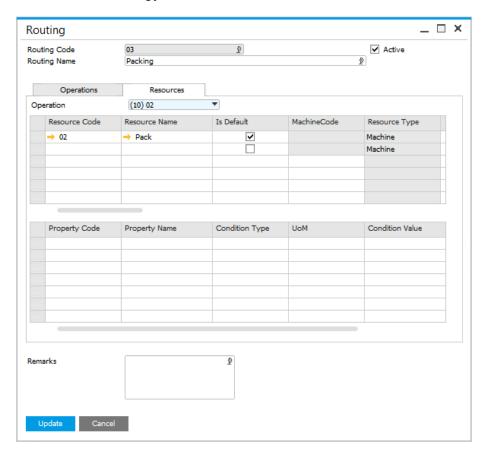
This grid allows the user to select and add additional resources for this operation/routing combination and remove the defaulted resources.

The fixed and variable time elements values and unit of rates of the selected resource/operation are defaulted into this tab.

The user can change these default values if required for this specific route/operation/resource combination

Yellow arrow navigation to:

Production → Technology → Resources → Resources



1.1.4 Resource Properties

Data is presented to the user within the grid, when the user selects the row within the top grid.

The properties of the selected resource/operation are defaulted into this grid from the Resources definition.

This grid allows the user to select and add additional properties for this resource/operation/routing combination and change or remove the defaulted values.

1.1.5 Instructions tab

This tab contains an editable text area that can be used to hold any related text information, e.g. instructions, additional notes.

<u>↑ Top</u>

1.1.6 Advanced Operations Relations

In previous versions it was possible to set up Operations in a consecutive sequence only. This option allows to set up more complicated Operation relations.

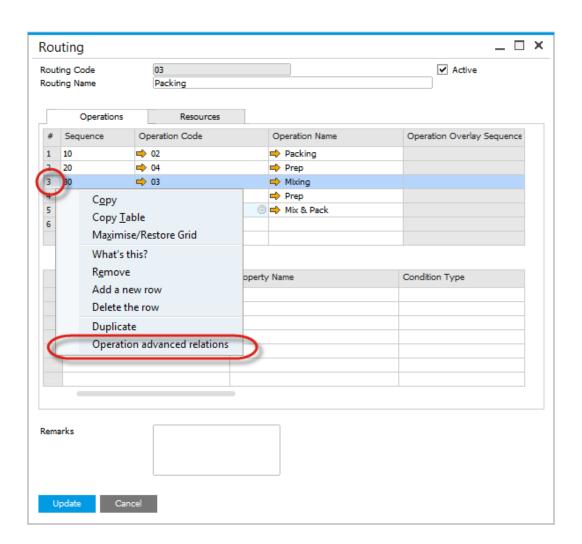
On this page:

- Operations Relations
 - AdvanceOperationRelationsIndicator
- Operation Relation Map

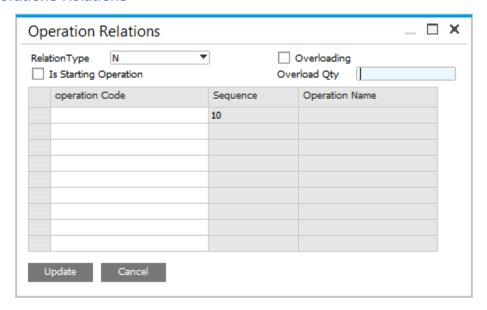
You can reach the option by right-click on Operation in the following locations:

Path

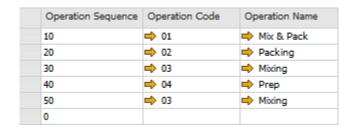
- Production > Routings > Routings > Operations tab
- Production > Manufacturing Order > Manufacturing Order > Operations tab
- Production > Bill of Materials > Production Process > Routings tab > Routings



Operations Relations



Example Routing:



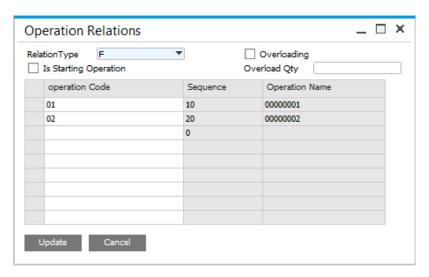
Standard sequence:



Available options:

- Relation Type:
 - None option not used
 - First Operation Finish a specified operation starts when the first of chosen on Relation Operation form Operation is finished Example:

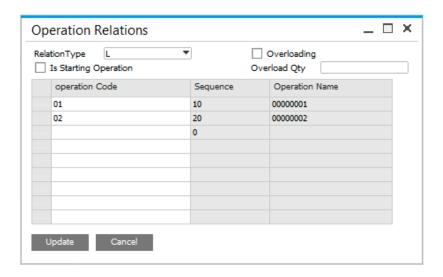
Settings for Operation 04:



Result:

Operation 04 starts when Operation 01 is finished

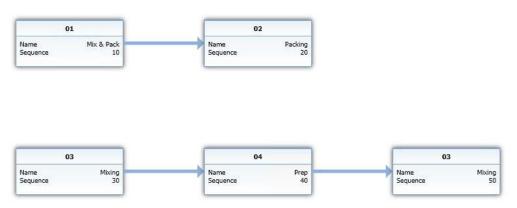
 Last Operation Finish – a specified operation starts when the last of chosen on Relation Operation form Operation is finished



Result:

Operation 04 starts when Operation 02 is finished.

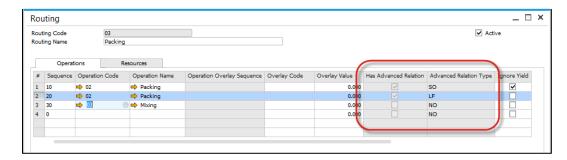
• **Is Starting Operation** - choosing this option for a specific Operation makes it starting operation. This creates two parallel sequence Example: for Operation 03 **Is Starting Operation** checkbox is checked:



 Overloading – a specified Operation starts when the chosen on Operation Relation form Operation produce specified quantity

Advance Operation Relations Indicator

You can check if Operations has advance relations assign by checking values in the right columns:



Advance Relation Types:

- SO Is Starting Operation
- FF First Operation Finish
- LF Last Operation Finish

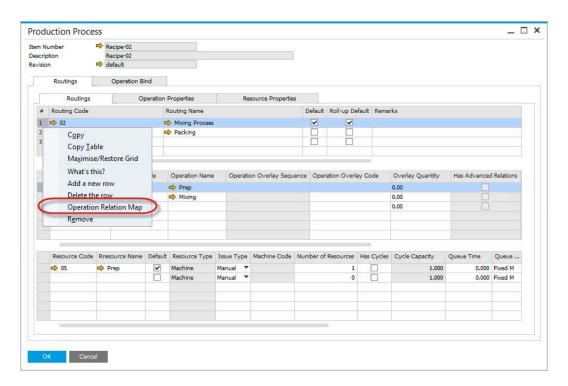
Operation Relation Map

You can check overall sequence (and all its advanced operations relations) by using visualization of Operations connections.

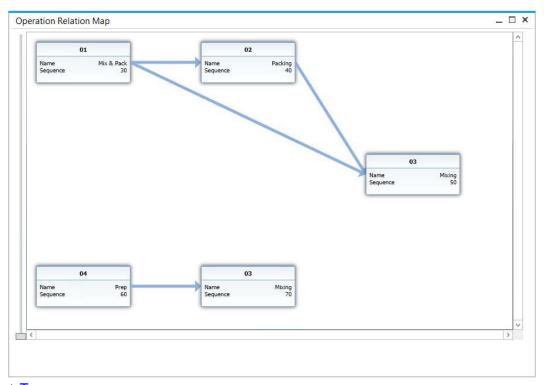
You can reach the option by right-click on Routing in the following locations:

Path

- Production > Manufacturing Order > Manufacturing Orders > Operations tab > Operations tab
- Production > Bill of Materials > Production Process > Routings tab > Routings



Example Operations relations chart:



<u>↑ Top</u>

1.2 Operations

These forms allow the user to define Operations, Properties and Input/Output Properties.

On this page

- Operations
- Properties for Operations
- I/O Properties for Operations

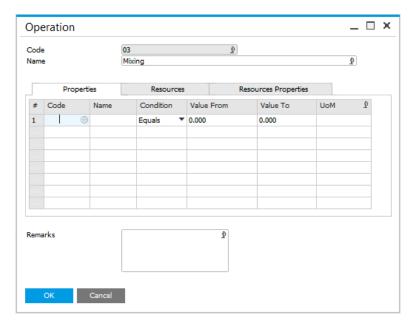
1.2.1 Operations

Path

Production > Routings > Operations

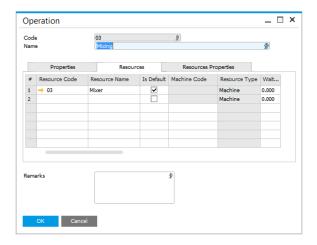
This form allows the user to define operations, which will be a part of the routing for making the product.

- Properties
 - This tab allows the user to select, add and remove a number of properties for the operation
 - The user can select from a number of expressions to record a specific value or a from/to value dependent upon the expression.



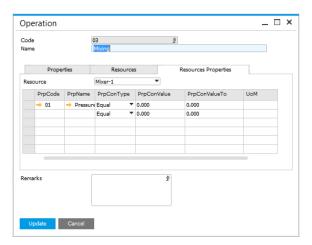
Resources

- This form allows the user to select, add and remove resources that are to be used within the operation
- Multiple resources can be added, but one of the resources has to be selected as the default
- The fixed and variable time element values and unit of rates of the selected resource are defaulted into this tab
- The user can change these default values if required for this specific operation/resource combination.



Resource Properties

- The properties of the selected resource are defaulted into this tab
- This tab allows the user to select and add additional properties for this resource/operation combination and remove the defaulted values.

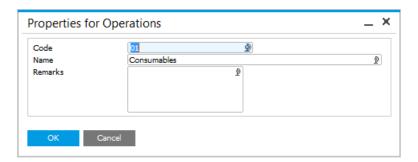


1.2.2 Properties for Operations

Path

Administration > Setup > Production > Properties for Operations

This form allows the user to define properties for the operation, for example consumables.



<u>↑Top</u>

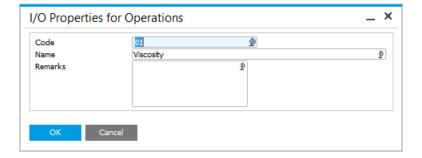
1.2.3 I/O Properties for Operations

Path

Administration > Setup > Production > I/O Properties for Operations

This form allows the user to define input and output properties of an operation.

This is additional data to describe the process of production for example input viscosity and output viscosity.



<u></u>↑Top

1.3 Resources

These forms allow users to define Resources, Properties and Groups, that will be used to create Operations.

On this page

- Resources
 - o Resource Types
 - o Time and Rates
 - Types of Time
 - Rates
 - o Resource Details Tab
 - AccountingPanel
 - Additional Details Panel
 - Info
 - o Resource Calendar
 - Properties and Condition Types
 - o Resource Status
- Resource Groups
- <u>Properties for Resources</u>
- Resources Accounting
- Resource Calendar
- Alternative Resource

Path

Production > Routings > Resources

1.3.1 Resources

Resource Types

Type of Resource	Does it have impact on Scheduling?	Does it use calendar?	Will be visible on Gantt chart?	Hourly rates	Required to be connected to	Time booking	Has times (Setup, Run)?	Number of resources
Machine	•	•	•	•	-	•	•	Changeable
Labor	8	8	*	•	-	0	•	Changeable
Tool	•	•	•	8	Machine	8	8	Always 1
Subcontracting	•	•	•	•	-	•	•	Changeable

^{*} Labor may be presented on Gantt chart but Start and Finish dates (on Manufacturing Orders tab) may be empty or has default value (0001-01-01), as this type of Resource does not affect Manufacturing Order Scheduling.

<u>↑ Top</u>

Time and Rates

Types of Time

- Queue Time initial time before setup. In calculations it does not have calendar and does not does not consume resource
- Setup Time time for setting up machine, uses calendar and occupies resource
- o Run Time time of resource run
- Stock Time the last time, after run. In calculations it does not have a calendar and does not consume resource

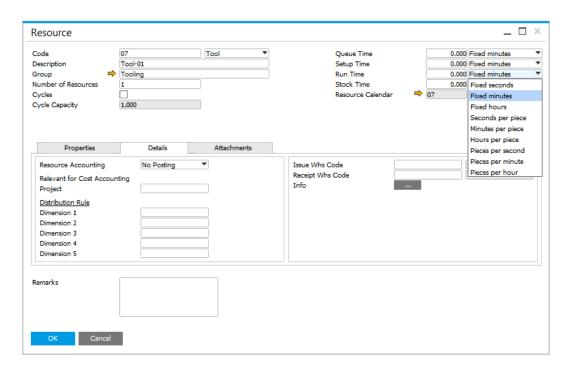
Rates

- o For Queue, Setup and Stock time the following rates are available:
 - Fixed hours,
 - Fixed minutes,
 - Fixed seconds.

- For Run time the following rates are available:
 - Fixed hours
 - Fixed minutes
 - Fixed seconds
 - Hours per piece
 - Minutes per piece
 - Seconds by piece
 - Pieces per hour
 - Pieces per minute
 - Pieces per second

When using cycles, only Fixed Rates can be used for Run Time.

- Define the fixed and variable time elements of the resource
- This also includes the unit of rate for each time element
- Piece equates to the unit of measure of the item number being produced
- The valid rates for Queue, Setup and Stock time are fixed seconds, minutes and hours
- Run Time can use any of the unit rates
- Cycles can be checked to define the resource has a cycle capacity
- Cycle capacity is the number of production units that can be processed per cycle.
- Number Of Resources allows to define default number of units of resources to work on. Note that setting a Number Of Resources affects run time. E.g. if Run Time is 10 h and Number of Resources 1, Planned Run Time is 10 h. If Number of Resources changes to 2, planned time automatically changes into 5 h. Changing a Number of Resources affects production process, however during cost calculation only added up time will be considered in accordance to the example: 10 h work is done after 5 h using 2 resources, cost is calculated as a cost of work of 2 resources for 5 h each (10 h).



↑ Top

Resource Details Tab

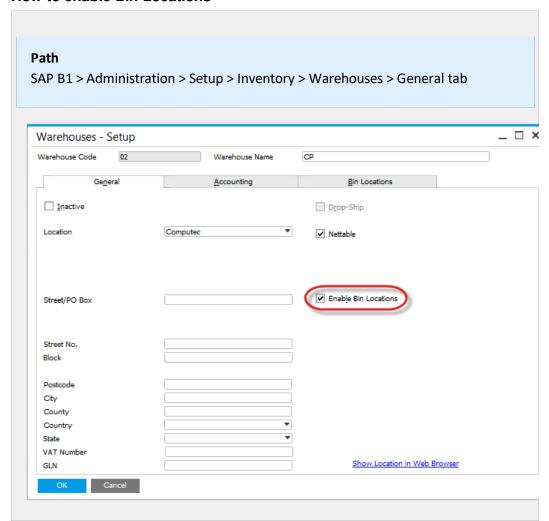
Accounting Panel

- Allows a user to choose whether or not there should be posting for time bookings
- You can define many different Resource Accounting posting schema
- Cost Centers and Projects can be selected
- According to how many cost centers are enabled within SAP Business One General Settings one or more dimensions fields are displayed

Additional Details Panel

Issue Whs Code and Receipt Whs Code are CompuTec PDC related fields. CompuTec PDC Production Issue/Receipt options are not available, if Issue/Receipt Warehouses are not assign to a specific Resource. For Production Issue, a Bin Location is not required (just a Warehouse have to be assign) but for Production Issue it is mandatory to choose a Bin Location.

How to enable Bin Locations

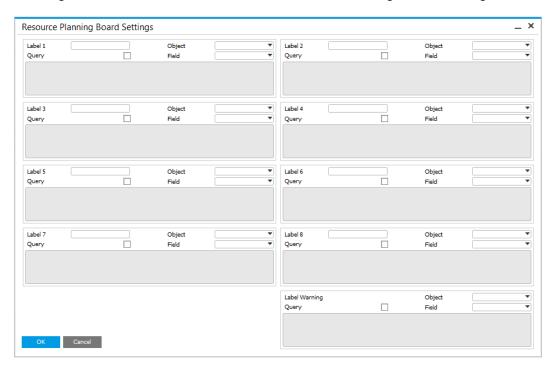


Info

If you updated Labels when Scheduling Board is opened, it is required to reopen it to have the changes on it.

Resource Planning Settings are set up by a Resource: you can set up different settings for each of the Resources in the system.

Clicking the button next to Info leads to Resource Planning Board Settings form:



Here you can defined up to eight columns that will be displayed on Scheduling Board > Resource Planning Board on Task rows for a specific Resource.

You can define:

- Name of a column (fields Label 1, Label 2...)
- Type of retrieving method of data to be displayed in a specific column:
 - Object (Query checkbox unchecked): choose a field from three kind of Objects (Manufacturing Order, Operation, Resource) and Dynamic option (times connected to specific Operation or Resources, e.g. Operation Duration),
 - Query (Query checkbox checked): you can create a query based on which data for the column will be retrieved.

Parameter syntax:

@[Table Name - without fixed prefixes].[Field Name]

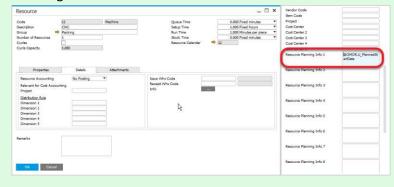
Example: @OMOR.U_PlannedStartDate

You can easily check a name of a field to be used in a query by using View >User-Defined Fields option.

Example

We want to use Planned Start Date field from Manufacturing Order.

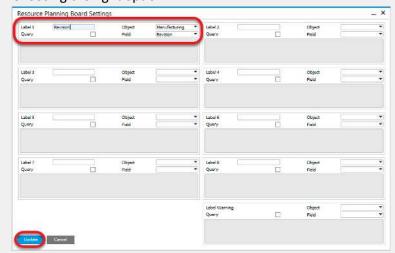
- 1. Go to Resource Planning Board Settings.
- 2. For Label 1 uncheck Query checkbox, choose Manufacturing Order, Planned Start Date from the drop-down lists and choose Update.
- 3. Choose Update on Resource form.
- 4. Go to the upper menu > View > User-Defined Fields.
- 5. The field name is displayed in User-Defined Fields panel, Resource Planning Info 1 field:



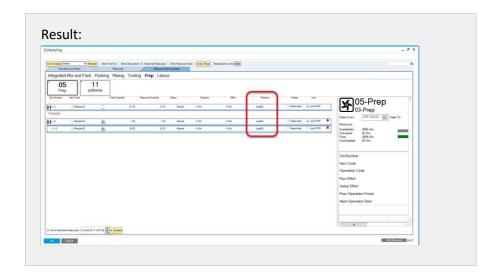
Example of a Label added to a specific Resource

We want to have a Revision of Manufacturing Order to be displayed on Tasks of Prep Resource.

Choosing the right option:



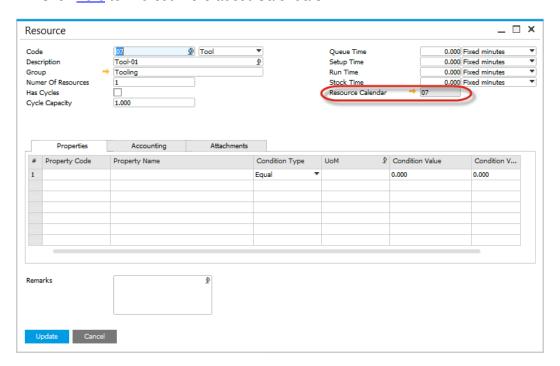
We have to click Update on Resource form too after this.



<u>↑ Top</u>

Resource Calendar

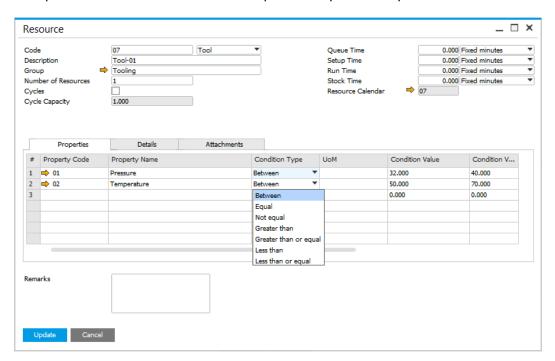
- Resource Calendar is created automatically when Resource is added
- The yellow arrow next to Resource Calendar field leads to its definition
- Click <u>here</u> to find out more about Calendars.



<u>↑ Top</u>

Properties and Condition Types

- This form allows a user to add and remove properties
- Properties can be used to define additional data relating to the resource, for example machine set-up details and consumables
- The user can select from a number of expressions to record, for example a specific value or a from/to value dependent upon the expression.



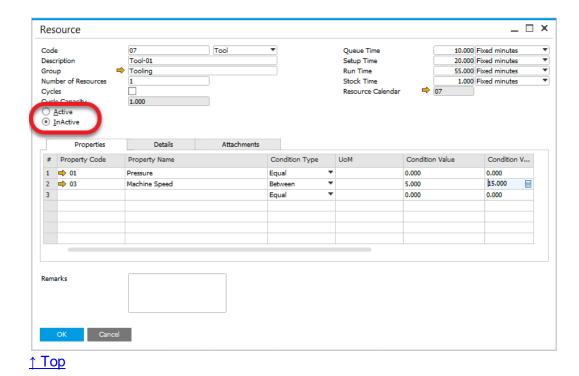
↑ Top

Resource Status

It is possible to set up either Active or Inactive status for a Resource.

A Resource with Inactive status can be added neither to Manufacturing Order, nor Bill of Materials.

<u>Example usage</u>: the option can be used to set Inactive status to mark Resources that were used in company's production processes but currently are not (e.g. were sold or scraped).

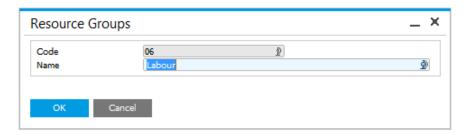


1.3.2 Resource Groups

Path

 $\mathsf{Administration} \to \mathsf{Setup} \to \mathsf{Production} \to \mathsf{Resource} \, \mathsf{Groups}$

This form allows the user to define resource groups, for example mixing vessels, blenders and ovens.



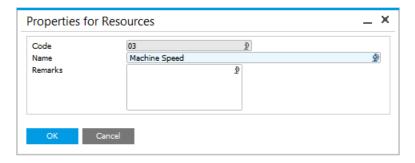
<u>↑ Top</u>

1.3.3 Properties for Resources

Path

Administration > Setup > Production > Properties for Resources

This form allows the user to define properties for the resource, for example pressure, temperature or Machine Speed.



↑ Top

1.3.4 Resources Accounting

Path

Administration > Setup > Financials > Resources Accounting

Resources Accounting allows to define multiple posting accounts for Time Bookings.

You can select accounts for posting for every resource time types:

- Queue Time
- Setup Time
- Run Time
- Stock Time

Further for every resource time type you can select accounts for type of time:

- Base
- Fixed Overhead
- Variable Overhead

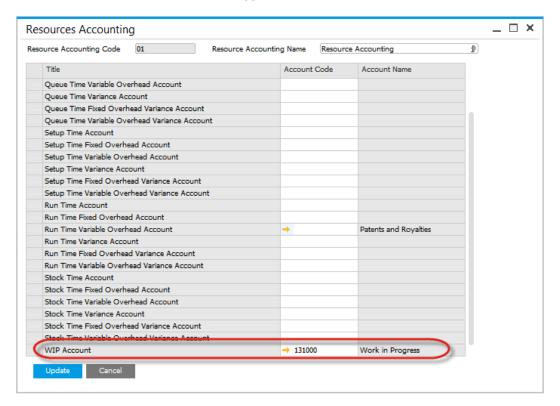
- Variance
- Fixed Overhead Variance
- Variable Overhead Variance

Time Variance Accounts

Please note that all **Time Variance Accounts** although they can be configured, they are not used in current software versions.

We plan to provide functionality which will leverage them during posting of Manufacturing Order closure in future versions.

The Work In Progress Account can be added here or is based on the WIP account defined for the Document type – Production Order.



↑ Top

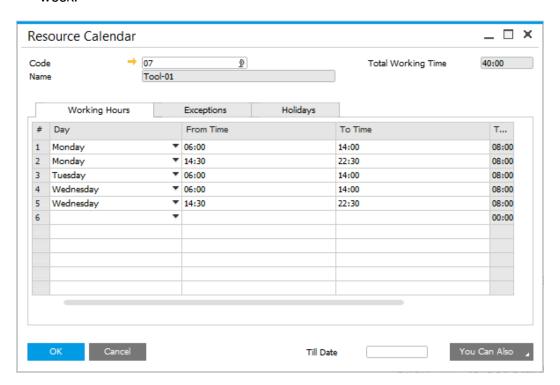
1.3.5 Resource Calendar

Path

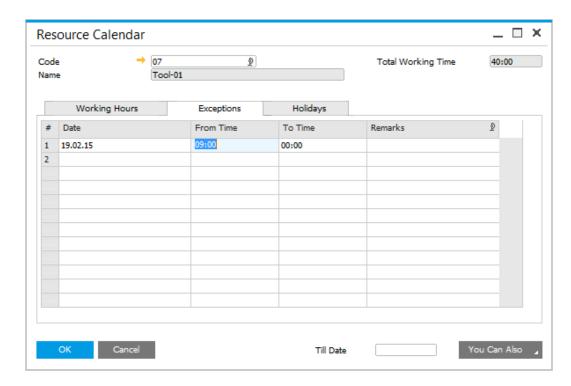
Production > Routings > Resource Calendar

Resource Calendar is used to define the availability of Resource for production, which is further used for production planning.

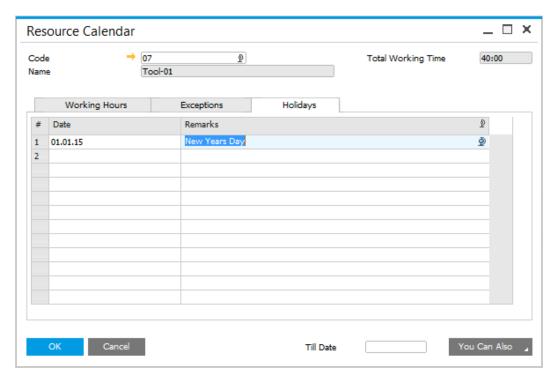
- On the first tab you can define hours for each day of a week. As you can see
 in the example, there is an option to define multiple periods per one day.
- On a right upper corner of this form you can check Total Working Time in week.



 The exceptions tab is used to overwrite availability of resource at specified date.

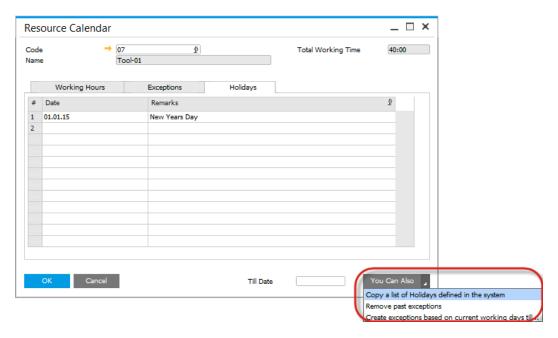


In Holidays tab you can define days on which resource is not available.

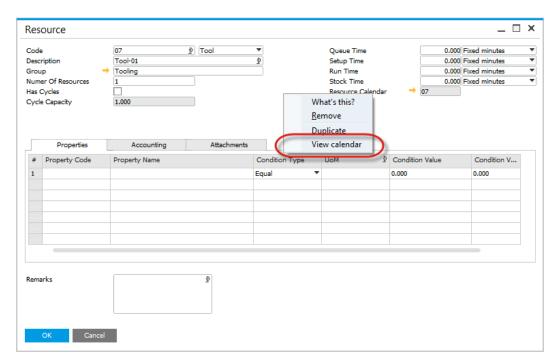


- You Can Also button let you perform following tasks automatically:
 - o Copying holidays from holidays defined in SAP

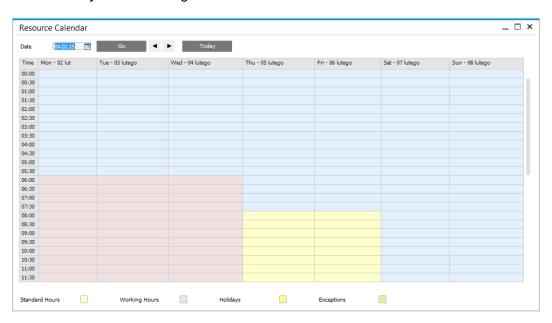
- Remove past exceptions this will remove every exception before actual date
- Create exceptions based on current working days till date. This one add exceptions from actual date to date defined in Till Date field for hours and days defined in Working Hours tab.



• At any time you can view Resource Calendar by clicking on View calendar in a context menu of a Resource form.



• This will open graphical presentation of resource availability. On the bottom of window you will find legend for colours on calendar.



1.3.6 Alternative Resource

A Resource can have assign a number of other Resource, to which a Manufacturing Order task can be switch, e.g. in case of downtime of an original Resource. Click here to find out more.

<u>↑ Top</u>

