

# SAP Planning Parameters

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# Notes on Sap planning parameters

Some general rules:

- Parts within a segment should be planned in a similar way. There are exceptions, and they should be noted. Exceptions can be caused by lead time difference, minimum lot sizes, supplier performance.
- Rate based planning should strive to align the supply and demand signals as closely as possible, based on the nine block guidelines. There are exceptions, and they should be noted.
- Rate based planning should use Inventory, build up or draw down, strategically.
- Use as few parameters as possible, and audit alignment quarterly. Use the MRP monitor or the MARC T code. The MARC shows yesterday's data. This might matter to you. Other data sources include the MRP Monitor and MMUSERS, just be sure you understand when the snap shots were taken. Note it is usually a custom code so maybe something like ZMARC.
- If you have a rate-based plan that does not change, you should not change your planning parameters once set, unless something unusual happens.

**Do NOT ever implement new Planning Parameters without testing in simulations first.**

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# SAP planning parameters MRP1

The parameters here that matter for planning are:

MRP Type – see following slides

Reorder Point – when inventory reaches this point you will order more.

Planning time Fence this helps stabilize schedules by placing new supply at a time fence, for example 5 days. This is widely abused.

Lot Size – see following slides

Minimum Lot Size- the minimum you will order when ordering

Maximum Lot Size – The maximum you will place on any order.

Rounding value – it always round up to a specific value, like beer rounds up in quantities of six.

The screenshot shows the SAP MRP1 parameters for Material 1722470 (Separable Asm; Semi-Fnshd). The interface includes tabs for Purchase order text, MRP 1, MRP 2, MRP 3, MRP 4, and Forecasting. The MRP 1 tab is active, showing the following parameters:

General Data				
Base Unit of Measure	EA	each	MRP group	ZPA
Purchasing group	482		ABC Indicator	C
Plant-sp.matl status	<input type="checkbox"/>		Valid from	

MRP procedure				
MRP Type	PD	MRP		
Reorder Point	0		Planning time fence	0
Planning cycle			MRP controller	2VC

Lot size data				
Lot size	YE	POS=5 thru horizon		
Minimum Lot Size	336		Maximum Lot Size	0
			Maximum stock level	0
Assembly scrap (%)	0.00		Takt time	0
Rounding Profile			Rounding value	0
Unit of Measure Grp				

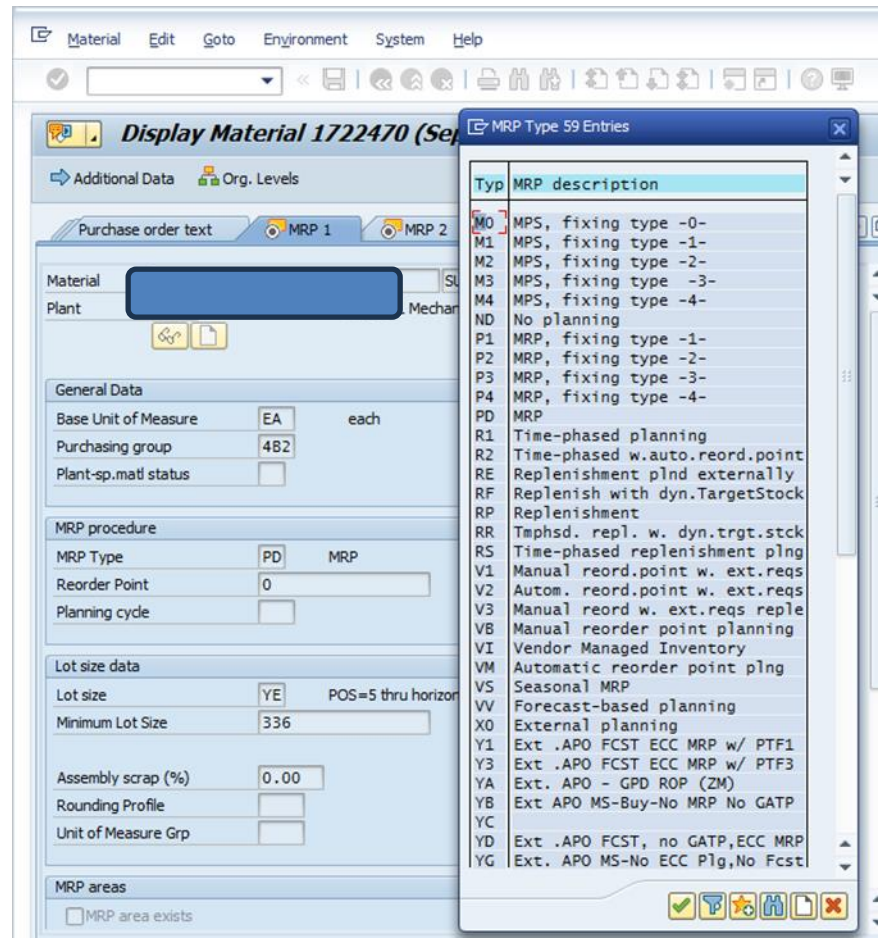
# Common MRP Types

PD is a straight MRP plan type. The orders will change based on changes in MRP.

P1 to P4 are MRP with a time fence. Time fences determine where new supply orders land. Where demand goes depends on the time fence used.

V1 and others that start with V are basically reorder points and vendor managed. There are some nuances, such as whether you let the system calculate or whether you do a manual calculation, and there is a loss to forecast visibility for suppliers typically.

Ones that start with Y are master scheduled, so talk to your APO people if you have questions.



The screenshot shows the SAP 'Display Material 1722470' interface with an open 'MRP Type 59 Entries' dialog box. The dialog box contains a table with the following data:

Typ	MRP description
M0	MPS, fixing type -0-
M1	MPS, fixing type -1-
M2	MPS, fixing type -2-
M3	MPS, fixing type -3-
M4	MPS, fixing type -4-
ND	No planning
P1	MRP, fixing type -1-
P2	MRP, fixing type -2-
P3	MRP, fixing type -3-
P4	MRP, fixing type -4-
PD	MRP
R1	Time-phased planning
R2	Time-phased w.auto.reord.point
RE	Replenishment plnd externally
RF	Replenish with dyn.TargetStock
RP	Replenishment
RR	Tmphsd. repl. w. dyn.trgt.stck
RS	Time-phased replenishment plng
V1	Manual reord.point w. ext.reqs
V2	Autom. reord.point w. ext.reqs
V3	Manual reord w. ext.reqs repl
VB	Manual reorder point planning
VI	Vendor Managed Inventory
VM	Automatic reorder point plng
V5	Seasonal MRP
VV	Forecast-based planning
X0	External planning
Y1	Ext .APO FCST ECC MRP w/ PTF1
Y3	Ext .APO FCST ECC MRP w/ PTF3
YA	Ext. APO - GPD ROP (ZM)
YB	Ext APO MS-Buy-No MRP No GATP
YC	
YD	Ext .APO FCST, no GATP,ECC MRP
YG	Ext. APO MS-No ECC Plg,No Fcst

# Common Lot Size

EX is a lot for lot setting. If you have no minimums and no rounding values, it will place an order for each demand, which means you can get multiple orders in any given week. If you put in a minimum and/or a rounding value you will get different results. Test it and see it.

FX is a fixed lot size, where you will always run a fixed quantity.

Under the description, other information is available around the size of the lots. M0 will always order in 20 day lots.

Lot size (materials planning) 108 Entries

LS	LS	LI	Pds	LLP	LLI	LPer	Description
EX	S	E	0	P	M	1	Lot-for-lot order quantity
FS	S	S	0			0	Fixing and splitting
FW	S	F	0	P	T	20	Fixed qty 14 Months
FX	S	F	0	P	M	1	Fixed order quantity
GR	O	G	0			0	Groff reorder procedure
HE	S	H	0			0	Replenish to maximum stock level
KP	P	K	1	P	M	4	Period lot size Plng Calendar E Interpr
M0	P	T	20			0	POS=20
M1	P	T	21			0	POS=21
M2	P	T	22			0	POS=22
M3	P	T	23			0	POS=23
M4	P	T	24			0	POS=24
M5	P	T	25			0	POS=25
M6	P	T	26			0	POS=26
M7	P	T	27			0	POS=27
M8	P	T	28			0	POS=28
M9	P	T	29			0	POS=29
M6	P	M	1			0	Monthly lot size
P0	P	M	10			0	10 Month POS
P1	P	M	11			0	11 Month POS
P2	P	M	2			0	2 Month POS
P3	P	M	3			0	3 Month POS
P4	P	M	4			0	4 Month POS
P5	P	M	5			0	5 Month POS
P6	P	M	6			0	6 Month POS
P7	P	M	7			0	7 Month POS
P8	P	M	8			0	8 Month POS
P9	P	M	9			0	9 Month POS
PA	P	M	12			0	12 Month POS
PB	P	P	1			0	Period lot size = posting period
PK	P	K	1			0	Period lot size acc. to plng calendar

We make a LOT of mistakes here.

# Common Lot Sizes

Lot sizes that start with Y are also variable/dynamic. They will order the Period of Supply in days based on an average through the time horizon, however far out your SAP looks.

SAP almost always looks at a 5-day work week, not a 7-day weeks. If a setting like YG, which is based on a POS of 7 is used it will order one week and two days as the lot size. Usually this is not correct, and you will want to switch them to YE if you want to order in weekly quantities

LS	LS	LI	Pds	LLP	LLI	LPer	Description
W7	P	T	17	P	M	1	POS=17
W8	P	T	18	P	M	1	POS=18
W9	P	T	19	P	M	1	POS=19
WB	P	W	1	P	M	1	Weekly lot size
WI	O	W	0			0	Least unit cost procedure
X4	P	T	55			0	POS=55
X6	P	T	75			0	POS=75
X8	P	T	115			0	POS=115
Y1	P	T	240			0	POS=240
Y2	P	T	140			0	POS=140
Y3	P	T	20			0	POS = 20 through Horizon
YA	P	T	1			0	POS=1 thru horizon
YB	P	T	2			0	POS=2 thru horizon
YC	P	T	3			0	POS=3 thru horizon
YD	P	T	4			0	POS=4 thru horizon
YE	P	T	5			0	POS=5 thru horizon
YF	P	T	6			0	POS=6 thru horizon
YG	P	T	7			0	POS=7 thru horizon
YH	P	T	8			0	POS=8 thru horizon
YJ	P	T	9			0	POS=9 thru horizon
YK	P	T	10			0	POS=10 thru horizon
YM	P	T	11			0	POS=11 thru hoizon
YN	P	T	12			0	POS=12 thru horizon
YP	P	T	13			0	POS=13 thru horizon
YQ	P	T	14			0	POS=14 thru horizon
YR	P	T	15			0	POS=15 thru horizon
YS	P	T	16			0	POS=16 thru horizon
YT	P	T	17			0	POS=17 thru horizon
YU	P	T	18			0	POS=18 thru horizon
YV	P	T	19			0	POS=19 thru horizon
YW	P	T	21			0	POS = 21 thru horizon
YX	P	T	45			0	POS = 45 thru horizon
YY	P	T	28			0	POS = 28 thru horizon
YZ	P	T	25			0	POS= 25 through Horizon

# MRP2 Buffers

Buffers are typically found here in the lower fields.

Here we see buffers based on materials and time.

1. Safety stock is a fixed quantity of buffer. It drives more demand into the supply chain to create more inventory.
2. Coverage Profile also creates more inventory, but it is based on covering a range in days. See the next slide for more detail.
3. Safety Time causes materials to arrive before the start of the MRP production date.

The screenshot shows the SAP 'Display Material' interface for material 1722470. The 'MRP 2' tab is active. The 'Net requirements calculation' section is highlighted with red boxes 1, 2, and 3. The values in this section are:

Field	Value
Safety stock	516
Min safety stock	0
Safety time ind.	<input type="checkbox"/>
STime period profile	<input type="checkbox"/>
Service level (%)	0.0
Coverage profile	<input type="checkbox"/>
Safety time/act.cov.	0 days

# Safety Stock

Safety stock is an inventory buffer. When working correctly, it will create an inventory supply plan that is greater than the requirements for a given period.

With safety stock you specify a quantity to hold in buffer above the MRP requirements. SAP will work and treat the value as a “false” zero and plan to keep the inventory above that level.

If we break that level, we can use the inventory (in most cases) until it is depleted, and we should get an exception message “96”.

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# Coverage Profiles

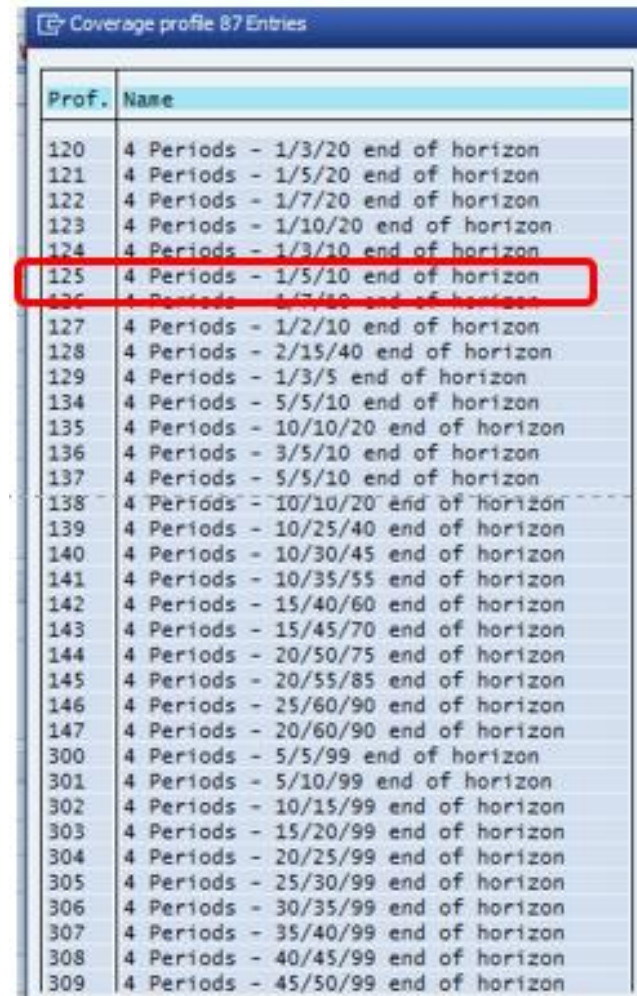
Coverage profile is also an inventory buffer. The plan is to have Supply>Requirements in a given period.

Here is an example...

Using Coverage Profile 125, the signals are based on 1/5/10 through the full horizon.

When we get down to an expected days on hand of 1 day, we will target a supply order to get us to the target value of 5 days.

The 10 days value says do not send any exception messages until we are expected to be over two weeks on hand (10 days).



Prof.	Name
120	4 Periods - 1/3/20 end of horizon
121	4 Periods - 1/5/20 end of horizon
122	4 Periods - 1/7/20 end of horizon
123	4 Periods - 1/10/20 end of horizon
124	4 Periods - 1/3/10 end of horizon
125	4 Periods - 1/5/10 end of horizon
126	4 Periods - 1/7/10 end of horizon
127	4 Periods - 1/2/10 end of horizon
128	4 Periods - 2/15/40 end of horizon
129	4 Periods - 1/3/5 end of horizon
134	4 Periods - 5/5/10 end of horizon
135	4 Periods - 10/10/20 end of horizon
136	4 Periods - 3/5/10 end of horizon
137	4 Periods - 5/5/10 end of horizon
138	4 Periods - 10/10/20 end of horizon
139	4 Periods - 10/25/40 end of horizon
140	4 Periods - 10/30/45 end of horizon
141	4 Periods - 10/35/55 end of horizon
142	4 Periods - 15/40/60 end of horizon
143	4 Periods - 15/45/70 end of horizon
144	4 Periods - 20/50/75 end of horizon
145	4 Periods - 20/55/85 end of horizon
146	4 Periods - 25/60/90 end of horizon
147	4 Periods - 20/60/90 end of horizon
300	4 Periods - 5/5/99 end of horizon
301	4 Periods - 5/10/99 end of horizon
302	4 Periods - 10/15/99 end of horizon
303	4 Periods - 15/20/99 end of horizon
304	4 Periods - 20/25/99 end of horizon
305	4 Periods - 25/30/99 end of horizon
306	4 Periods - 30/35/99 end of horizon
307	4 Periods - 35/40/99 end of horizon
308	4 Periods - 40/45/99 end of horizon
309	4 Periods - 45/50/99 end of horizon

# Coverage profile example by part number

Here we are using YK=10 days of supply and a coverage profile of 302 (10/15/99).

There are two similar days of coverage calculations on the far right of this slide telling you how many days of coverage you have (1).

You can also see your supply plan varies more than your demand plan and there is no standard supply size (2). Should you care?

(3) Your target is always exceeded when you resupply. This is because the delta between the target and the min is added to the YK 10 days of supply, creating a supply signal of 15 days. This increases your inventory and the variability of the signal.

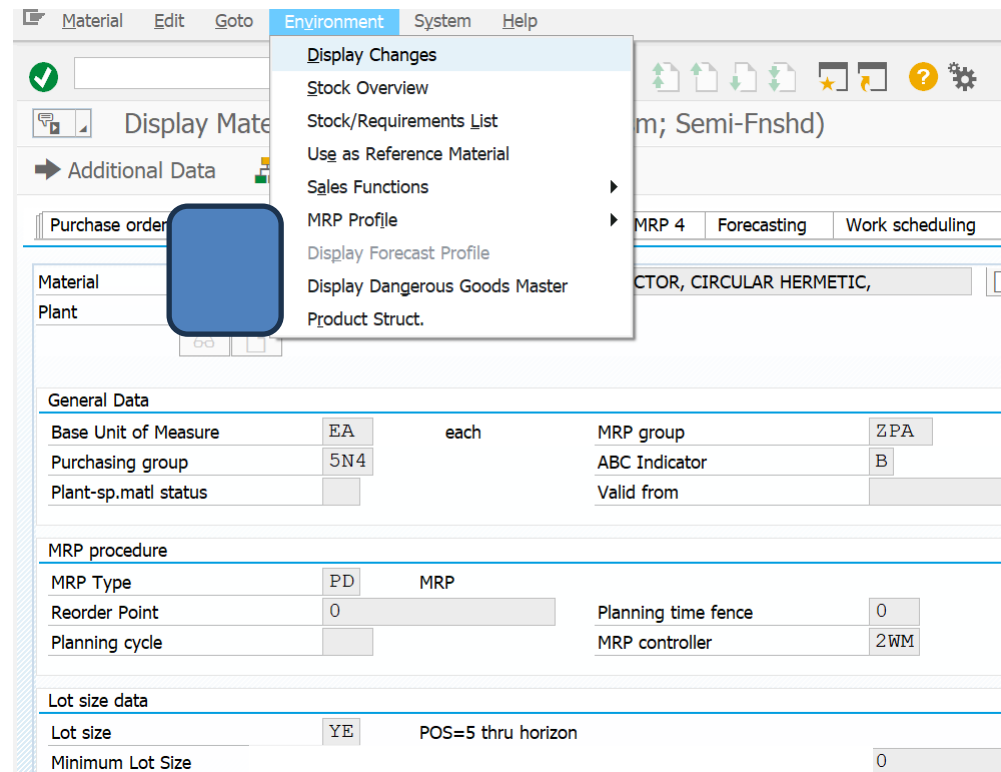
A...	Period/segment	Plnd ind.req...	Requirement	Receipts	Avail. Quan...	ATP quantity	Actual...	Stat. ...
	w 24/2020	0	90-	157	230	0	24.8	19.4
	w 25/2020	0	36-	0	194	0	21.8	16.4
	w 26/2020	0	45-	0	149	0	17.8	12.6
	w 27/2020	0	18-	203	334	0	26.8	28.2
	w 28/2020	0	54-	0	280	0	20.8	21.9
	w 29/2020	0	63-	0	217	0	14.	.9
	w 30/2020	0	54-	0	163	0	11.	.7
	w 31/2020	0	72-	216	307	0	26.0	24.0
	w 32/2020	0	102-	0	205	0	21.0	16.5
	w 33/2020	0	54-	0	151	0	16.0	12.2
	w 34/2020	0	87-	126	190	0	25.1	15.3
	w 36/2020	0	63-	0	127	0	18.1	10.2

# How to See Changes in Parameters

Go to the MD04 and double click the part number to bring you to the Material Master Screens.

In this example I want to see if data has been updated for minimum order quantity.

Select “Environment” and then “Display Changes”.



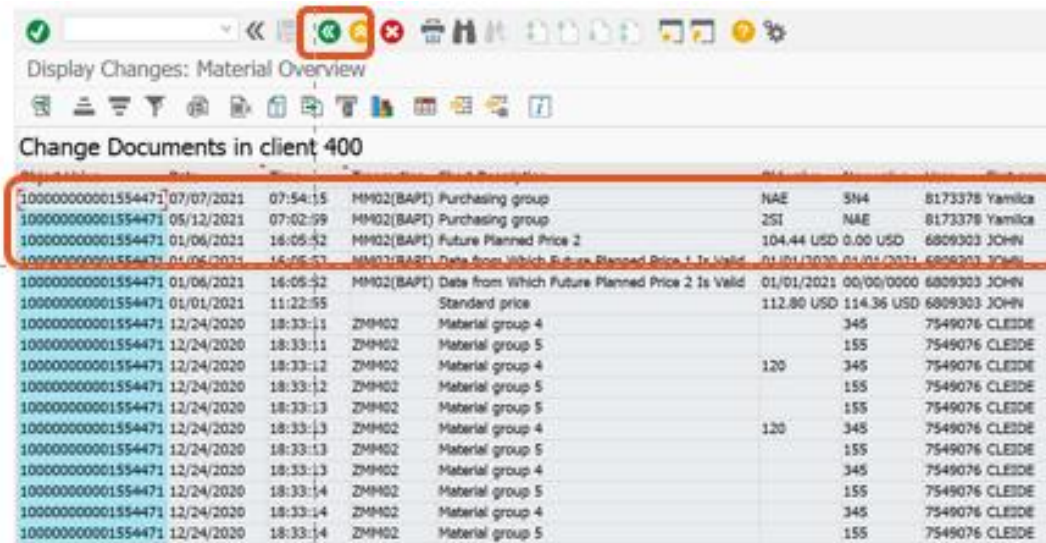
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# How to See Changes in Parameters

This is the underlying table MMCHANGE DOC pulls from.

When you see the changes, you can green arrow back to MD04.

This allows you to skip having to open up another T Code during your analysis



Display Changes: Material Overview

Change Documents in client 400

100000000001554471	07/07/2021	07:54:15	MM02(BAPI) Purchasing group	NAE	SN4	8173378	Yamlica
100000000001554471	05/12/2021	07:02:09	MM02(BAPI) Purchasing group	25I	NAE	8173378	Yamlica
100000000001554471	01/06/2021	16:05:52	MM02(BAPI) Future Planned Price 2	104.44 USD	0.00 USD	6809303	JOHN
100000000001554471	01/06/2021	16:05:52	MM02(BAPI) Date from Which Future Planned Price 2 Is Valid	01/01/2020	01/01/2021	6809303	JOHN
100000000001554471	01/06/2021	16:05:52	MM02(BAPI) Standard price	112.80 USD	114.36 USD	6809303	JOHN
100000000001554471	12/24/2020	18:33:11	ZMM02 Material group 4			345	7549076 CLEIDE
100000000001554471	12/24/2020	18:33:11	ZMM02 Material group 5			155	7549076 CLEIDE
100000000001554471	12/24/2020	18:33:12	ZMM02 Material group 4	120		345	7549076 CLEIDE
100000000001554471	12/24/2020	18:33:12	ZMM02 Material group 5			155	7549076 CLEIDE
100000000001554471	12/24/2020	18:33:13	ZMM02 Material group 5			155	7549076 CLEIDE
100000000001554471	12/24/2020	18:33:13	ZMM02 Material group 4	120		345	7549076 CLEIDE
100000000001554471	12/24/2020	18:33:13	ZMM02 Material group 5			155	7549076 CLEIDE
100000000001554471	12/24/2020	18:33:13	ZMM02 Material group 4			345	7549076 CLEIDE
100000000001554471	12/24/2020	18:33:14	ZMM02 Material group 5			155	7549076 CLEIDE
100000000001554471	12/24/2020	18:33:14	ZMM02 Material group 4			345	7549076 CLEIDE
100000000001554471	12/24/2020	18:33:14	ZMM02 Material group 5			155	7549076 CLEIDE

# Example of insanity in the parameters

In this example we see an insane number of changes to SAP Planning Parameters that clearly indicate NO ONE IS TESTING stuff, they are just going all willy-nilly on changes.

302 10/15/99

324 5/25/99

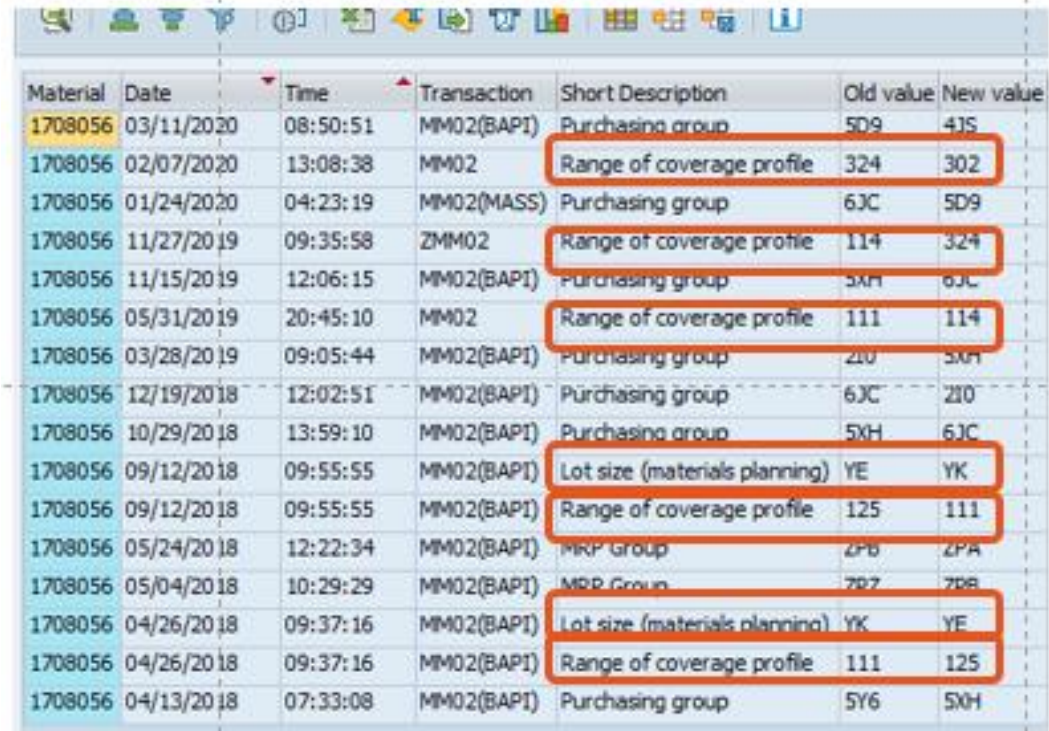
111 5/10/20

114 10/15/20

125 1/5/10

YE 5 days period of supply

YK 10 days period of supply



Material	Date	Time	Transaction	Short Description	Old value	New value
1708056	03/11/2020	08:50:51	MM02(BAPI)	Purchasing group	5D9	41S
1708056	02/07/2020	13:08:38	MM02	Range of coverage profile	324	302
1708056	01/24/2020	04:23:19	MM02(MASS)	Purchasing group	6JC	5D9
1708056	11/27/2019	09:35:58	ZMM02	Range of coverage profile	114	324
1708056	11/15/2019	12:06:15	MM02(BAPI)	Purchasing group	5XH	6JC
1708056	05/31/2019	20:45:10	MM02	Range of coverage profile	111	114
1708056	03/28/2019	09:05:44	MM02(BAPI)	Purchasing group	210	5XH
1708056	12/19/2018	12:02:51	MM02(BAPI)	Purchasing group	6JC	210
1708056	10/29/2018	13:59:10	MM02(BAPI)	Purchasing group	5XH	6JC
1708056	09/12/2018	09:55:55	MM02(BAPI)	Lot size (materials planning)	YE	YK
1708056	09/12/2018	09:55:55	MM02(BAPI)	Range of coverage profile	125	111
1708056	05/24/2018	12:22:34	MM02(BAPI)	MRP Group	ZPB	ZPA
1708056	05/04/2018	10:29:29	MM02(BAPI)	MRP Group	ZDB	ZDB
1708056	04/26/2018	09:37:16	MM02(BAPI)	Lot size (materials planning)	YK	YE
1708056	04/26/2018	09:37:16	MM02(BAPI)	Range of coverage profile	111	125
1708056	04/13/2018	07:33:08	MM02(BAPI)	Purchasing group	5Y6	5XH

It has been four hours, let's change SAP and see if it improves anything. NOT A GOOD PLAN.

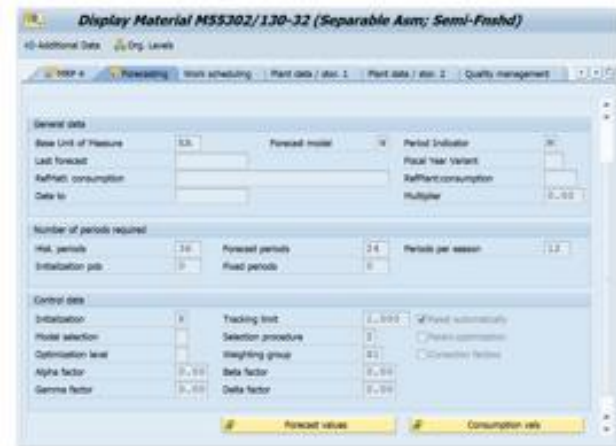
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# Forecast Tab

In the materials master is a tab called “Forecasting” where we can see historical consumption/Usage (not forecast).

In the lower righthand corners is the consumption values button. Click on it and we will see the historical usage.

This tab is very useful when doing an investigation into a parts behavior.



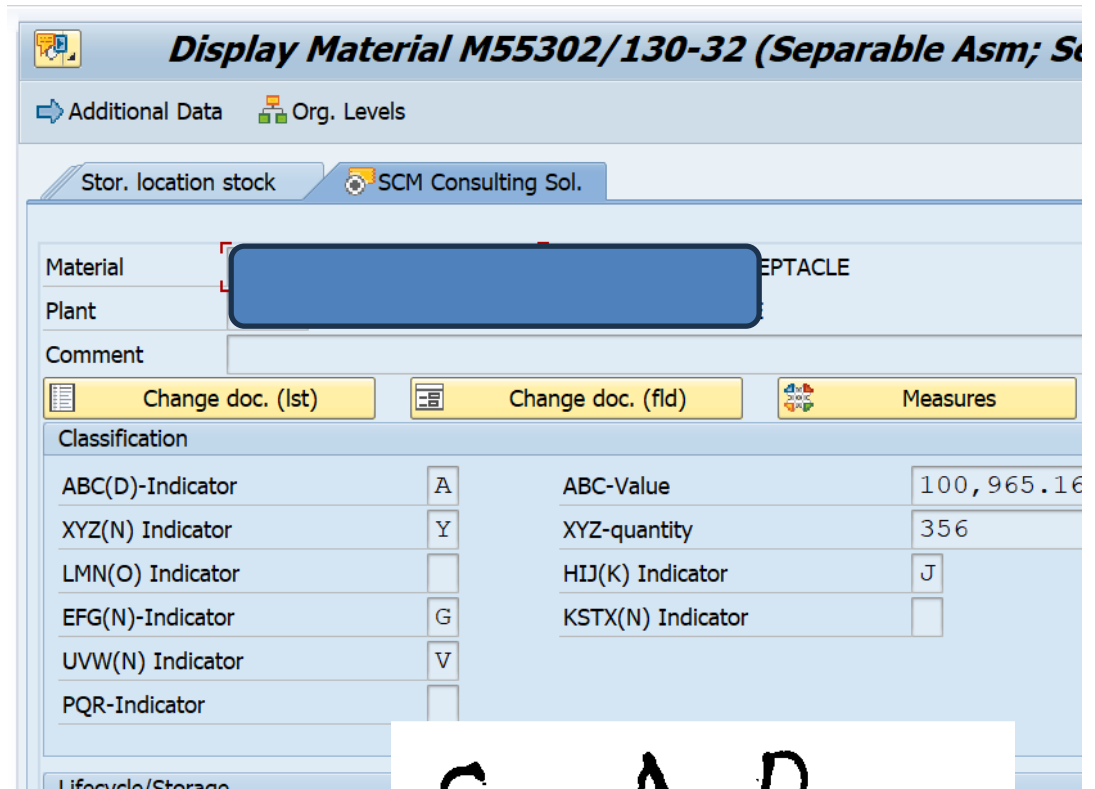
The screenshot shows the Consumption values table for material M55302/130-32. The table has columns for Period, Total consumption, Corrected value, and Qunit. The data shows consumption values for various periods from 04/2022 to 04/2021.

Period	Total consumption	Corrected value	Qunit
04/2022	0	0	1,00
03/2022	37	37	1,00
02/2022	85	85	1,00
01/2022	0	0	1,00
12/2021	8	8	1,00
11/2021	32	32	1,00
10/2021	16	16	1,00
09/2021	24	24	1,00
08/2021	48	48	1,00
07/2021	16	16	1,00
06/2021	8	8	1,00

# SCM Tab

The SCM tab will provide, when populated, information around the segmentation the part belongs to.

Here we can see ABC, HIJ, XYZ, EFG, and UVW.



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# Accounting Tab

There are multiple accounting tabs and some key points are we can see standard cost, current moving cost, and the pricing unit.

Pricing unit matters because sometime s we price things in 100 piece lots, and the standard cost divided by the pricing unit of 100 pieces gives us the piece price.

The screenshot displays the SAP Material Accounting Tab for Material M55302/130-32 (Separable Asm; Semi-Fnshd). The interface includes a menu bar (Material, Edit, Goto, Environment, System, Help) and a toolbar. The main content area is titled "Display Material M55302/130-32 (Separable Asm; Semi-Fnshd)" and shows the Accounting 1 tab selected. The material name is "RECEPTACLE". The "General Valuation Data" section shows:

Total Stock	62	Base Unit	EA	each
Division		Valuation Cat.		
Valuation Class	Z014	<input type="checkbox"/> Valuated Un		
VC: Sale Ord. Stk		<input checked="" type="checkbox"/> ML act.		Mat. Price Analysis
Project Stock VC		Price Determ.	2	Transaction-Based

The "Prices and values" section shows:

	USD	USD
	Company code currency	Group currency
Standard Price	283.61	283.61
Per. unit price	304.94	304.94
Price Unit	1	1

The right sidebar contains a list of navigation options, with "Accounting 1" selected.

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