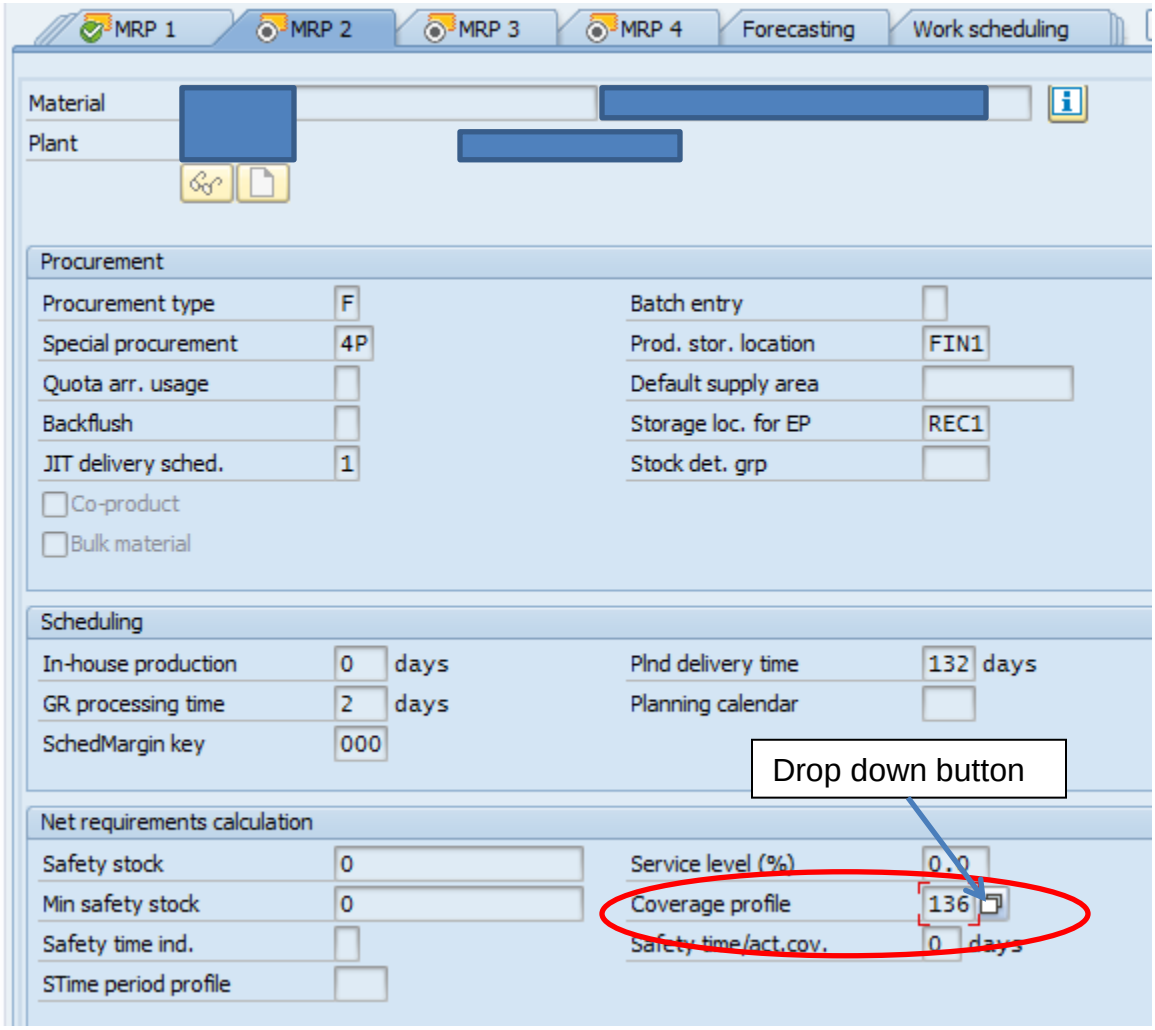
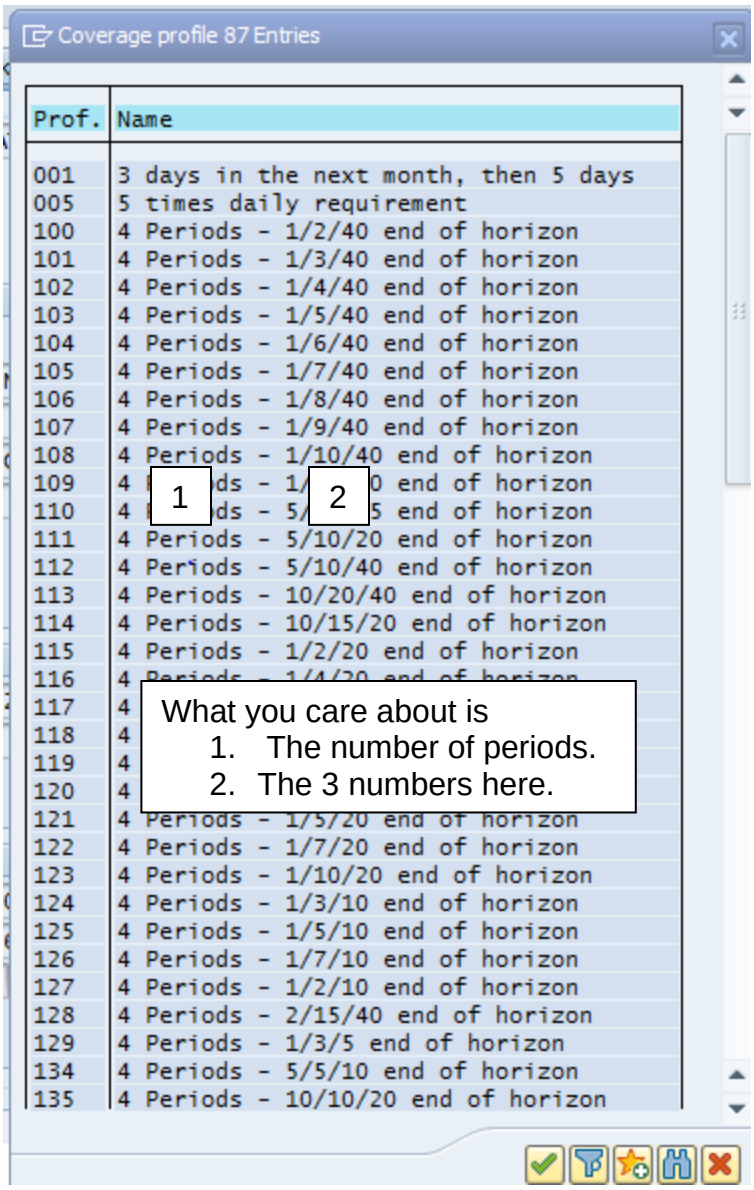
Coverage Profiles and Dynamic Buffers
SAP offers a buffer strategy based on forecast over a period of time, typically referred to as a dynamic buffer stock.

Coverage Profile is in the MRP2 tab of the materials master.



Click on the drop down button and you should see something like this (although hopefully a less insane number of them).



What coverage profile does is look at the forecast and it calculates a dynamic buffer in days. The number of periods considered is the number of (typically) months that are considered for the buffers calculation.

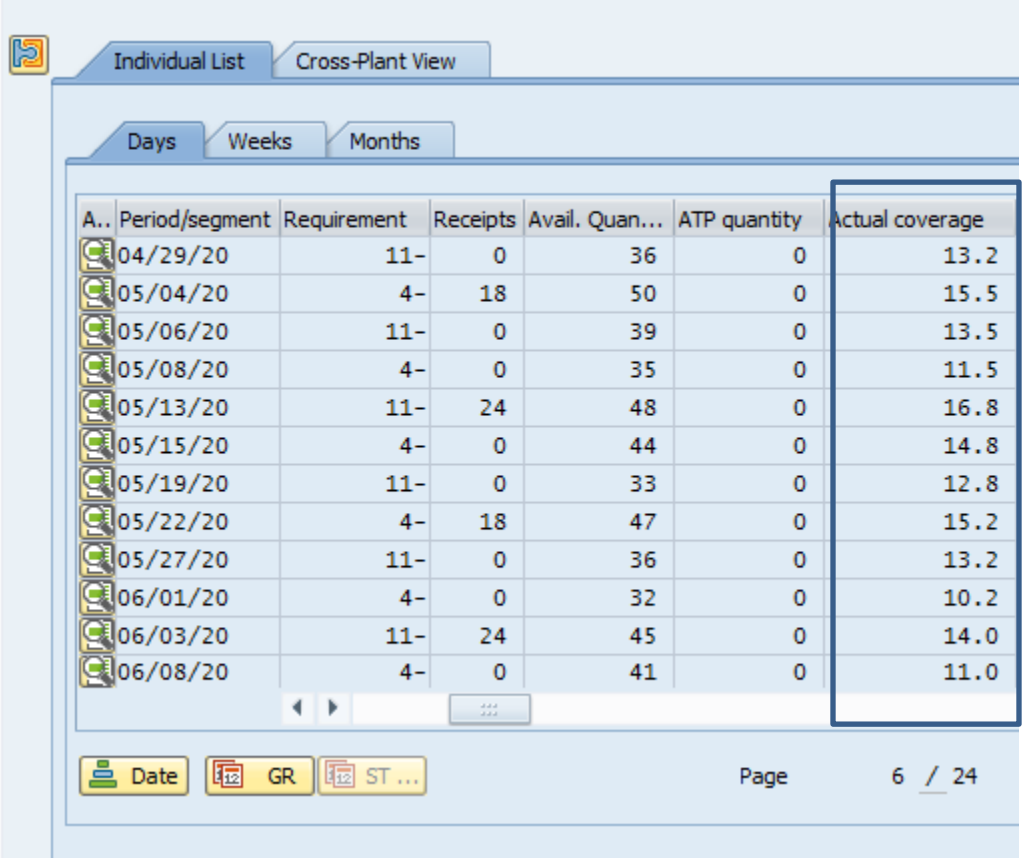
The three numbers in a row (e.g. coverage profile 125, which is 1/5/10) tell you the following:

1. The first number tells you the buffer in days. The idea is to never let your buffer go below, in this example, 1 day of supply.
2. The second number is the target for you to order up to. So here when the MRP believes it is going to have one day of supply, it will launch an order to get up to five days of supply. In a perfect world, your inventory would be between one day of supply and five days of supply.

3. The third number is about exception messages. Basically you will not see an exception message until you exceed this number in supply. In this example, your supply will need to exceed 10 days before you get a message. And the message will not be a push out or pill in message. It will be a message saying you have “excess” (exception message number 25). It will not propose a reschedule out date.

So how does this work? Well it can be confusing because other SAP Parameters, specifically lot size, can cause this to deliver results that may not be in line with what you were expecting. For simplicity sake, we will look at a part number with a “lot for lot” lot size (EX). The part is also a high volume, stable consumption part (H and X).

Coverage Profile is 10/15/99 with a rounding value of 6. When in daily buckets you can see the system working the parameters. When the system expects to be at 10 days coverage, it generates a supply to cycle back up to 15 days.



If you use coverage profiles on low volume materials (I or J items), you need to keep in mind that since coverage profiles are based on forecasts, periods with no forecast or very low forecasts may not be buffered. Run simulations, see what the values look like, and decide if the system is giving you the results you want.

If you are not getting results you like on I and J items, and still want to buffer, consider static safety stock or safety lead time.

Lot Sizes and Coverage Profile

One of the dark secrets of coverage profile is its almost unnatural relationship with lot sizes. When you use a lot size other than EX, the coverage profile replenishment signal and the lot size value combine, to form a new supply signal.

This is a lot like the movie “The Fly” and almost as useful.

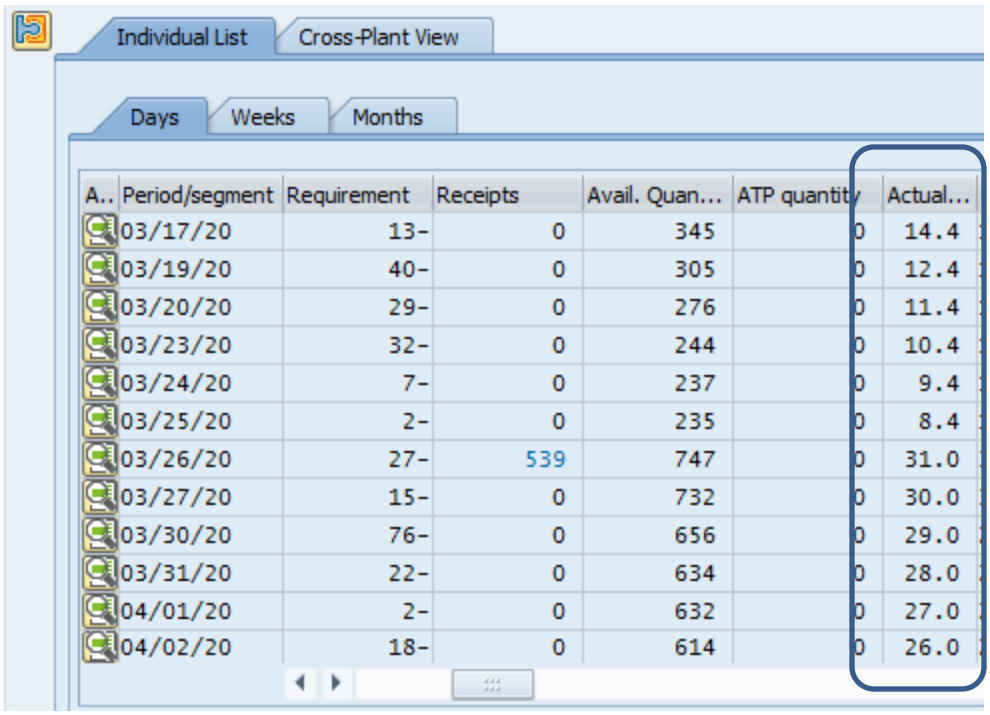
How does this look in SAP? For this example we will look at a coverage profile targeting 10/15/20 and a lot size of Y3 which is a period of supply of 20 days.

So the coverage profile wants to maintain a minimum of 10 days, and when replenishing target 15 days. You won’t get an exception message until you exceed 20 days of supply.

But the lot size wants to order 20 days at a time. So how does the system resolve this?

In the below example we can see the system takes the inventory down to almost 10 days, before sending a supply signal to take it over 30days (basically it is ordering the five days lot size the coverage profile wants PLUS the 20 days the lot size wants).

And because this is above the 20 days maximum, you will get exception message 25 (excess) on every order you generate.



A..	Period/segment	Requirement	Receipts	Avail. Quan...	ATP quantity	Actual...
	03/17/20	13-	0	345	0	14.4
	03/19/20	40-	0	305	0	12.4
	03/20/20	29-	0	276	0	11.4
	03/23/20	32-	0	244	0	10.4
	03/24/20	7-	0	237	0	9.4
	03/25/20	2-	0	235	0	8.4
	03/26/20	27-	539	747	0	31.0
	03/27/20	15-	0	732	0	30.0
	03/30/20	76-	0	656	0	29.0
	03/31/20	22-	0	634	0	28.0
	04/01/20	2-	0	632	0	27.0
	04/02/20	18-	0	614	0	26.0

You do not have to believe me that this is happening but you should check the results in your own system and decide for yourself what it is doing. Usually when I see this I realize that the people using the coverage profile both do not understand it and are not validating what the parameters are actually doing.

Since inventory optimization is a function of lot size, replenishment type, and buffers, it is critical to understand the interactions between the SAP settings if you want to get the most out of your working capatial.