

## Model based on finite family capacity

In the next pictures some examples are shown about material availability check based on family finite capacity during a sales order creation. The capacity of each family is concentrated, as usual time windows, in cyclical periods. There is a rotation between the various family periods.

This model works either in case of make to stock production, or make to order. The first one is considered in the next examples, but the difference between them is very small.

There are 6 materials (from matfam1 – to matfam6) and 2 families (famiglia-a and famiglia-b). Each family contains 3 materials, as shown in the 2 next pictures.

Gruppo prodotti: FAMIGLIA-A, Gruppo famiglia 1  
 Divisione: PMM1, M&M Plant 1  
 Unità mis. base: PZ

N. elementi	Div.	Conv. unità Testo breve	Fatt. aggr.	Quota (%)	UM	V P Fs
MATFAM1	PMM1	1	1	0	PZ	<input type="checkbox"/>
		Materiale pianificazione famiglia			FERT	
MATFAM2	PMM1	1	1	0	PZ	<input type="checkbox"/>
		Materiale pianificazione famiglia			FERT	
MATFAM3	PMM1	1	1	0	PZ	<input type="checkbox"/>
		Materiale pianificazione famiglia			FERT	

Gruppo prodotti: FAMIGLIA-B, Gruppo famiglia 2  
 Divisione: PMM1, M&M Plant 1  
 Unità mis. base: PZ

N. elementi	Div.	Conv. unità Testo breve	Fatt. aggr.	Quota (%)	UM	V P Fs
MATFAM4	PMM1	1	1	0	PZ	<input type="checkbox"/>
		Materiale pianificazione famiglia			FERT	
MATFAM5	PMM1	1	1	0	PZ	<input type="checkbox"/>
		Materiale pianificazione famiglia			FERT	
MATFAM6	PMM1	1	1	0	PZ	<input type="checkbox"/>
		Materiale pianificazione famiglia			FERT	

With a module pool, some custom tables are updated. They are useful for the model and contain, for each period, informations about dates, activation flag, max quantity for the family, percentage of the max family quantity that each material can consume in its period.

Insertimento tabella Elaborare Passaggio a Parametrizzazione Utilities Ambiente Sistema SAP

Data Browser: tabella /PRCF/DEFFP 12 hit

Tabella di controllo...

Tabella: /PRCF/DEFFP  
Campi visualizz.: 8 Da 8 Colonne iniziali fisse: Lar. lista 0250

MANDT	WERKS	FAMPR	DATUV	DATUB	QIAPP	UDMFP	ATTFP
500	PMM1	FAMIGLIA-A	01.12.2005	07.12.2005	10,000	K6	X
500	PMM1	FAMIGLIA-A	16.12.2005	21.12.2005	10,000	K6	X
500	PMM1	FAMIGLIA-A	01.01.2006	10.01.2006	40,000	K6	X
500	PMM1	FAMIGLIA-A	21.01.2006	31.01.2006	40,000	K6	X
500	PMM1	FAMIGLIA-A	20.02.2006	20.02.2006	1.000.000,000	K6	X
500	PMM1	FAMIGLIA-B	08.12.2005	15.12.2005	10,000	K6	X
500	PMM1	FAMIGLIA-B	22.12.2005	28.12.2005	10,000	K6	X
500	PMM1	FAMIGLIA-B	11.01.2006	20.01.2006	40,000	K6	X
500	PMM1	FAMIGLIA-B	01.02.2006	15.02.2006	40,000	K6	X
500	PMM1	FAMIGLIA-B	20.02.2006	20.02.2006	1.000.000,000	K6	X

Family window: period edges

Max family quantity. It's valuated in Kg, because for statistical analyses is more relevant than pieces.

Activation flag

Insertimento tabella Elaborare Passaggio a Parametrizzazione Utilities Ambiente Sistema SAP

Data Browser: tabella /PRCF/CODFP 30 hit

Tabella di controllo...

Tabella: /PRCF/CODFP  
Campi visualizz.: 9 Da 9 Colonne iniziali fisse: Lar. lista 0250

MANDT	WERKS	MATNR	DATUV	DATUB	FAMPR	PNMAT	TOLPR	IPR10
500	PMM1	MATFAM1	01.12.2005	07.12.2005	FAMIGLIA-A	X	100,0	001
500	PMM1	MATFAM1	16.12.2005	21.12.2005	FAMIGLIA-A	X	100,0	001
500	PMM1	MATFAM1	01.01.2006	10.01.2006	FAMIGLIA-A	X	100,0	002
500	PMM1	MATFAM1	21.01.2006	31.01.2006	FAMIGLIA-A	X	100,0	001
500	PMM1	MATFAM1	20.02.2006	20.02.2006	FAMIGLIA-A	X	100,0	006
500	PMM1	MATFAM2	01.12.2005	07.12.2005	FAMIGLIA-A	X	100,0	002
500	PMM1	MATFAM2	16.12.2005	21.12.2005	FAMIGLIA-A	X	100,0	002
500	PMM1	MATFAM2	01.01.2006	10.01.2006	FAMIGLIA-A	X	100,0	002
500	PMM1	MATFAM2	21.01.2006	31.01.2006	FAMIGLIA-A	X	100,0	002
500	PMM1	MATFAM2	20.02.2006	20.02.2006	FAMIGLIA-A	X	100,0	006
500	PMM1	MATFAM3	01.12.2005	07.12.2005	FAMIGLIA-A	X	100,0	003
500	PMM1	MATFAM3	16.12.2005	21.12.2005	FAMIGLIA-A	X	100,0	003
500	PMM1	MATFAM3	01.01.2006	10.01.2006	FAMIGLIA-A	X	100,0	000
500	PMM1	MATFAM3	21.01.2006	31.01.2006	FAMIGLIA-A	X	100,0	003
500	PMM1	MATFAM3	20.02.2006	20.02.2006	FAMIGLIA-A	X	100,0	006
500	PMM1	MATFAM4	08.12.2005	15.12.2005	FAMIGLIA-B	X	50,0	004
500	PMM1	MATFAM4	22.12.2005	28.12.2005	FAMIGLIA-B	X	50,0	004
500	PMM1	MATFAM4	11.01.2006	20.01.2006	FAMIGLIA-B	X	50,0	004
500	PMM1	MATFAM4	01.02.2006	15.02.2006	FAMIGLIA-B	X	50,0	004
500	PMM1	MATFAM4	20.02.2006	20.02.2006	FAMIGLIA-B	X	50,0	006
500	PMM1	MATFAM5	08.12.2005	15.12.2005	FAMIGLIA-B	X	50,0	005
500	PMM1	MATFAM5	22.12.2005	28.12.2005	FAMIGLIA-B	X	50,0	005
500	PMM1	MATFAM5	11.01.2006	20.01.2006	FAMIGLIA-B	X	50,0	005
500	PMM1	MATFAM5	01.02.2006	15.02.2006	FAMIGLIA-B	X	50,0	005
500	PMM1	MATFAM5	20.02.2006	20.02.2006	FAMIGLIA-B	X	50,0	006
500	PMM1	MATFAM6	08.12.2005	15.12.2005	FAMIGLIA-B	X	50,0	006
500	PMM1	MATFAM6	22.12.2005	28.12.2005	FAMIGLIA-B	X	50,0	006
500	PMM1	MATFAM6	11.01.2006	20.01.2006	FAMIGLIA-B	X	50,0	006
500	PMM1	MATFAM6	01.02.2006	15.02.2006	FAMIGLIA-B	X	50,0	006
500	PMM1	MATFAM6	20.02.2006	20.02.2006	FAMIGLIA-B	X	50,0	006

Family window : period edges

Activation flag

Percentage of the max family quantity (picture above) that can be consumed by this material

Priority between materials

The stock/requirements situation is shown below for matfam1 and matfam4.

Lista stock/fabbisogni delle ore 08:06

Albero materiale on

Materiale **MATFAM1** Materiale pianificazione famiglia  
Divisione **PHN1** Caratt. MRP **PD** Tipo mat. **FERT** Unità **PZ**

Data	Elem...	Dati elem. pian. MRP	Data risch...	E..	Entrata/fabb.	Qtà disponibile
29.11.2005	Stock					5
16.12.2005	Ordine	1213001031/000010/0...			5-	0

Lista stock/fabbisogni delle ore 08:06

Albero materiale on

Materiale **MATFAM4** Materiale pianificazione famiglia  
Divisione **PHN1** Caratt. MRP **PD** Tipo mat. **FERT** Unità **PZ**

Data	Elem...	Dati elem. pian. MRP	Data risch...	E..	Entrata/fabb.	Qtà disponibile
29.11.2005	Stock					5
22.12.2005	Ordine	1213001031/000020/0...			5-	0

Both materials have 5 pieces in stock and a requirement of the same quantity. **The other materials have not stock, neither requirements.** It's important to notice that normally the 5 pieces would have been consumed by the actual requirement. In the current model the stock will be taken, as is shown after, from orders that have the requirement date less than the lead time edge (today + lead time), because is not possible to produce the required quantity without delay and then they have higher priority to reserve the stock than "far date requirement" orders.

**Today is 29.11.2005**, then the order above (1213001031/item 20) will consume the quantity associated to the own family (see the date of the requirement: it falls in one family interval), they will not consume the stock.

In the next pictures, there are some examples with matfam1:

- 1) sales order of 10 pieces and result of the availability check
- 2) increase the quantity from 10 to 30 and result of the availability check

The screenshot shows the SAP 'Creare Ordine standard: riepilogo' (Create Standard Order: Summary) window. The interface includes a menu bar at the top with options like 'Documento di vendita', 'Elaborare', 'Passaggio a', 'Opzioni', 'Ambiente', 'Sistema', and 'Help'. Below the menu, there are several tabs: 'Vendita', 'Riepilogo posizioni', 'Dettaglio posizione', 'Autore ord. d'acq.', 'Approvvigionamento', 'Spedizione', and 'Causa del rifiuto'. The main area contains various fields for order details, including 'Ordine standard', 'Valore netto' (0,00 EUR), 'Committente' (300006), 'Destin. merci' (300006), and 'Data pref.cons.' (29.11.2005). A table at the bottom, titled 'Pos. (tutte)', displays the order positions with columns for 'Pos.', 'Materiale', 'Quantità ordine', 'UM', 'S', 'Definizione', '1a data', 'Cd. materiale cliente', 'Ctp', 'Pro...', and 'Pos.'. The first row shows position 10 for material NATFAM1 with a quantity of 10 and unit of measure PZ. The table also includes a 'Pos.' column with a small icon and a 'Pos.' column with a small icon.

Pos.	Materiale	Quantità ordine	UM	S	Definizione	1a data	Cd. materiale cliente	Ctp	Pro...	Pos.
10	NATFAM1		PZ	✓	Materiale pianificazione famiglia	29.11.2005		TAN		
						29.11.2005				
						29.11.2005				
						29.11.2005				
						29.11.2005				

Ordine standard: controllo disponibilità

Consegna completa Proposta di consegna Continuare Quantità ATP Volume controllo Altre divisioni

Posizione 10 Schedulaz. 1  
 Materiale MATFAM1 Materiale pianificazione famiglia  
 Divisione PHN1  
 Dt. pref. cons. 29.11.2005 Quantità in sospeso 10 PZ  
 Fn.tmp.riappr. 20.12.2005 N.max cons.parziali 9  
 Data definitiva

Cons. unica alla data richiesta : non ammessa  
 Fri/Conf.Data 29.11.2005 / 29.11.2005 Quantità confermata 0

Consegna completa  
 Fri/Conf.Data 23.12.2005 / 16.12.2005 ✓

Proposta cons.		Qty confermata
Fri/Conf.Data	06.12.2005 / 29.11.2005	5 ✓
	23.12.2005 / 16.12.2005	5

First of all, it's necessary to know that in the control, the material unit of measure is converted into family unit of measure using the weight (for piece) stored in the material master.  
 All materials of these examples have 1 Kg for piece in material master and a lead time of 7 days.

The reason why the first family period (01.12.2005 – 07.12.2005) is useless is that the ending edge of the lead time interval (as shown after) is 06.12.2005 and is greater than the starting period (01.12.2005), then it must jump to the next family window.

For instance in the case of matfam1, **the equivalent capacity (in term of matfam1) in the first period is 10 pieces** : 10 Kg (family) / 1 Kg (material). In the same way, the capacity is 40 pieces in the third period (01.01.2006- 10.01.2006).

As shown above, the system allocates :

- 5 pieces from stock, because the requested date (29.11.2005) is inside the lead time interval : today (29.11.05) + lead time (7 days) = 06.12.2005
- The rest of the requirement (5 pieces), is allocated to the next "window" of its family (it starts on 16.12.2005 and is the second one).

In case of make to order production, the stock would have been ignored and only planning family windows would have been considered.

Starting from the same example shown above, the quantity requested is increased from 10 to 30 pieces.

The screenshot shows the SAP 'Creare Ordine standard: riepilogo' window. The top menu bar includes 'Documento di vendita', 'Elaborare', 'Passaggio a', 'Opzioni', 'Ambiente', 'Sistema', and 'Help'. The SAP logo is visible in the top right corner.

Key data fields include:

- Ordine standard: [Empty]
- Valore netto: 0,00 EUR
- Committente: 300006 Pirelli Accessori / / - Milano
- Destin. merci: 300006 Pirelli Accessori / / - Milano
- N. ord. acq.: [Empty]
- Data ORDACQ: [Empty]

Navigation tabs include: Vendita, Riepilogo posizioni (selected), Dettaglio posizione, Autore ord. d'acq., Approvvigionamento, Spedizione, and Causa del rifiuto.

Order details section:

- Data pref.cons.: T 29.11.2005
- Div. consegna: [Empty]
- Consegna compl.
- Peso totale: 30.000 G
- Blocco cons.: [Empty]
- Volume: 0,000
- Blocco fattura: [Empty]
- Data prezzo: 29.11.2005
- Carta pagamento: [Empty]
- Fine validità: [Empty]
- Cond. pagamento: 0002 14 giorni 2%, 30 ne.. Incoterms: EXW F.Fabbrica
- Motivo ordine: [Empty]
- Area vendite: MS01 / M1 / M1 Organizzaz.comm.0001, Canale distr.01, Sett. merceol.01

Table 'Pos. (tutte)' showing order positions:

Pos.	Materiale	Quantità ordine	UM	S	Definizione	1a data	Cd. materiale cliente	Ctp	Pro...	Pos...
10	NATFAM1	30	PZ	<input checked="" type="checkbox"/>	Materiale pianificazione famiglia	29.11.2005		TAN		
				<input type="checkbox"/>		29.11.2005				
				<input type="checkbox"/>		29.11.2005				
				<input type="checkbox"/>		29.11.2005				
				<input type="checkbox"/>		29.11.2005				

The result of the availability check is shown in the next picture.

Vedeata di controllo Passaggio a Sistema Help

SAP

### Ordine standard: controllo disponibilità

Consegna completa Proposta di consegna Continuare Quantità ATP Volume controllo Altre divisioni

Posizione 10 Schedulaz. 1  
 Materiale MATFAM1 Materiale pianificazione famiglia  
 Divisione PHM1  
 Dt. pref. cons. 29.11.2005 Quantità in sospeso 30 PZ  
 Fn.tmp.riappr. 20.12.2005  
 Data definitiva N.max cons.parziali 9

Cons. unica alla data richiesta : non ammessa  
 Fr/Conf.Data 29.11.2005 / 29.11.2005 Quantità confermata 0

Consegna completa  
 Fr/Conf.Data 01.01.2006 01.01.2006

Proposta cons.

Fr/Conf.Data	06.12.2005 / 29.11.2005	Qtà confermata	
		5	<input checked="" type="checkbox"/>
	23.12.2005 / 16.12.2005	5	
	10.01.2006 / 01.01.2006	20	

Also the second window of the family “Famiglia-a” (like the first) has a capacity of 10 pieces, but only 5 pieces are available, because 5 are already allocated to the order shown in the previous pages (stock/req. list).

The situation is similar to the precedent one. In this case, one schedulation has been added: the rest of the requirement (20 pieces) is allocated on the third window of the family discussed above, that starts on 01.01.2006.

In this new example, a new requirement is manually added in a new position. A new material of the same family is considered, it's matfam2. It's required 1 piece for today, but there isn't stock for matfam2 to delivery immediately and then it's planned inside its family windows. The first free window is the third one (as it is shown above, in the previous picture: the farrest used by matfam1 and still partially free). What barely described, it can be seen in the following two pictures.

Documento di vendita | Elaborare | Passaggio a | Opzioni | Ambiente | Sistema | Help

SAP

### Creare Ordine standard: riepilogo

Ordini

Ordine standard Valore netto 0,00 EUR

Committente 300006 Pirelli Accessori / / - Milano

Destin. merci 300006 Pirelli Accessori / / - Milano

N. ord. acq. Data ORDACQ

Vendita | Riepilogo posizioni | Dettaglio posizione | Autore ord. d'acq. | Approvvigionamento | Spedizione | Causa del rifiuto

Data pref. cons. T 29.11.2005 Div. consegna

Consegna compl. Peso totale 31.000 G

Blocco cons. Volume 0,000

Blocco fattura Data prezzo 29.11.2005

Carta pagamento Fine validità

Cond. pagamento 0002 14 giorni 2%, 30 ne... Incoterms EXW F.Fabbrica

Motivo ordine

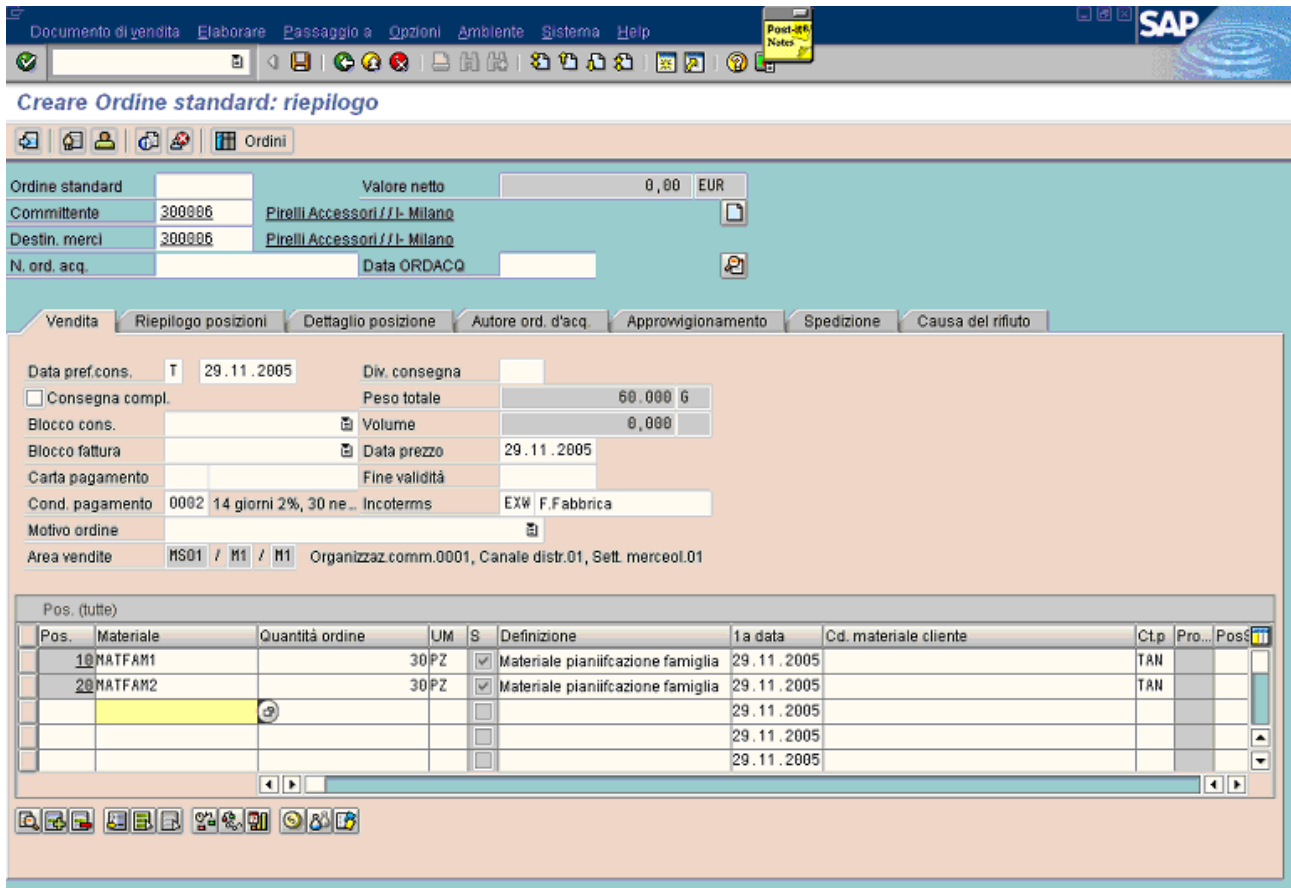
Area vendite MSD1 / M1 / M1 Organizzaz.comm.0001, Canale distr.01, Sett. merceol.01

Pos.	Materiale	Quantità ordine	UM	S	Definizione	1a data	Cd. materiale cliente	Ctp	Pro...	Pos
10	NATFAM1		30 PZ	<input checked="" type="checkbox"/>	Materiale pianiificazione famiglia	29.11.2005		TAN		
20	NATFAM2		1 PZ	<input checked="" type="checkbox"/>	Materiale pianiificazione famiglia	29.11.2005		TAN		
				<input type="checkbox"/>		29.11.2005				
				<input type="checkbox"/>		29.11.2005				
				<input type="checkbox"/>		29.11.2005				

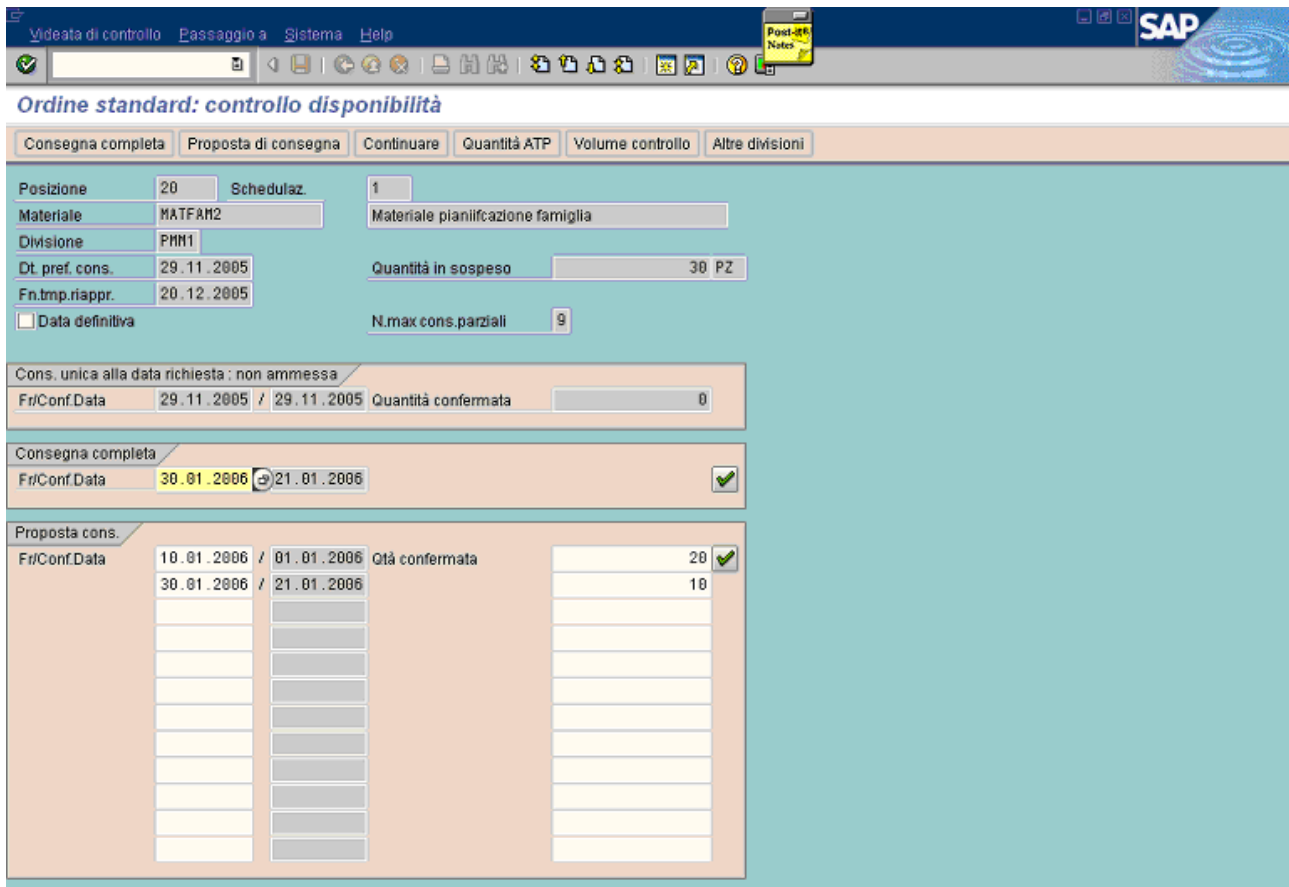




Starting from the previous example, the quantity requested of matfam2 is increased from 1 to 30. The requirement is satisfied with the production planned in the third and fourth window of the family famiglia-a, which also matfam2 belongs.



In the next picture is shown the result of the availability check.



The allocation starts from the third window of the family. In other words it starts from the last window that was consumed by matfam1, that belongs to the same family. The equivalent capacity (in term of matfam2) of this window is 40 pieces, like matfam1. It consumed 20 pieces of its family, that's why the new requirement consumes only 20 pieces (the remaining ones). When the third window is closed, there's a jump to the next available window of this family (the fourth one) to try an allocation of the residual quantity (10 pieces).

In the previous example, in case of make to order for the second item, the result would have been the same shown above, because, except stock avoiding, both cases (make to stock and make to order) are similar. Since in this case the stock is not available, their results are really identical.

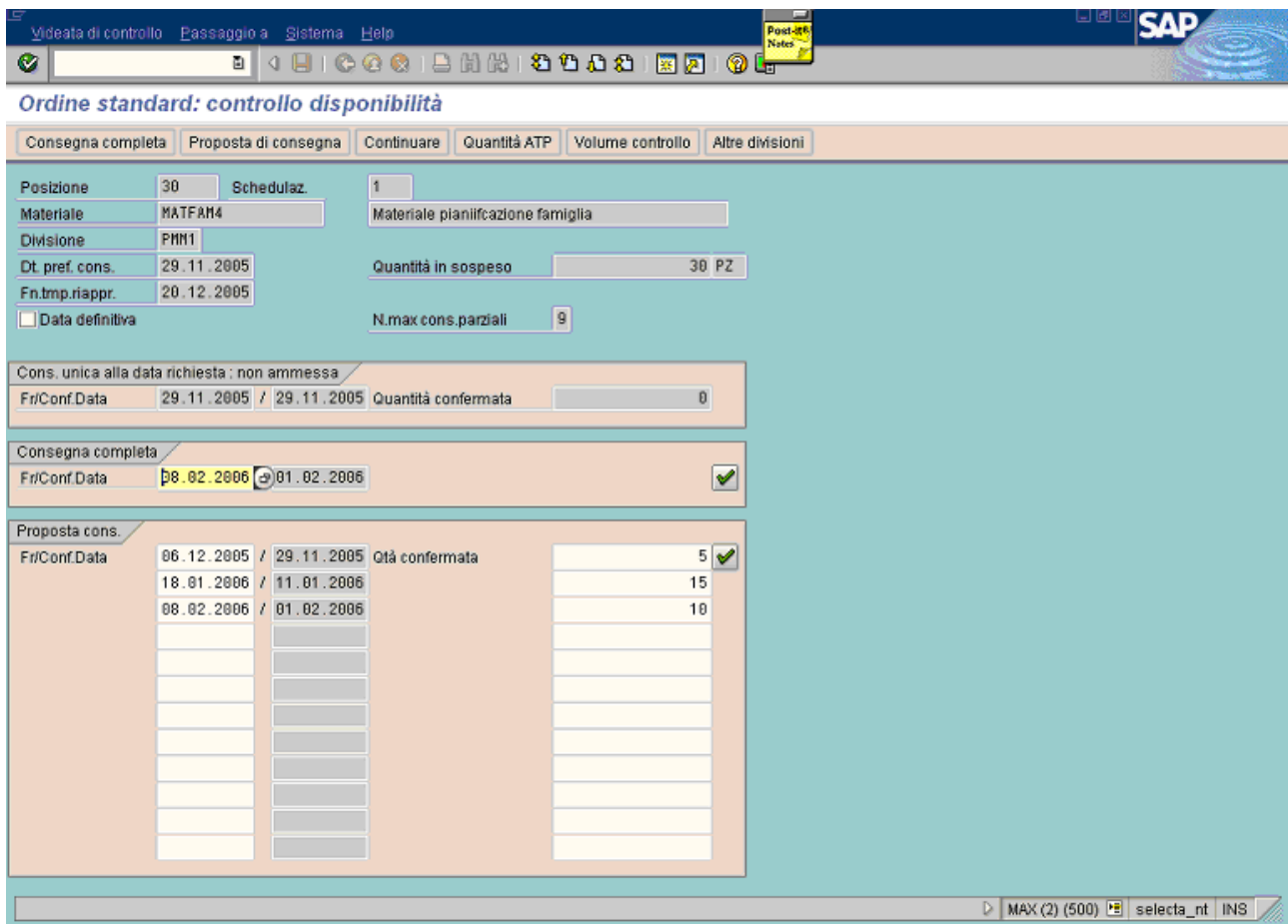
At this point a new item is created with a material which belongs to the family famiglia-b. Also in this case 30 pieces are required, as shown below.

The screenshot shows the SAP 'Creare Ordine standard: riepilogo' window. The top menu bar includes 'Documento di vendita', 'Elaborare', 'Passaggio a', 'Opzioni', 'Ambiente', 'Sistema', and 'Help'. The SAP logo is visible in the top right corner. The window title is 'Creare Ordine standard: riepilogo'. Below the title bar, there are several tabs: 'Vendita', 'Riepilogo posizioni', 'Dettaglio posizione', 'Autore ord. d'acq.', 'Approvvigionamento', 'Spedizione', and 'Causa del rifiuto'. The main area contains various fields for order details, including 'Ordine standard', 'Valore netto' (0,00 EUR), 'Committente' (300006 Pirelli Accessori ///- Milano), 'Destin. merci' (300006 Pirelli Accessori ///- Milano), and 'Data pref. cons.' (29.11.2005). Below these fields, there is a table with the following data:

Pos.	Materiale	Quantità ordine	UM	S	Definizione	1a data	Cd. materiale cliente	Ct.p	Pro...	PosS
10	NATFAM1		30 PZ	✓	Materiale pianiificazione famiglia	29.11.2005		TAN		
20	NATFAM2		30 PZ	✓	Materiale pianiificazione famiglia	29.11.2005		TAN		
30	NATFAM4		30 PZ	✓	Materiale pianiificazione famiglia	29.11.2005		TAN		
						29.11.2005				
						29.11.2005				

The requirement date remains “today”, that is 29.11.2005.

Very important is to notice that all the materials of family famiglia-b can consume only 50% of the max family quantity of each window (see table /prcf/codfp in the first pages).



As it can be seen above:

1. 5 pieces are taken from the stock (for matfam4 there only 5 pieces in stock)
2. the first 2 family windows are “skipped”: there is a jump to the third window of the family. This happens for 2 reasons:
  - a. there is no more stock available and it’s not allowed to use the first family window, because the final edge of the lead time is greater than the starting edge of the window. Normally the windows located before the end of lead time are already closed because they have production orders in progress: **they are not more planning windows, but they are the actual period.** If some production orders exist for the material, they are considered (like the stock) during the availability check.
  - b. the second window has a max quantity of 10 pieces and is partially free, but matfam4 has a limit to use it: only 50% is available as written in the previous page. Since already exists a sales order of 5 pieces with material matfam4 in the second window (see stock/req. list shown in the first pages), the available family quantity (5 pieces) has already been totally consumed.
3. the third window (11.01.2005), has a max capacity of 30 pieces and 15 are consumed
4. the fourth window (01.02.2005) has a max capacity of 40 pieces and 10 are consumed

The last case is when a requirement date is greater than the the final edge of the lead time window.

In this case, the stock is ignored and requirements are allocated to the free family windows successive to the requirement date. This example is shown in the next 2 pictures.

The screenshot shows the SAP 'Creare Ordine standard: riepilogo' interface. The top bar includes the SAP logo and menu options like 'Documento di vendita', 'Elaborare', 'Passaggio a', 'Opzioni', 'Ambiente', 'Sistema', and 'Help'. The main window title is 'Creare Ordine standard: riepilogo'. Below the title, there are fields for 'Ordine standard', 'Valore netto' (0,00 EUR), 'Committente' (300006 Pirelli Accessori / I - Milano), 'Destin. merci' (300006 Pirelli Accessori / I - Milano), and 'N. ord. acq.' with a 'Data ORDACQ' field.

Navigation tabs include 'Vendita', 'Riepilogo posizioni', 'Dettaglio posizione', 'Autore ord. d'acq.', 'Approvvigionamento', 'Spedizione', and 'Causa del rifiuto'. The 'Riepilogo posizioni' tab is active, showing a summary of order data:

- Data pref.cons.: T 29.11.2005
- Div. consegna: [empty]
- Consegna compl.:
- Peso totale: 0,000
- Blocco cons.: [empty]
- Volume: 0,000
- Blocco fattura: [empty]
- Data prezzo: 29.11.2005
- Carta pagamento: [empty]
- Fine validità: [empty]
- Cond. pagamento: 0002 14 giorni 2%, 30 ne... Incoterms EXW F.Fabbrica
- Motivo ordine: [empty]
- Area vendite: MS01 / M1 / M1 Organizzaz.comm.0001, Canale distr.01, Sett. merceol.01

Below the summary is a table titled 'Pos. (tutte)' with the following columns: Pos., Materiale, Quantità ordine, UM, S, Definizione, 1a data, Cd. materiale cliente, Ct.p, Pro..., and Pos... The table contains one row for material 'MATFAM1' with a quantity of 30. The '1a data' column shows a sequence of dates: 15.01.2006, 29.11.2005, 29.11.2005, 29.11.2005, and 29.11.2005. The second row (29.11.2005) is highlighted in yellow.

The requirement date is 15.01.2005 and the successive free family window is 21.01.2006, as shown in the planning table in the first pages.

The allocation described above is shown in the next picture.

**Ordine standard: controllo disponibilità**

Consegna completa | Proposta di consegna | Continuare | Quantità ATP | Volume controllo | Altre divisioni

Posizione: 10    Schedulaz.: 1

Materiale: MATFAM1    Materiale pianificazione famiglia

Divisione: PNM1

Dt. pref. cons.: 15.01.2006    Quantità in sospeso: 30 PZ

Fn.tmp.riappr.: 20.12.2005

Data definitiva    N.max cons.parziali: 9

Cons. unica alla data richiesta: non ammessa

Fr/Conf.Data: 15.01.2006 / 05.01.2006    Quantità confermata: 0

Consegna completa

Fr/Conf.Data: 30.01.2006 → 21.01.2006   

Proposta cons.

Fr/Conf.Data	Qtà confermata
30.01.2006 / 21.01.2006	30 <input checked="" type="checkbox"/>

All results shown in the previous pages, are valid also for the make to order production. The only difference is that in make to stock production some orders are allocated also to the stock and have a fast delivery date. Otherwise in case of make to order production only planning date of family windows are confirmed in the sales orders.

Concluding, after that sales order are created, all their planned requirement are allocated to the end of the family window (the last day), that is, all their **planned orders** (for all the materials of the same family) have the same start basic date.

That's why is important, once a planning window is closed (all sales orders have been created) and the related production period is starting, to define the optimal sequence of production orders: optimal in term of minimal setup, customers/materials priorities, ecc. ecc.

This can be done with a WHAT-IF tool that is described in an other presentation: it allows to simulate the change of material sequence (to produce), work centers priority during allocation, critical components availability check and so on. For each simulation it calculates some indicators and it shows which is the optimal configuration based on the indicators value. Once the configuration is ok, the planned orders are saved with the new starting dates.

