

## Family capacity planning in case of configurable materials

In the next pictures some examples are shown about configurable 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.

**Each family is related to a specific value combination of the characteristic belonging to the configurable material.**

Three cases are considered in this document:

1. Sales order creation when the first useful family window is totally free
2. Sales order creation when the first useful family window is partially free and more windows are needed
3. This example is similar to the first one, but it has been matched a different family
4. Sales order creation without family match

In these examples, there are: 1 material code, 4 characteristics related to it and 2 cases of combination (then 2 families) as shown below:

*Configurable material code = 'bicinew'*

In sales order creation, the values have to be assigned to 4 characteristics:

- tipo ruote
- altezza bicicletta
- colore manubrio
- colore telaio

*Families:*

**1) Graziella** (family 1)

- ktipo ruote = 'larghe'
- altezza bicicletta  $\in [300, 700]$
- colore manubrio = 'argento'
- colore telaio = 'verde'

**2) Bicicorsa** (family 2)

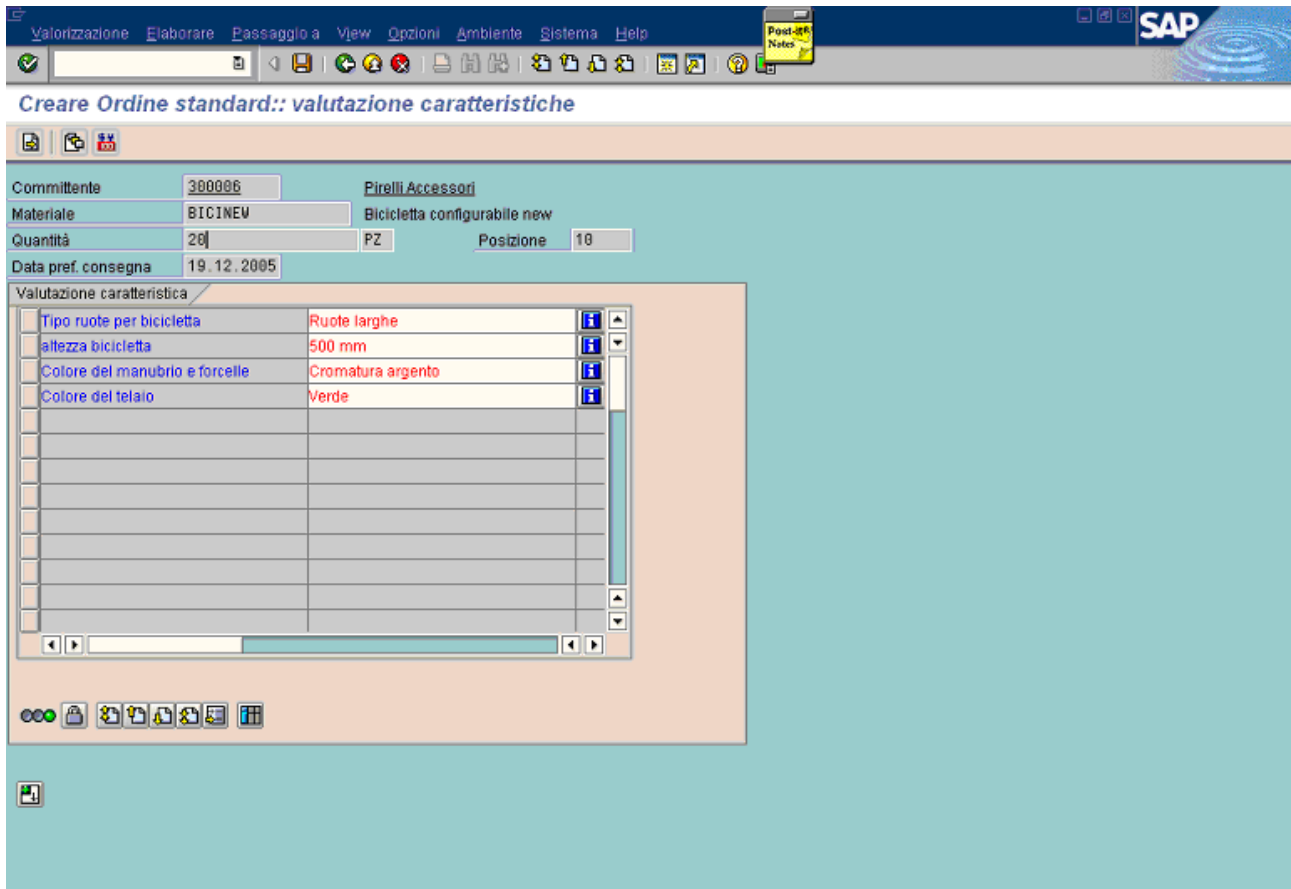
- tipo ruote = 'strette'
- altezza bicicletta  $\in (700, 1200]$
- colore manubrio = 'argento'
- colore telaio = 'verde'

**3) The rest** of all other values combinations: they will not match any family and their planning dates will be calculated in standard way, based on lead time of the configurable material.

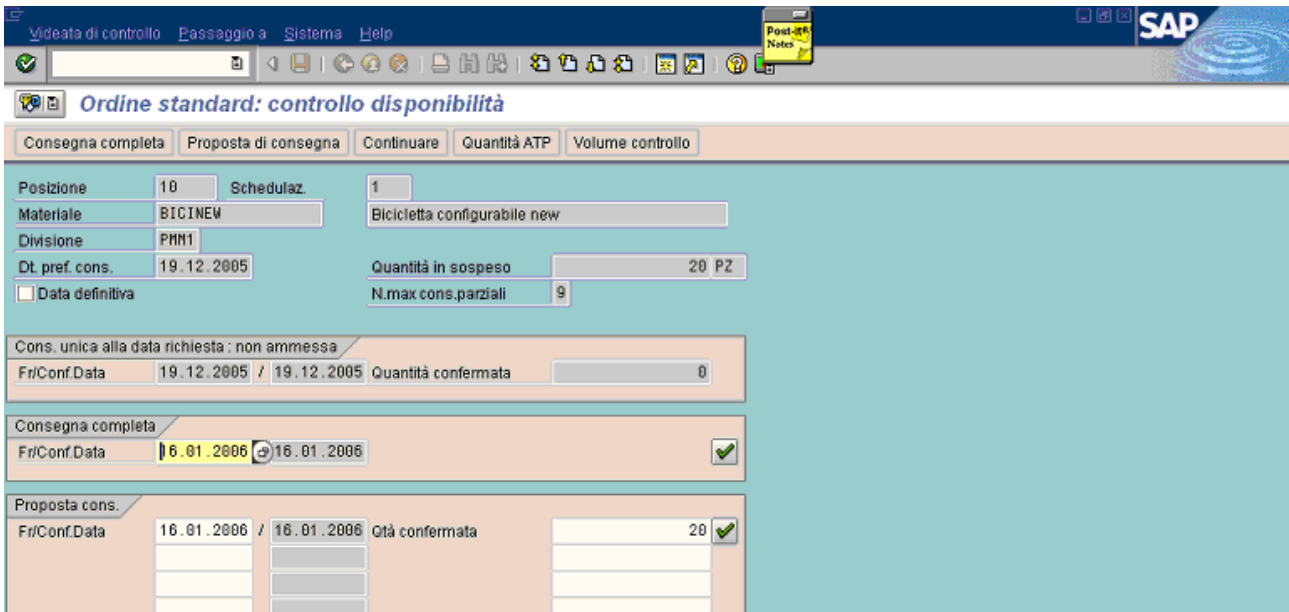
In the examples shown below, the material bicinew has a lead time of 7 days.



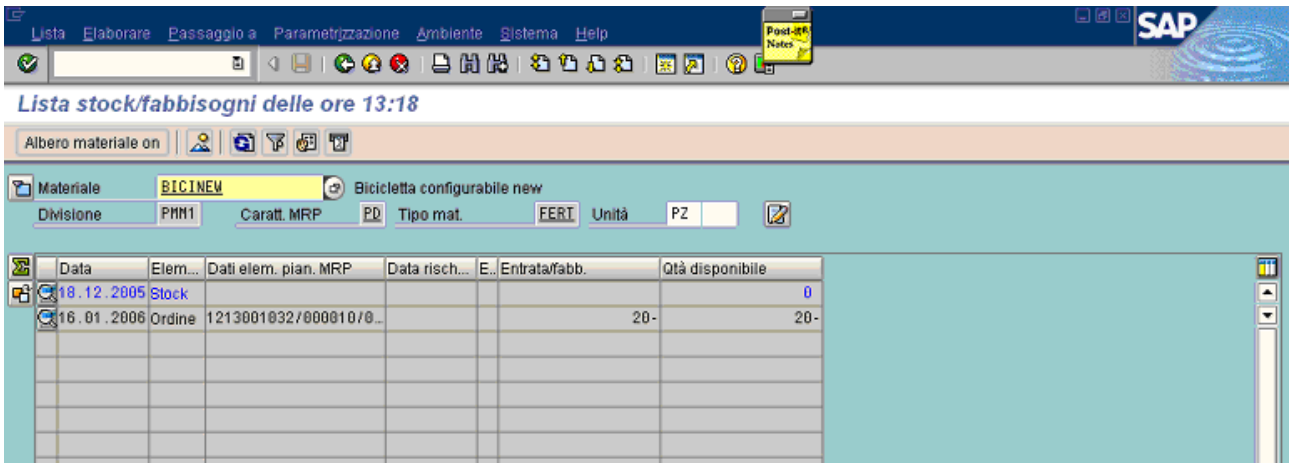
The result of the values assigned to the characteristics is the family “graziella” (next picture), because the combination of values are related to it, as described in the first page.



As shown below, the first family window is allocated during the availability check, because this window is totally free: the starting date is 16.01.2006.

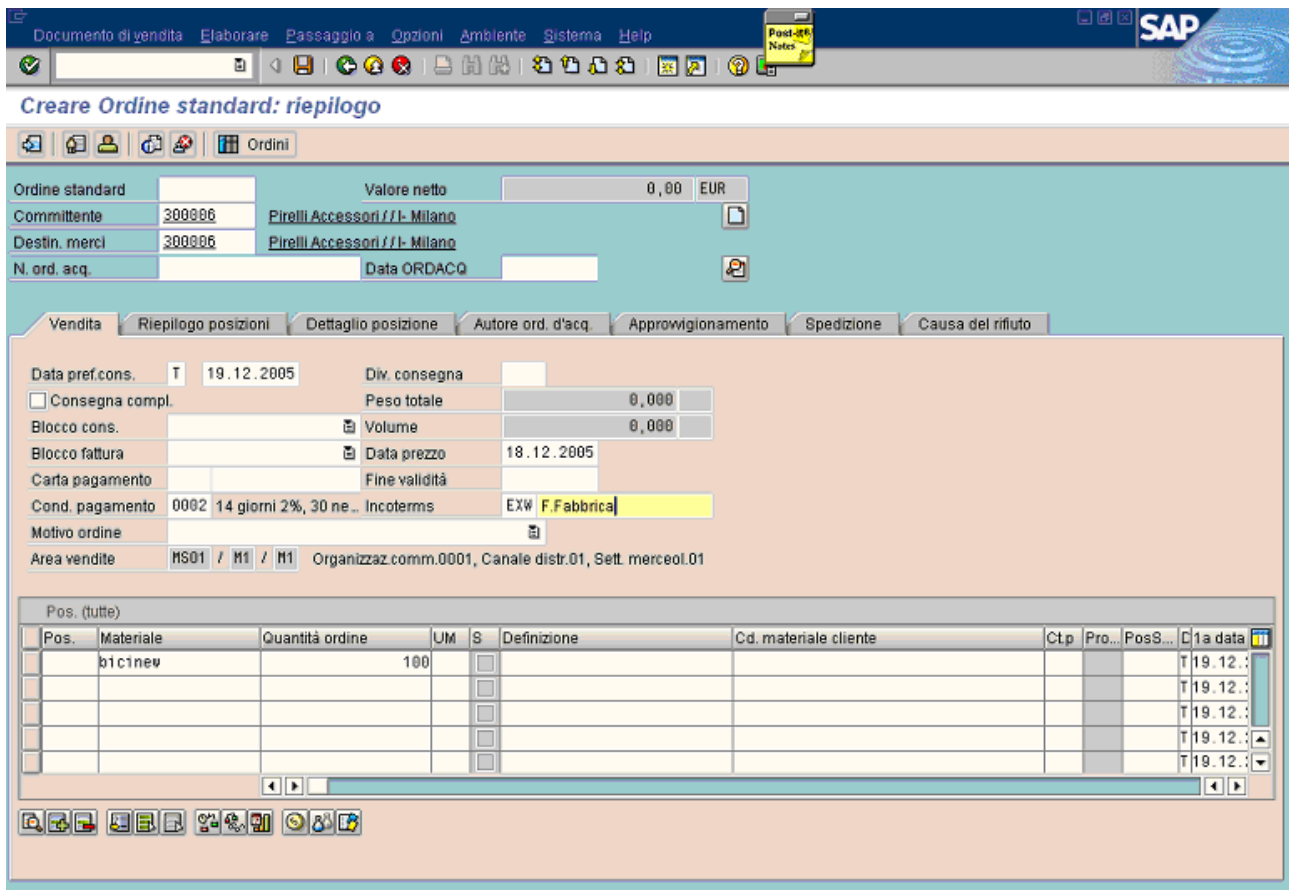


In this case the order is saved and it can be seen in the stock/requirement list.

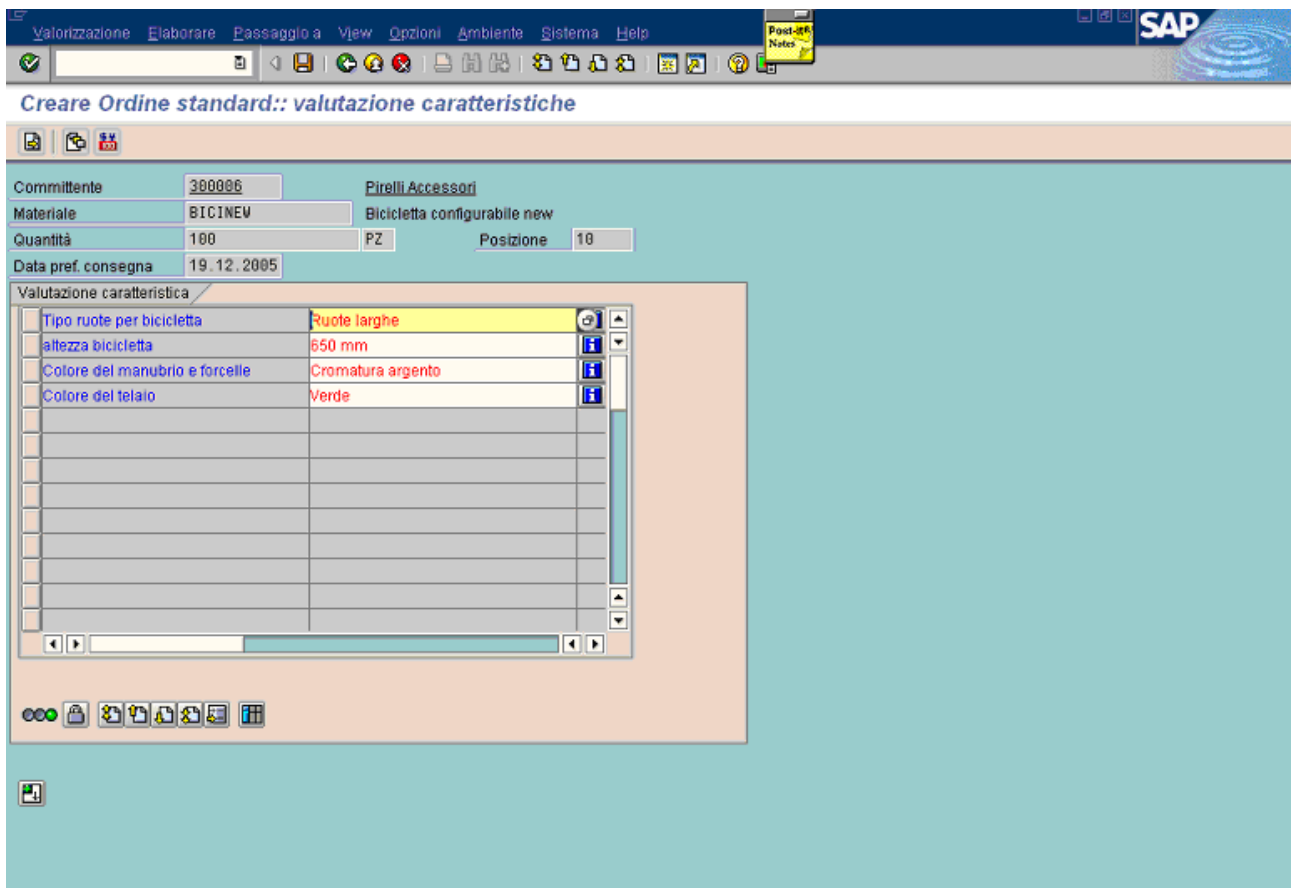


Now, a new sales order is created. It will obviously be considered, in the actual availability check, the recent allocation.

The item requirement is 100 pieces and the material is configured to match the same family of the precious example (“graziella”).



Next picture shows how has been configured the material.



In this case, the situation is different. The first window, that starts on 16.01.2006 and has a capacity of 100 pieces, is not totally free because 20 pieces are already allocated to the sales order saved before. **Then, the actual capacity of the first window is 80 pieces.**

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**Ordine standard: controllo disponibilità**

Posizione: 10   Schedulaz.: 1  
 Materiale: BICINEM   Bicicletta configurabile new  
 Divisione: PHH1  
 Dt. pref. cons.: 19.12.2005   
 Quantità in sospeso: 100 PZ  
 Data definitiva   
 N.max cons.parziali: 9

Cons. unica alla data richiesta : non ammessa  
 Fri/Conf.Data: 19.12.2005 / 19.12.2005   
 Quantità confermata: 0

Consegna completa  
 Fri/Conf.Data: 16.02.2006 / 16.02.2006  

Proposta cons.  

Fri/Conf.Data		Qtà confermata	
16.01.2006 / 16.01.2006		80	<input checked="" type="checkbox"/>
16.02.2006 / 16.02.2006		20	<input type="checkbox"/>

In this case the first window is fully allocated and the remaining 20 pieces are allocated to the second window that starts on 16.02.2006, as shown in the previous picture.

In this new example the material is configured to match the second family (“bicicorsa”).  
 The material code is the same and the required quantity is 130 pieces.

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**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

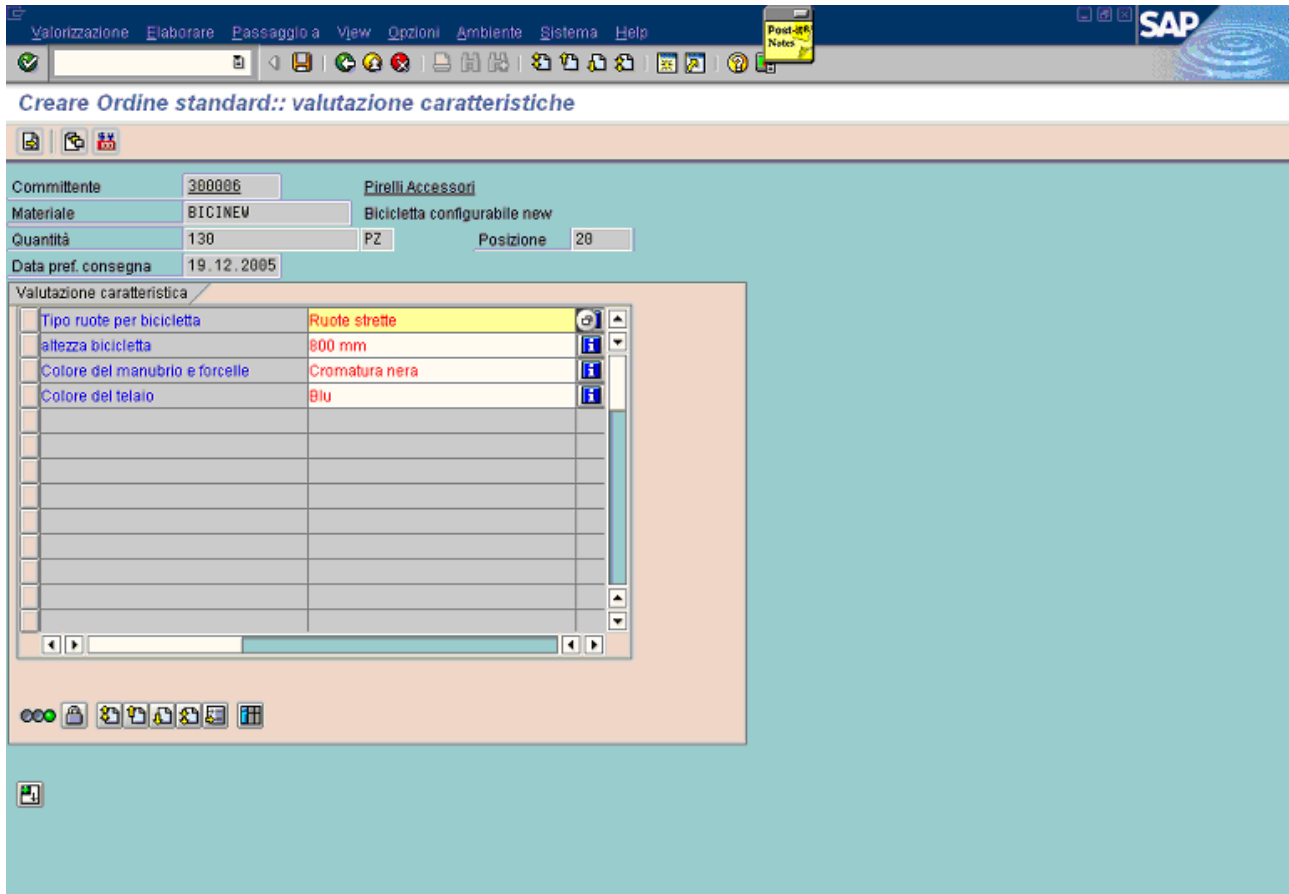
Vendita Riepilogo posizioni Dettaglio posizione Autore ord. d'acq. Approvigionamento Spedizione Causa del rifiuto

Data pref.cons. T 19.12.2005 Div. consegna   
 Consegna compl. Peso totale 100 KG  
 Blocco cons.  Volume 0,000  
 Blocco fattura  Data prezzo 18.12.2005  
 Carta pagamento  Fine validità   
 Cond. pagamento 0002 14 giorni 2%, 30 ne... Incoterms EXW F.Fabbrica  
 Motivo ordine   
 Area vendite MS01 / M1 / M1 Organizzaz.comm.0001, Canale distr.01, Sett. merceol.01

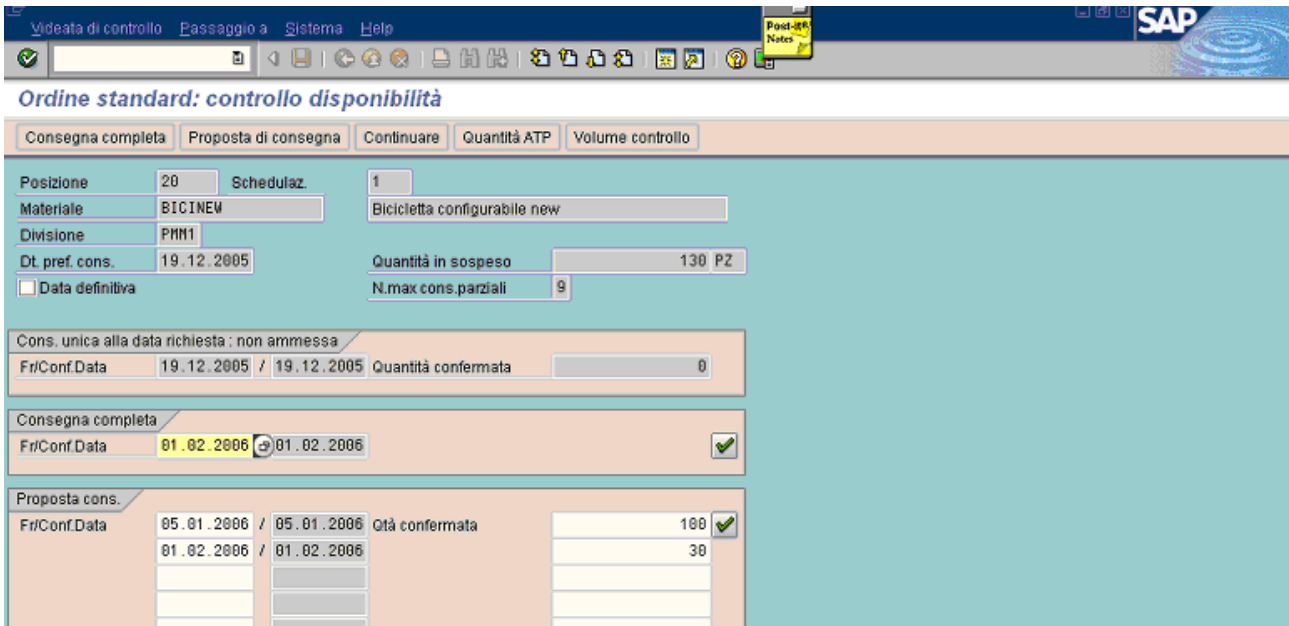
Pos.	Materiale	Quantità ordine	UM	S	Definizione	Cd. materiale cliente	CLp	Pro...	PosS...	1a data
10	BICINEV	100	PZ	<input checked="" type="checkbox"/>	Bicicletta configurabile new		TAC		0	T 19.12.:
	bicinev	130		<input type="checkbox"/>						T 19.12.:
				<input type="checkbox"/>						T 19.12.:
				<input type="checkbox"/>						T 19.12.:
				<input type="checkbox"/>						T 19.12.:



The values assigned to the characteristics are shown in the next picture.  
The family obtained is “bicolorsa” in this case.



Now, it starts the availability check and allocates the item quantity in this way: 100 pieces on the first window that starts on 05.01.2006 (it's fully used) and the remaining 30 pieces on the second window that starts on 01.02.2006.



As it can be seen, the rules are the same in both families.  
 The capacity and the edge dates of each window is managed by the custom table described in the second page.

The last example is the case in which no families are determined, that is the values assigned to the characteristics during the material configuration don't match any family.

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 data fields for order details:

- 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', 'Dettaglio posizione', 'Autore ord. d'acq.', 'Approvvigionamento', 'Spedizione', and 'Causa del rifiuto'. The 'Riepilogo posizioni' tab is active, showing order conditions:

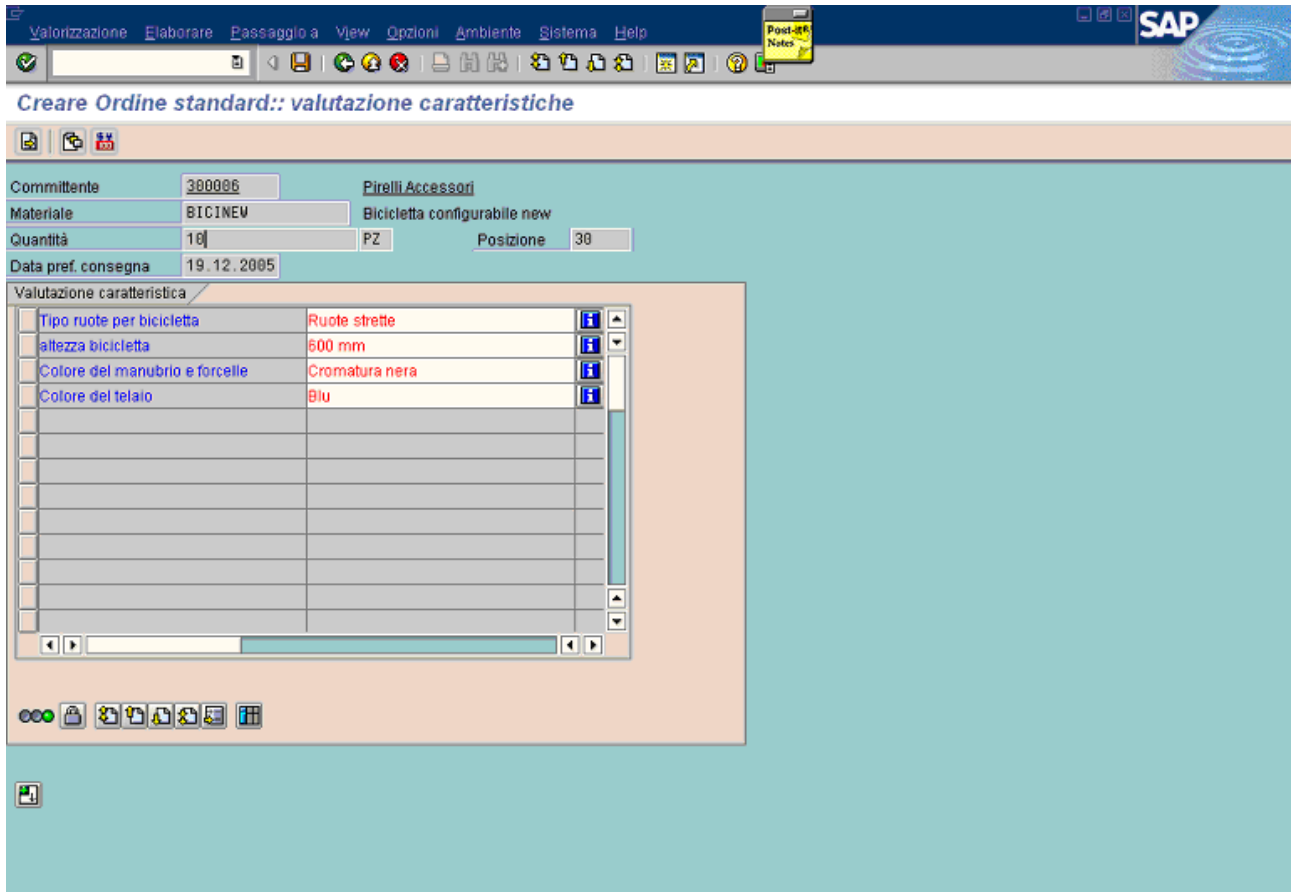
- Data pref.cons.: T 19.12.2005
- Div. consegna: [Empty]
- Consegna compl.:
- Peso totale: 230 KG
- Blocco cons.: [Empty]
- Volume: 0,000
- Blocco fattura: [Empty]
- Data prezzo: 18.12.2005
- Carta pagamento: [Empty]
- Fine validità: [Empty]
- Cond. pagamento: 0002 14 giorni 2%, 30 ne... Incoterms: EXW F.Fabbrica
- Motivo ordine: [Empty]
- Area vendite: MSD1 / M1 / M1 Organizzaz comm.0001, Canale distr.01, Sett. merceol.01

At the bottom, a table lists the order items (Pos. (tutte)):

Pos.	Materiale	Quantità ordine	UM	S	Definizione	Cd. materiale cliente	CLp	Pro...	PosS...	1a data
10	BICINEV		100 PZ	<input checked="" type="checkbox"/>	Bicicletta configurabile new		TAC		0 T	19.12.:
20	BICINEV		130 PZ	<input checked="" type="checkbox"/>	Bicicletta configurabile new		TAC		0 T	19.12.:
	BICINEV	10		<input type="checkbox"/>						19.12.:
				<input type="checkbox"/>						19.12.:
				<input type="checkbox"/>						19.12.:

The required quantity is 10 pieces.

The values are the same of the family “bicicorsa” except the characteristic “altezza bicicletta”: it’s smaller than the starting edge of the interval required for this case (700 mm – 1200 mm), as shown in the first page.



When the availability check runs, it confirms the entire quantity for the same day, without check any family windows, but running in the “standard” way.  
 In this case, the standard way doesn't consider lead time.

