South Carolina Enterprise Information System (SCEIS)

Material Master Introduction

Objectives

We will provide you with the foundation principles of how the SAP Material Master system is created and how the Material Master relates to Procurement, Inventory Management and Warehouse Management.

We will provide you with basic set of new terminology and definitions so that we can begin the process of transitioning to a common vocabulary.

We will provide and recommend a SCEIS Material Master organizational structure for your agency to follow. Some of the new terminology carries within an inherited role and responsibility within the SCEIS system

We will provide screen shots of the SCEIS Material Master Record Views.

We will explain how the Material Management component integrates with other components in the SCEIS system (Procurement, Inventory and Financial).

We will discuss the components of the SCEIS Inventory system and provide you will "How to Guides" and additional information from SAP Help web sites for your continuing professional educational on topics related to SAP and SCEIS Material Master, Inventory and Procurement Systems.

Understanding the SCEIS Terminology and Material Management components

SAP identifies the Material Master as a part of the following components: Logistics, Master Data and Material Management. The following abbreviations apply in the SAP/SCEIS enterprise environment and its applications:

Financial Management is abbreviated as FI

Logistics is abbreviated as LO

Master Data is abbreviated as MD

Material Management is abbreviated as MM

Purpose

The Material Master contains information on all the materials that an agency procures or produces, stores, and sells. The Material Master is the agency's central source for retrieving material-specific data. This information is stored in individual Material Master Records.

Integration

The Material Master is used by all components in the SAP Logistics System. The integration of all material data in a single database object eliminates redundant data storage. In the SAP Logistics System, the data contained in the Material Master is required for the following functions:

1. In Purchasing for ordering
2. In Inventory Management for goods movement postings and physical inventory
3. In Invoice Verification for posting invoices
4. In Sales and Distribution for sales order processing

SCEIS Inventory Organizational Structure

Terminology and Definitions

The Material Master has a hierarchical structure resembling the organizational structure of a company. Some material data is valid at all organizational levels, while other data is valid only at certain levels. The organizational units are as follows:

1. Client
2. Company code
3. Plant
4. Storage location
5. Purchasing organization
6. Sales organization
7. Warehouse number

8. Storage type

1. Client

The Client is the top level. Several company codes can be assigned to it. In turn, several Plants can be assigned to a company code, and several storage locations assigned to a Plant. Plants must always be consecutively numbered for all company codes. Consequently, Plants assigned to different company codes cannot have the same number. However, the numbers of storage locations can be repeated, as long as they are assigned to different Plants.

Integration

General material data applicable to the entire company is stored at client level. This includes, for example, the material group, base unit of measure, material descriptions, and conversion factors for alternative units of measure.

2. Company Code

The Company Code is the smallest organizational unit for which a complete self-contained set of accounts can be drawn up for purposes of external reporting. This involves recording all relevant transactions and generating all supporting documents for financial statements such as balance sheets and profit and loss statements. A company code can, for example, be a company or subsidiary.

Integration

All data that is valid for a particular company code, as well as for the Plants and storage locations assigned to it, is stored at company code level. This includes, for example, accounting data and costing data if valuation is at company code level.

3. Plant

An organizational unit serving to subdivide an enterprise according to production, procurement, maintenance, and materials planning aspects. It is a place where either materials are produced or goods and services provided. The preferred shipping point for a Plant is defined as the default shipping point, which depends on the shipping condition and the loading condition. For the placement of materials in storage (stock put-away), a storage location is assigned to a Plant. The storage location depends on the storage condition and the placement situation. The business area that is responsible for a Plant is determined as a function of the division. As a rule, a valuation area corresponds to a Plant.

Structure

A Plant can assume a variety of roles:

- As a maintenance Plant, it includes the maintenance objects that are spatially located within this Plant. The maintenance tasks that are to be performed are specified within a maintenance planning Plant.
- As a retail or wholesale site, it makes merchandise available for distribution and sale. A Plant can be subdivided into storage locations, allowing stocks of materials to be broken down according to predefined criteria (for example, location and materials planning aspects). A Plant can be subdivided into locations and operational areas. Subdivision into locations takes geographical criteria into account, whereas subdivision into operational areas reflects responsibilities for maintenance.

  Integration
  All data that is valid for a particular Plant, as well as for the storage locations belonging to it, is stored at Plant level. This includes, for example, Material Requirements Planning (MRP) data and forecast data.

4. Storage Location

An organizational unit allowing the differentiation of material stocks within a Plant. All data referring to a particular storage location is stored at Storage Location Level. This applies mainly to storage location stocks.

5. Purchasing Organization

An organizational unit subdividing an enterprise according to the requirements of Purchasing. It procures materials and services, negotiates conditions of purchase with vendors, and is responsible for such transactions.

Structure
The form of procurement is defined by the assignment of purchasing organizations to company codes and Plants. The following forms of purchasing exist:

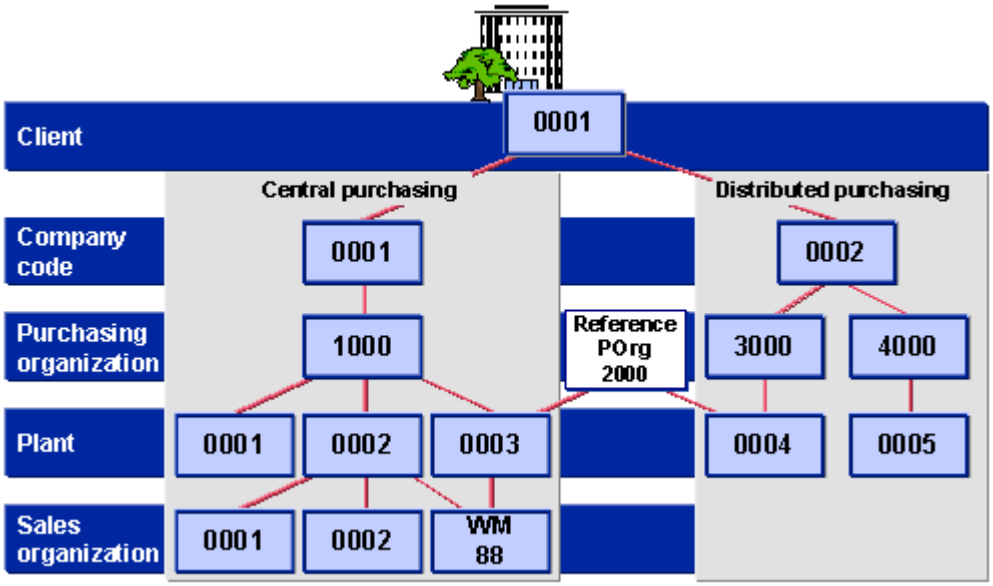
- Corporate-group-wide
  A purchasing organization procures for all the company codes belonging to a client.

- Company-specific
  A purchasing organization procures for just one company code.

- Plant-specific
  A purchasing organization procures for a Plant. Mixed forms are possible, which can be replicated in the system by the use of reference purchasing organizations. A purchasing organization can utilize the more favorable conditions and contracts of the
  reference purchasing organization that has been assigned to it.

Integration

An example of corporate structure with Purchasing Organization is given in the following graphic representation:



6. Sales Organization

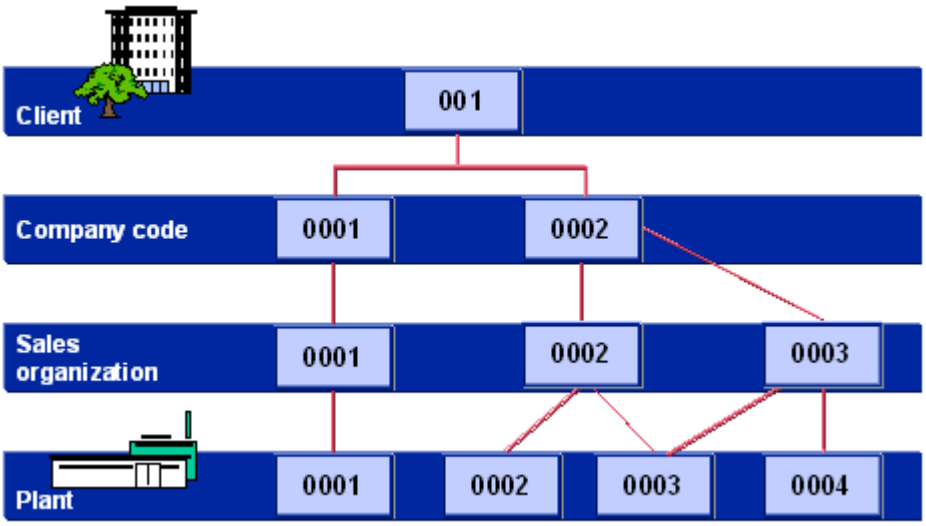
An organizational unit subdividing an enterprise according to the requirements of Sales. It is responsible for selling materials and services.

Structure

- A sales organization can be subdivided into several distribution chains which determine the responsibility for a distribution channel. Several divisions can be assigned to a sales organization which is responsible for the materials or services provided. A sales area determines the distribution channel used by a sales organization to sell a division's products.

Integration

- A sales organization is always assigned to one company code. The accounting data of the sales organization is entered for this company code. A distribution chain can act for several Plants. The Plants can be assigned to different company codes. If the sales organization and Plant are assigned to different company codes, an internal billing document is sent between the company codes before the sales transactions are entered for accounting purposes. An example of corporate structure with sales organization is given in the following graphic representation:



7. Warehouse Number

An alphanumeric key defining a complex warehousing system consisting of different organizational and technical units (storage areas). All material data specific to warehouse management and relating to a particular warehouse number is stored at a warehouse number level. This includes data on palletizing, stock placement, and stock removal.

8. Storage Type

A physical or logical storage area that can be defined for a warehouse in the Warehouse Management System (WMS). It consists of one or more storage bins. Storage types differ according to organizational and technical criteria. The following are examples of Storage Types that can be defined using the WMS:

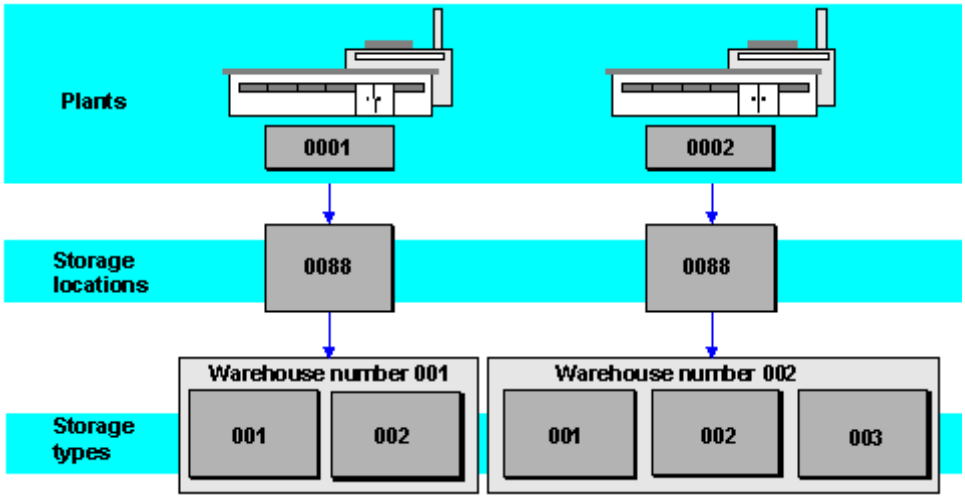
- Goods receipt area
- Goods issue area
- Picking area
- High rack storage area

All material data specific to warehouse management and relating to a particular Storage Type is stored at Storage Type level. This includes fixed storage bins as well as maximum and minimum storage bin quantities.

Integration

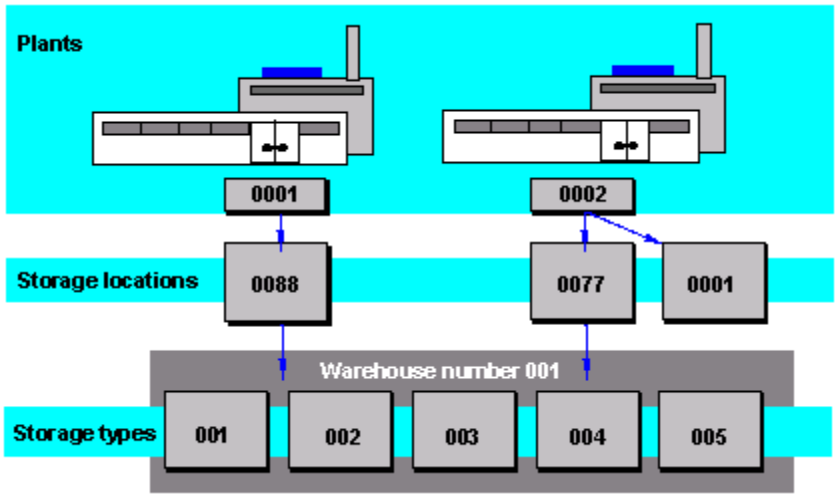
The warehouse number and Storage Type are of relevance **only** if your company uses the WMS. Several storage locations can be assigned to a Plant. However, only one storage location per Plant can be assigned to a warehouse number. Storage locations assigned to different Plants can be managed under the same warehouse number. **Only** one storage location per Plant can be assigned to the warehouse number. One warehouse number may exist for several physical warehouses, these being represented as Storage Types in the WM system. One Storage Type groups together several storage bins. **A storage bin is the smallest physical unit the system can address**. A Plant may have storage locations that are not managed using the WM system. An example of corporate structure with storage locations, warehouse numbers, and Storage Types is given in the following graphic representation:

In WMS you define storage bins for each of the Storage Types. In this way, WMS manages stock information on all materials in the warehouse at storage bin level. In addition, the stock quantities of the material are managed in Inventory Management (MM-IM) at storage location level. In order to link the information at storage location level with the information from the storage bin, assign a Warehouse Number to the Storage Location.



This figure depicts two Plants that each manage a storage location using WMS.

- Warehouse number 001 is assigned to storage location 0088 in the first Plant. In warehouse complex 001 there are two Storage Types.
- Warehouse number 001 is assigned to storage location 0088 in the first Plant. In warehouse complex 002, there are three Storage Types.
- You can also manage stock for several Plants in the same warehouse at the same time. In this case, the same warehouse number is assigned to the storage locations for these Plants.



As a rule, it is a good idea to manage only the stocks of one storage location and the same Plant within a warehouse number. However, you can also manage several storage locations of one and the same Plant within a warehouse number.

Material Master Records

All the information your agency needs to manage a material is stored in a data record in the Material Master, sorted by various different criteria. You can enter and change most of the data in a Material Master Record yourself. However, some information can only be updated by the system. For example, the system updates the administrative data when you process a Material Master Record, and stock balances when "Goods Receipts" or "Goods Issues" are posted.

Material Master Structure

The data in a Material Master Record can be divided into two categories:

- Data of a purely descriptive nature --This is data with an informational content such as name, size, or dimension. A Material Master is a data record containing all the basic information required to manage a material. This data is sorted according to various criteria including data of a descriptive nature (such as size, dimension and weight) and data with a control function (such as material type and industry sector). In addition to this data, which can be directly maintained by the user, it also contains data that is automatically updated by the system (such as stock levels). A Material Master record **uniquely** defines a material in SAP. **One of the major benefits of a Material Master Record is to eliminate redundancy of materials in the state's enterprise inventory.** As a general rule, a Material Master record must exist for each material managed in a company. This record is stored under a system generated 6-digit material number. The Material Master will house basic data about materials that are purchased, or inventoried in the State.
- Data that the system uses to perform a control function --This is data such as Material Requirements Planning (MRP) type and price control.

Integration

The Material Master data represents the master records in the system that can be used by all users and this data extends across multiple applications- MM-FI.

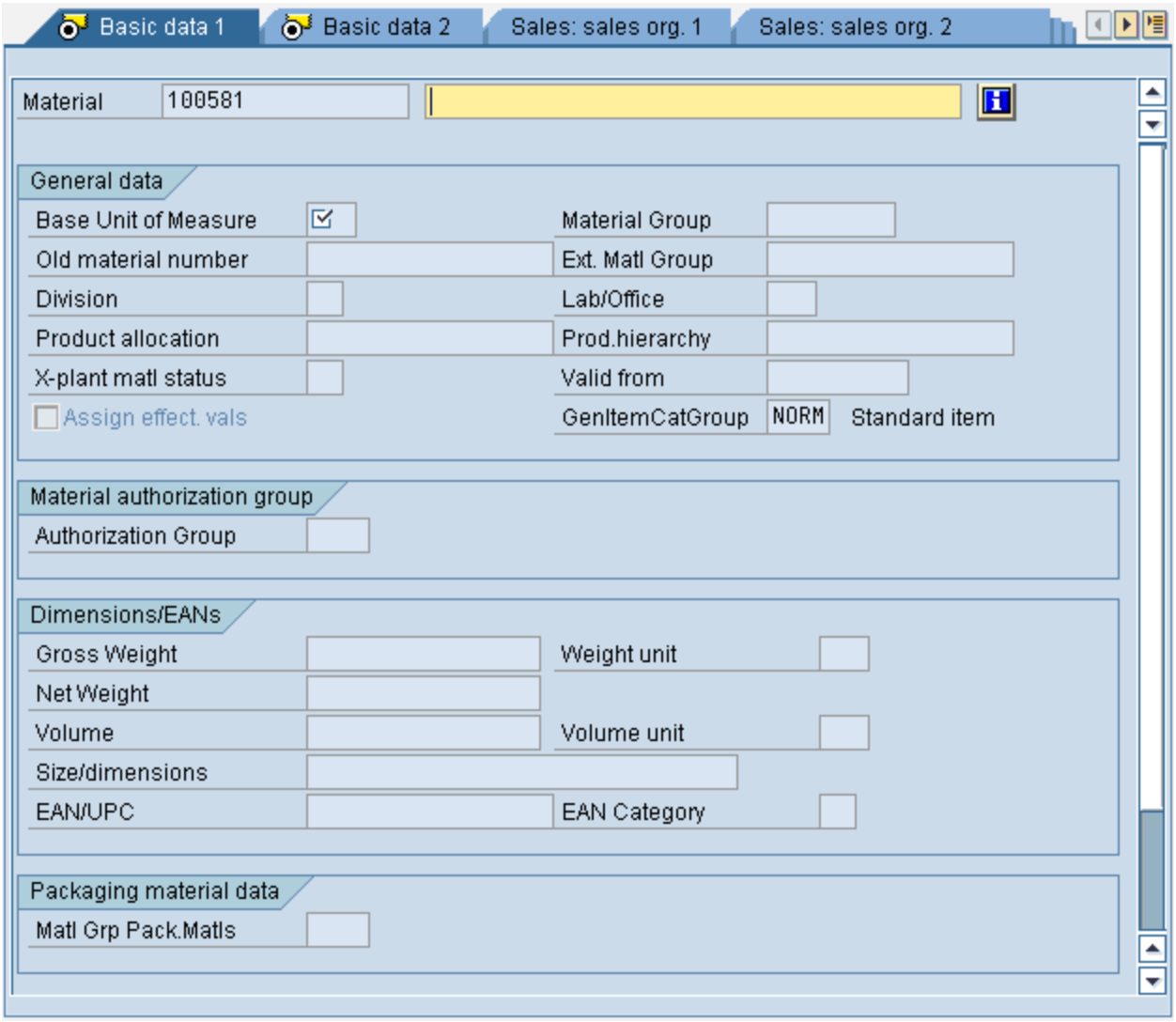
Since different departments in a company work with the same material, but each department uses different information on the material, the data in a Material Master Record is subdivided by user department. The division of these "Views" simplifies the creation and maintenance of material for centralization and decentralization.

The Material Master data is centralized in order to avoid data redundancy.

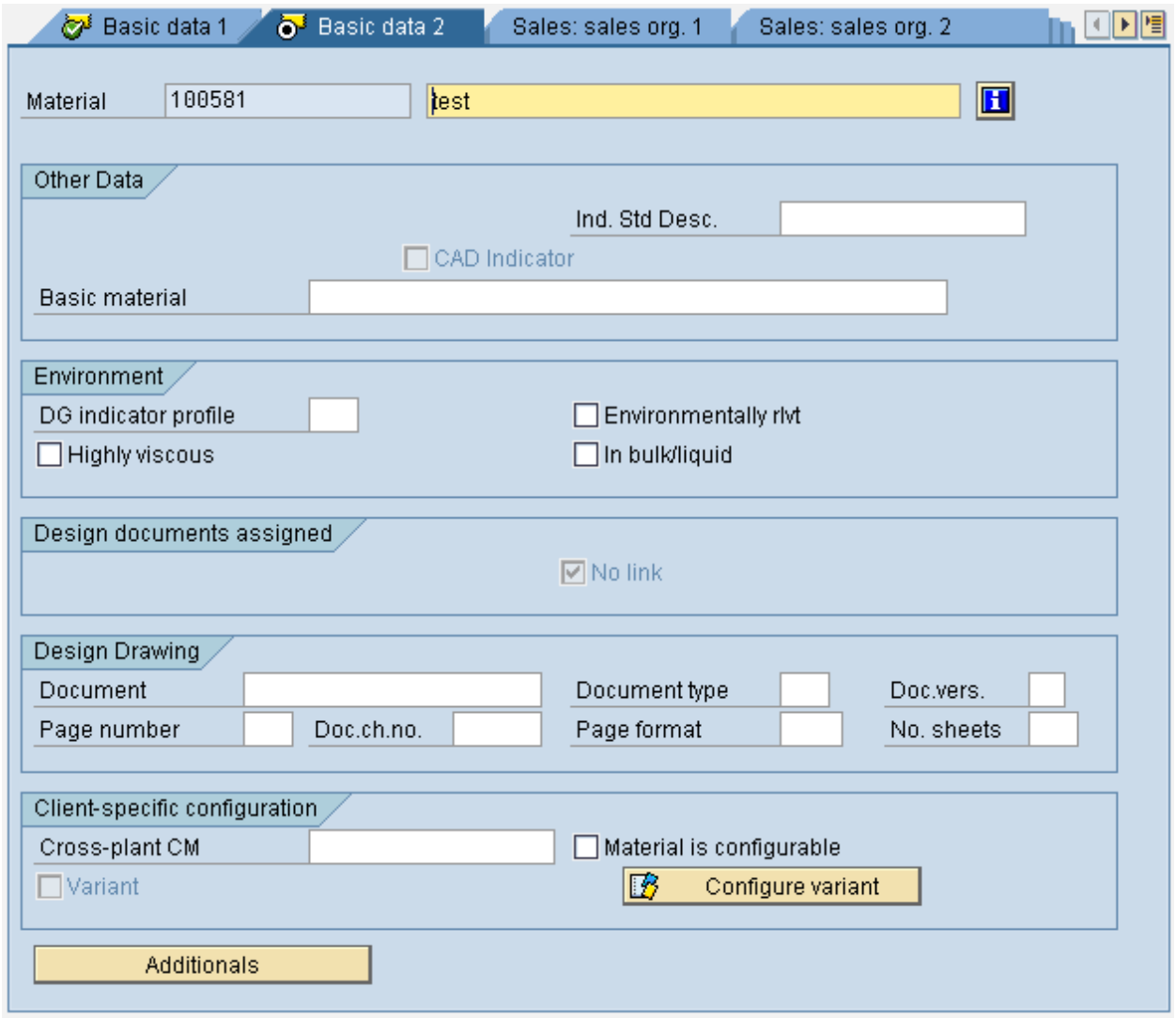
The following screen shots are provided to give you an overview of what some of the SCEIS Material Master Records "Views" look like:

Material Master Record Views

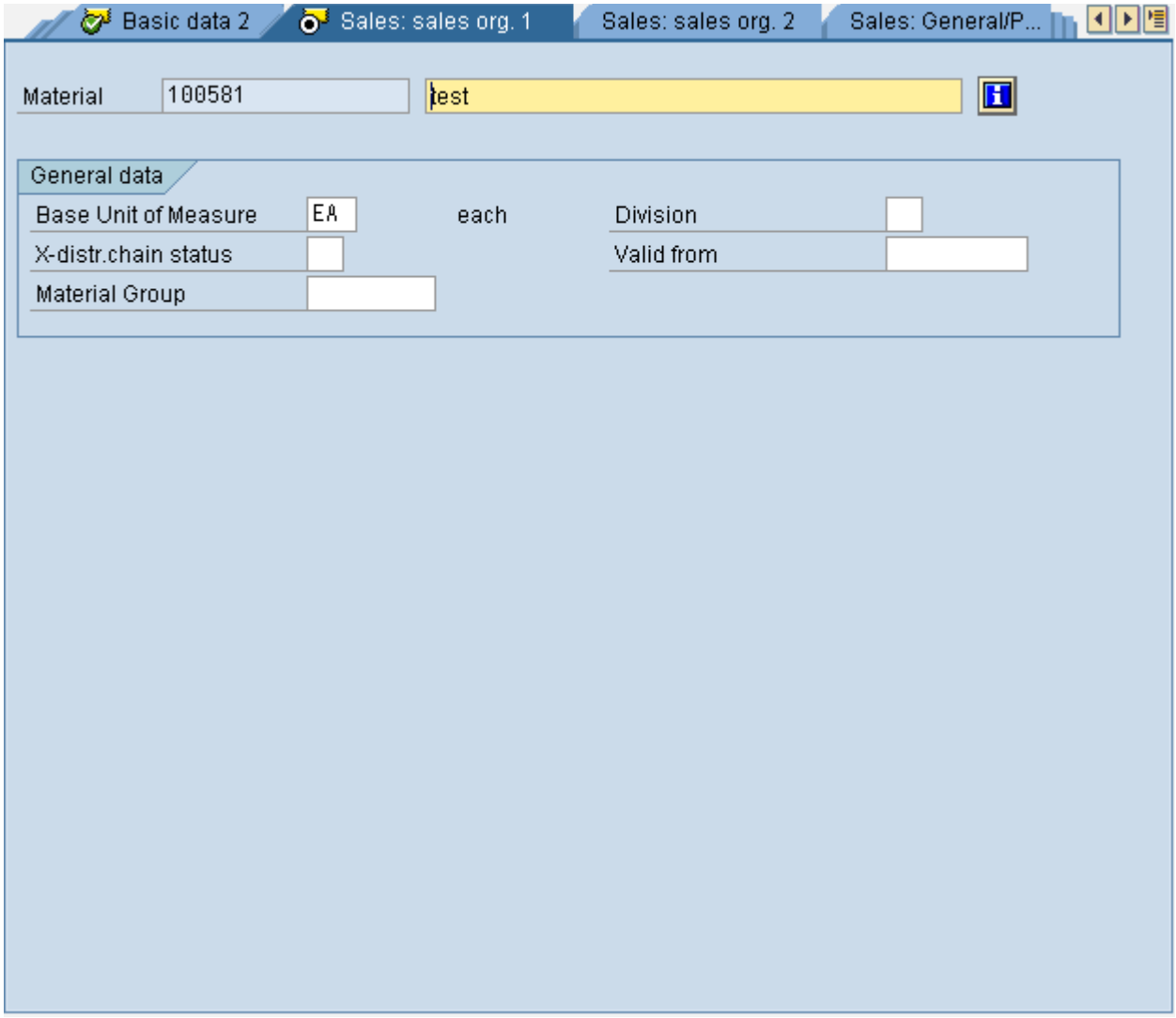
Basic Data 1



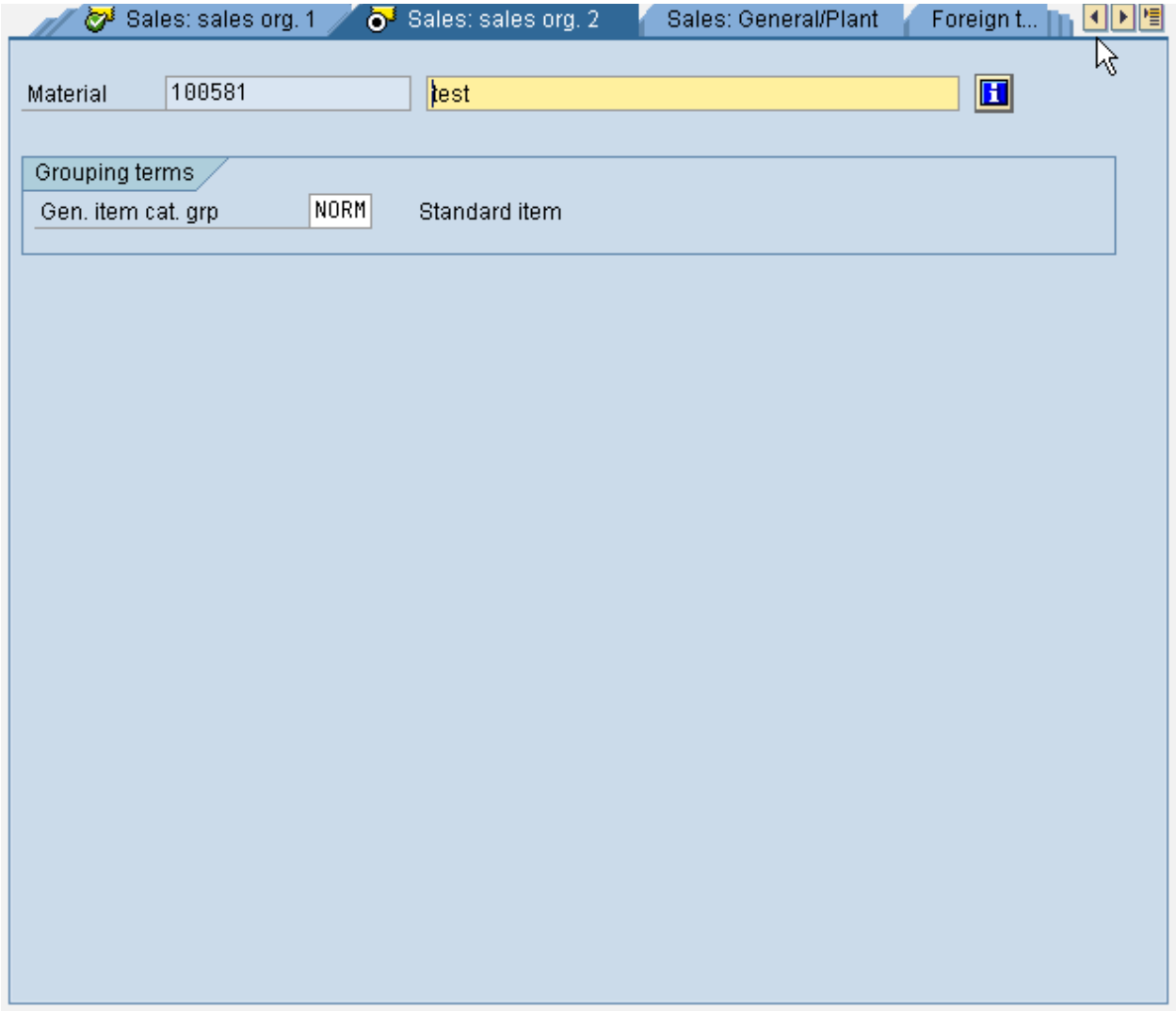
Basic Data 2


Basic data 1
Basic data 2
Sales: sales org. 1
Sales: sales org. 2
Material
100581
test
Other Data
Ind. Std Desc.
CAD Indicator
Basic material
Environment
DG indicator profile
Environmentally rlvt
Highly viscous
In bulk/liquid
Design documents assigned
No link
Design Drawing
Document
Document type
Doc.vers.
Page number
Doc.ch.no.
Page format
No. sheets
Client-specific configuration
Cross-plant CM
Material is configurable
Variant
Configure variant
Additionals

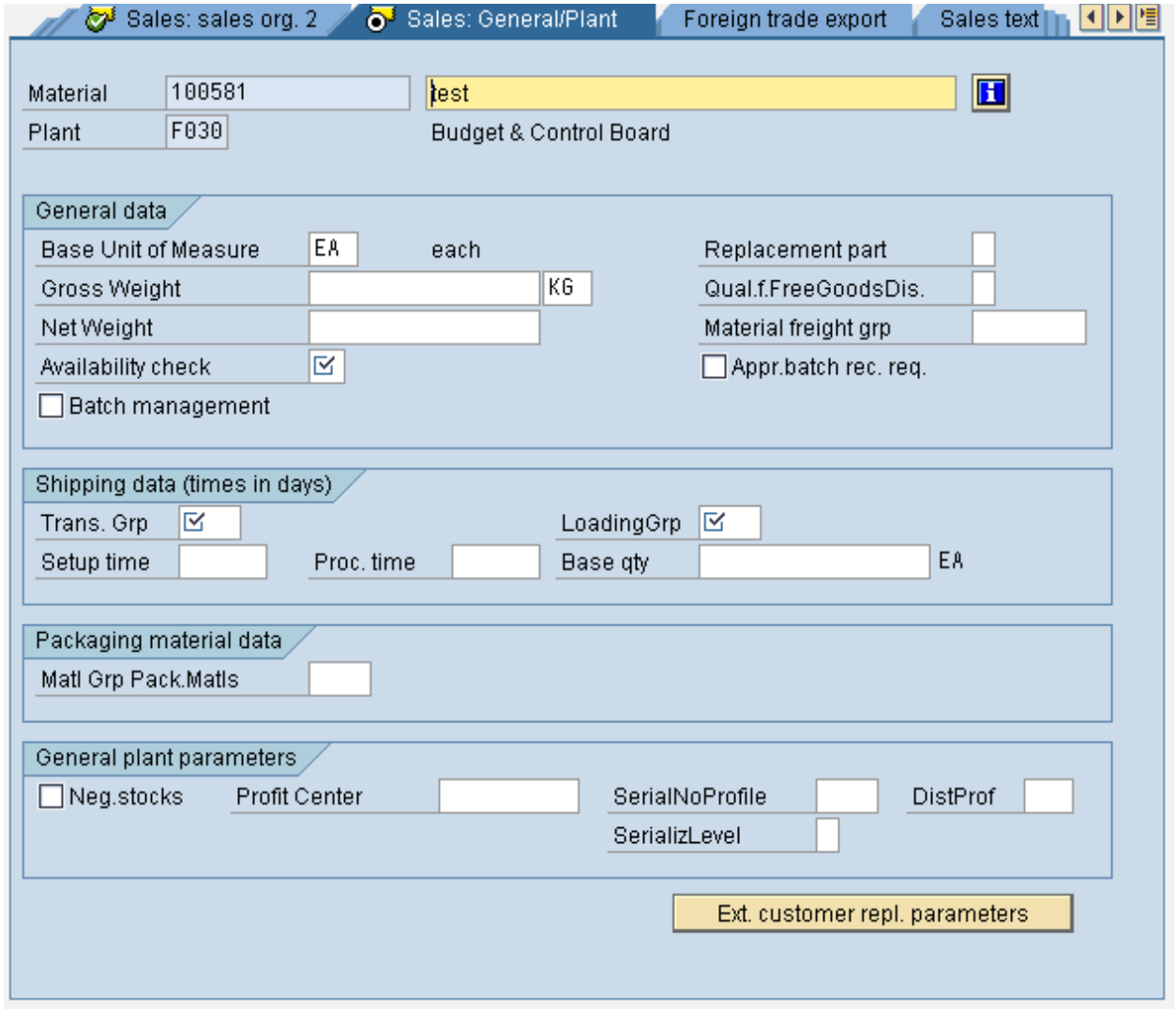
Sales: sales org. 1 (plant level, only with S/D)



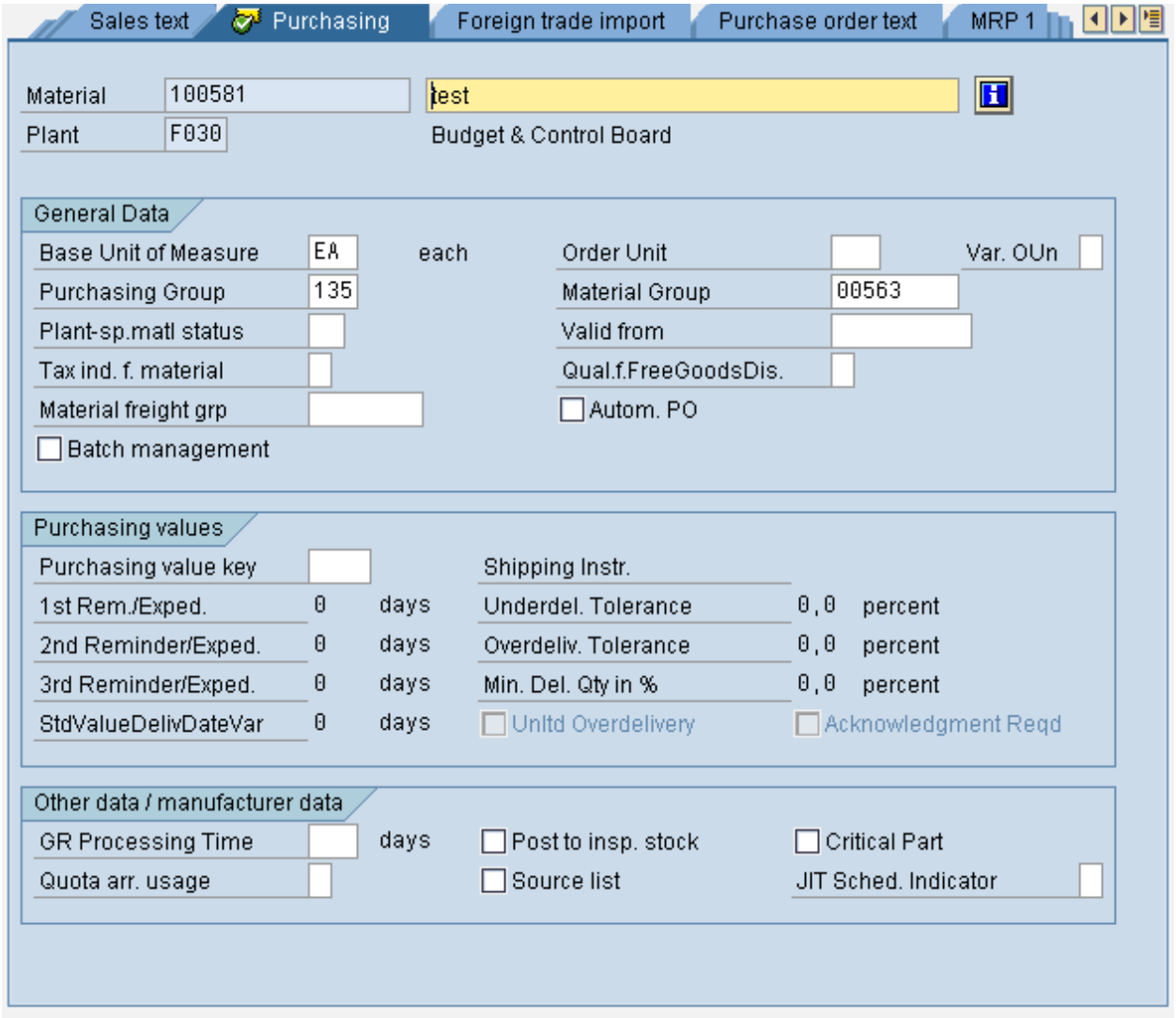
Sales: sales org. 2 (Plant level data, only with S/D)



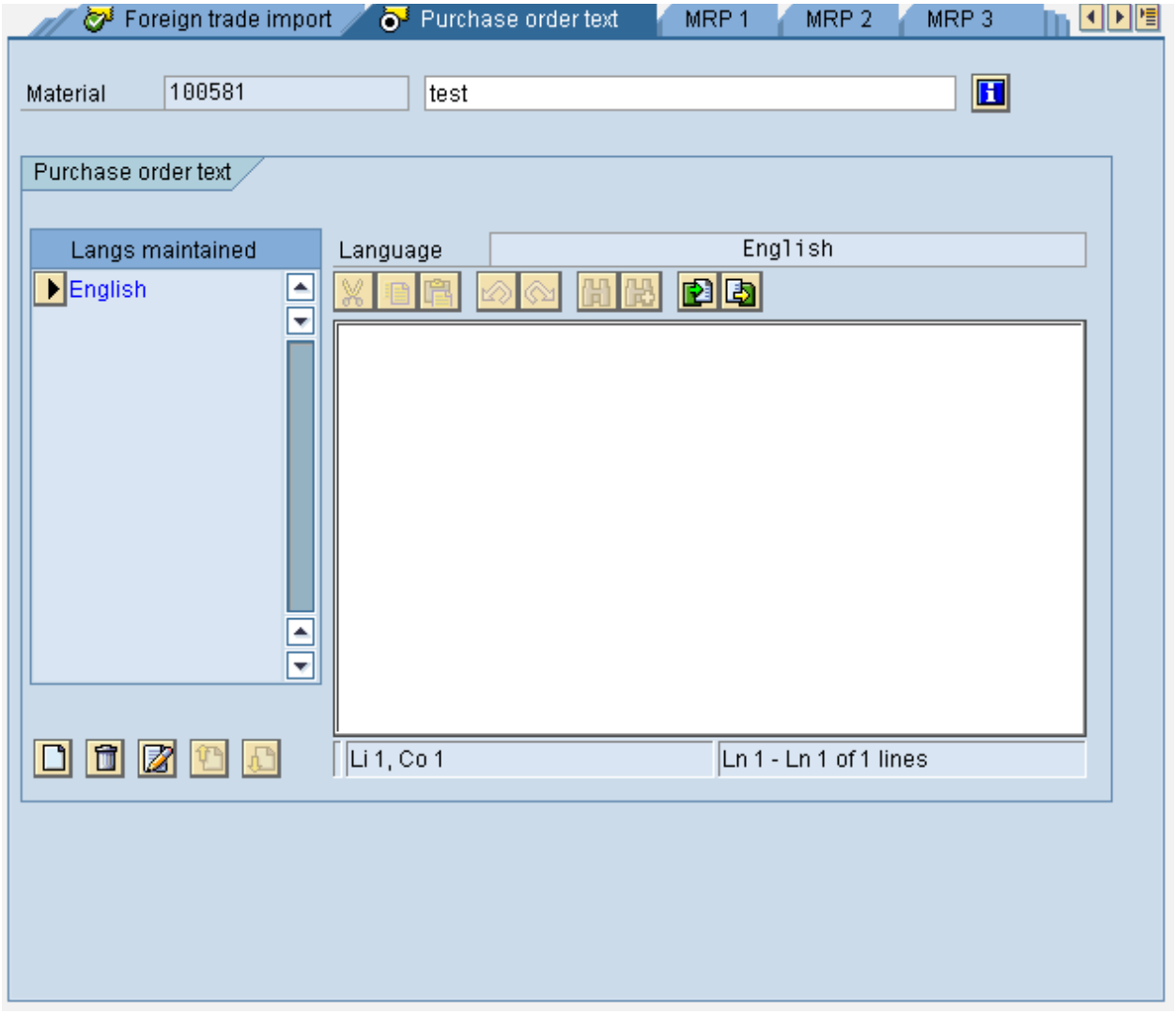
Sales: General/Plant (plant level)



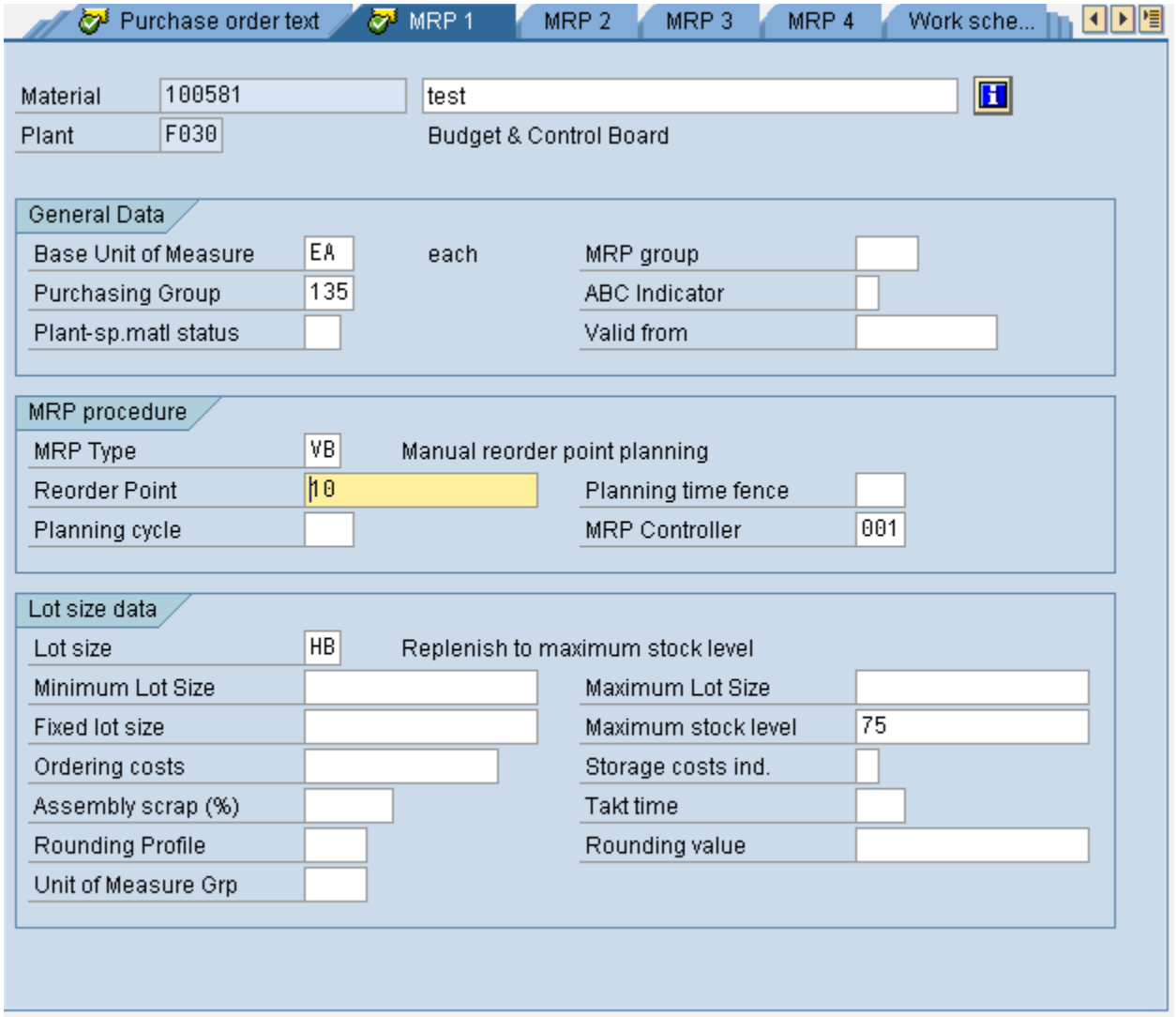
Purchasing (plant level)



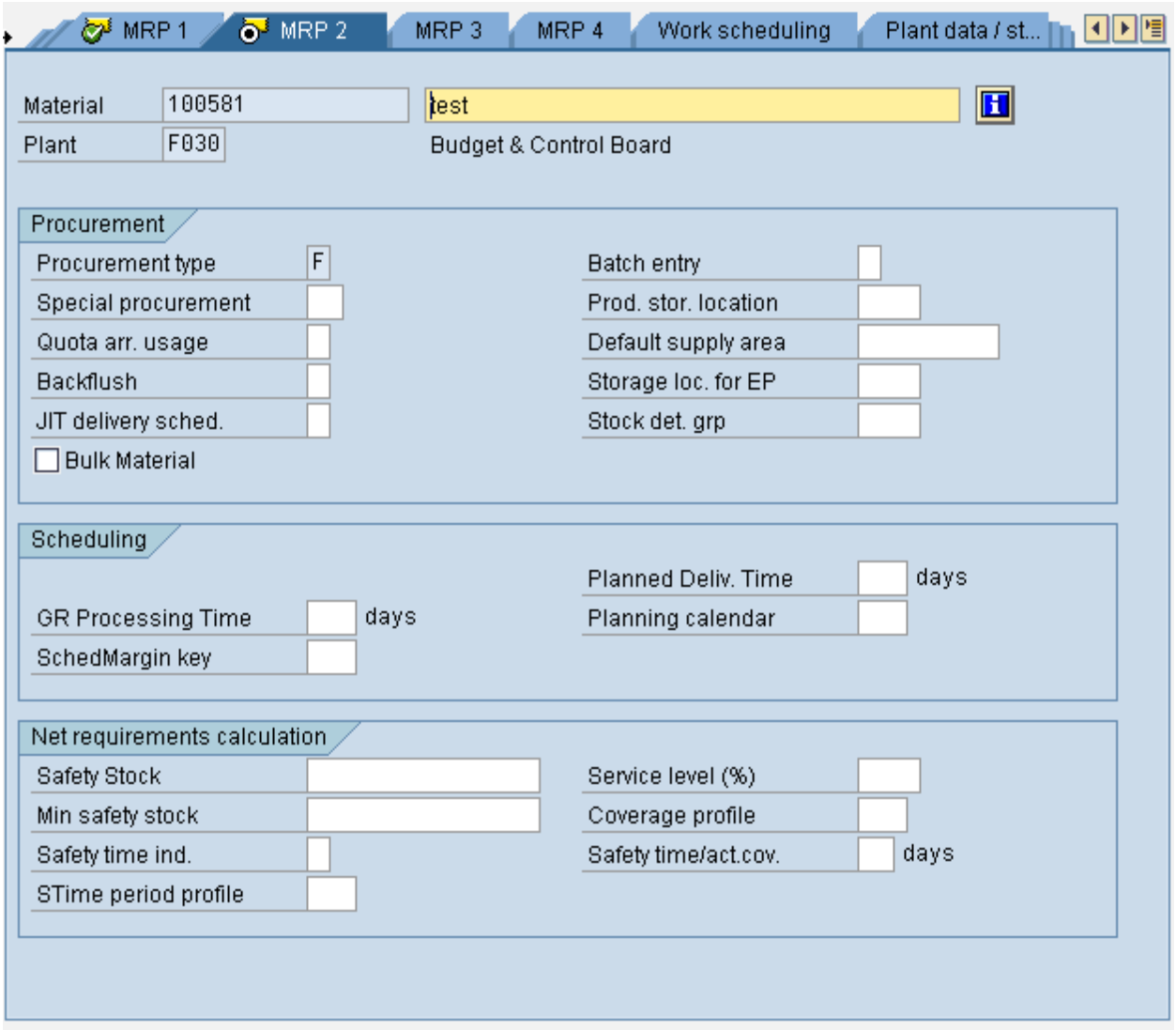
Purchase Order text



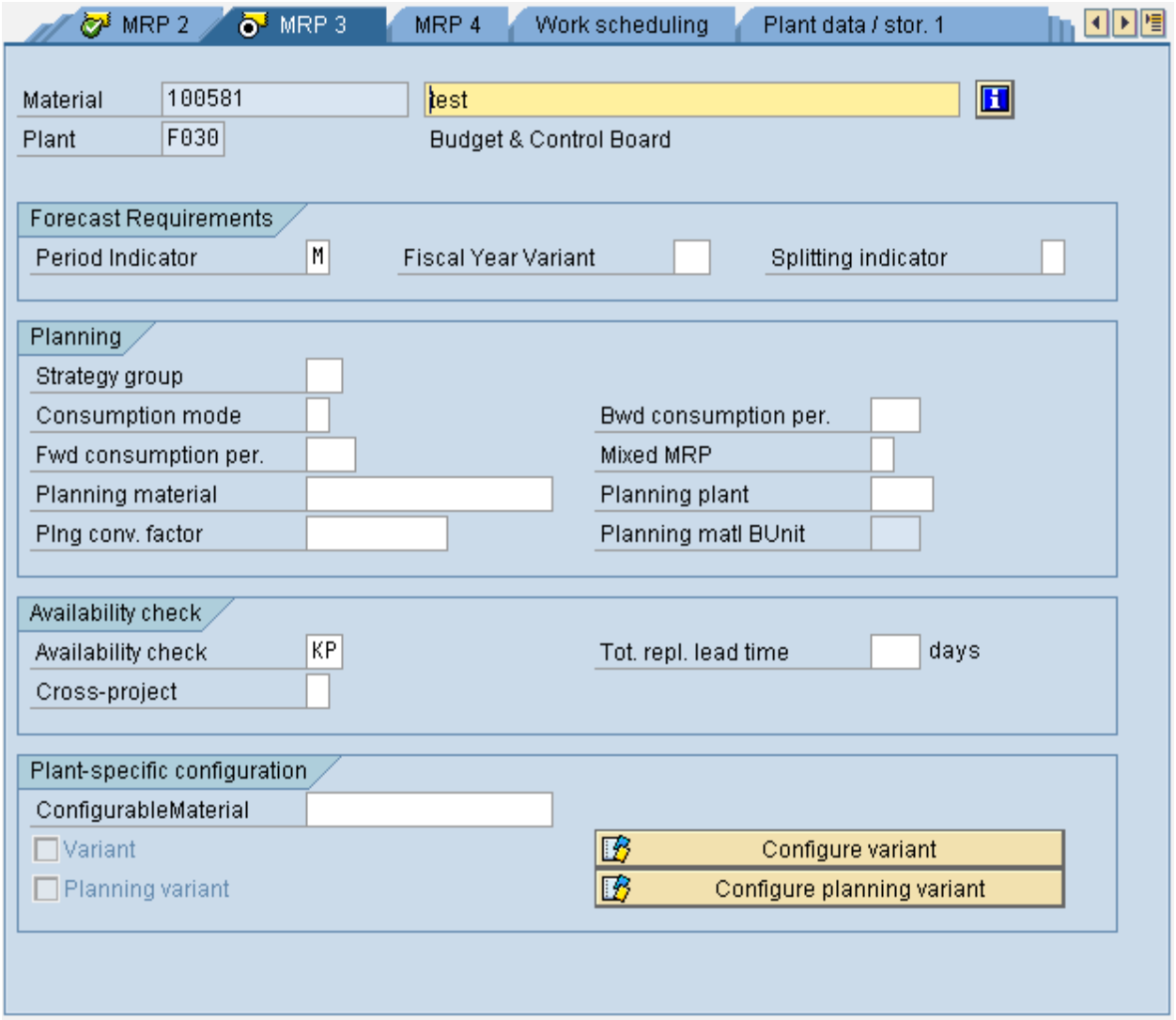
MRP 1 (Plant/Storage Location level)



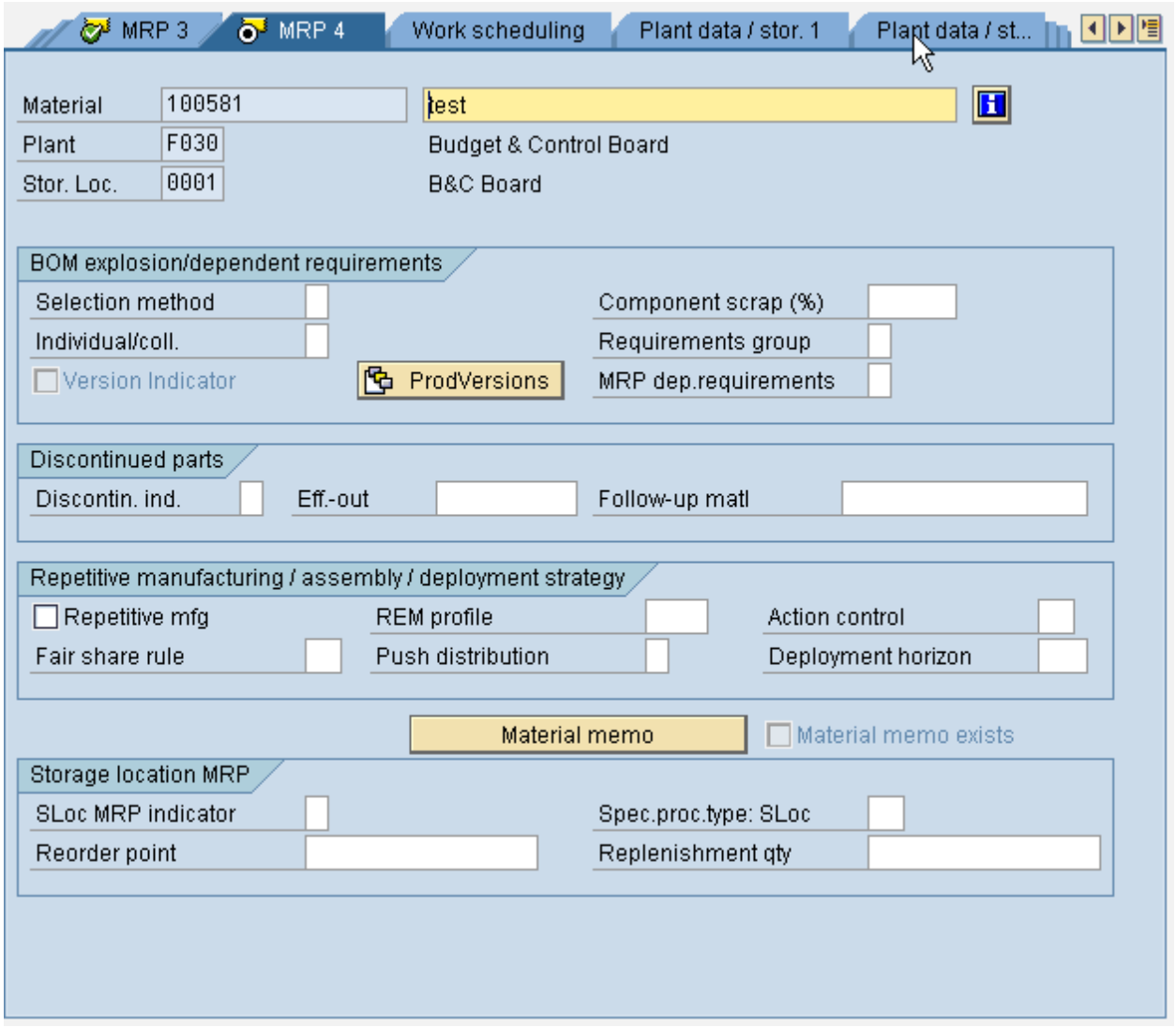
MRP 2 (Plant/SLoc level)



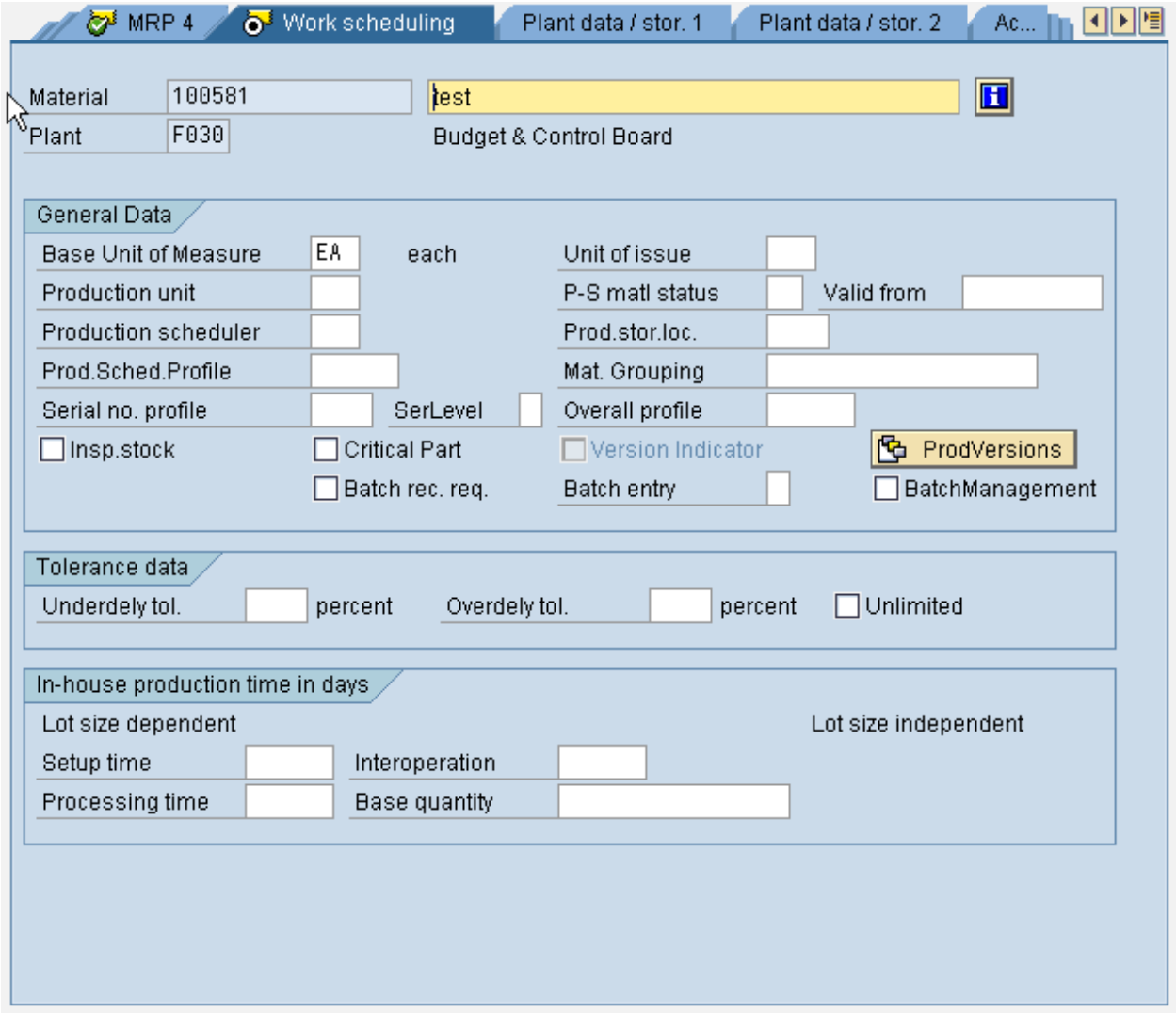
MRP 3 (Plant/SLoc level)



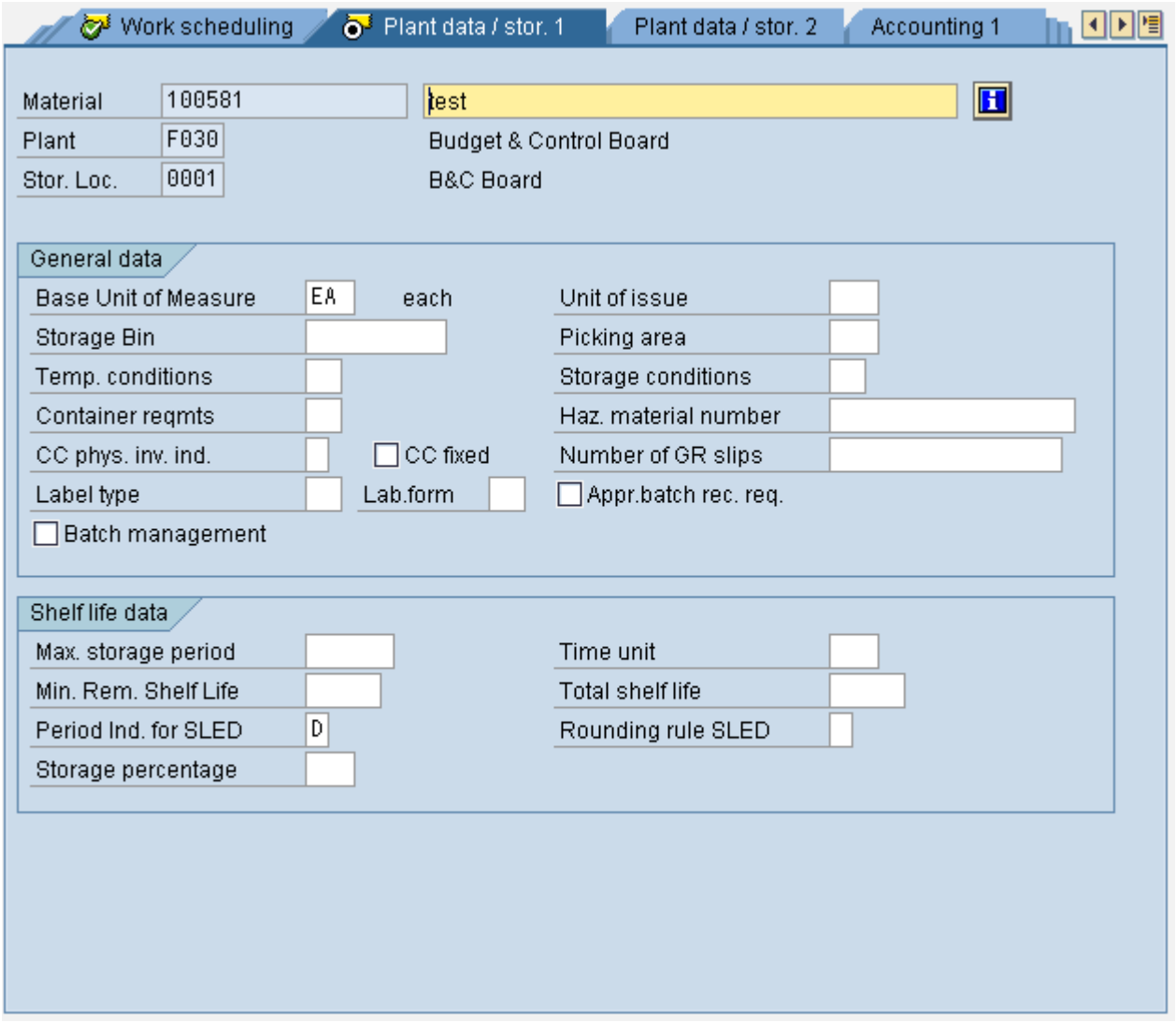
MRP 4 (Plant/SLoc level)



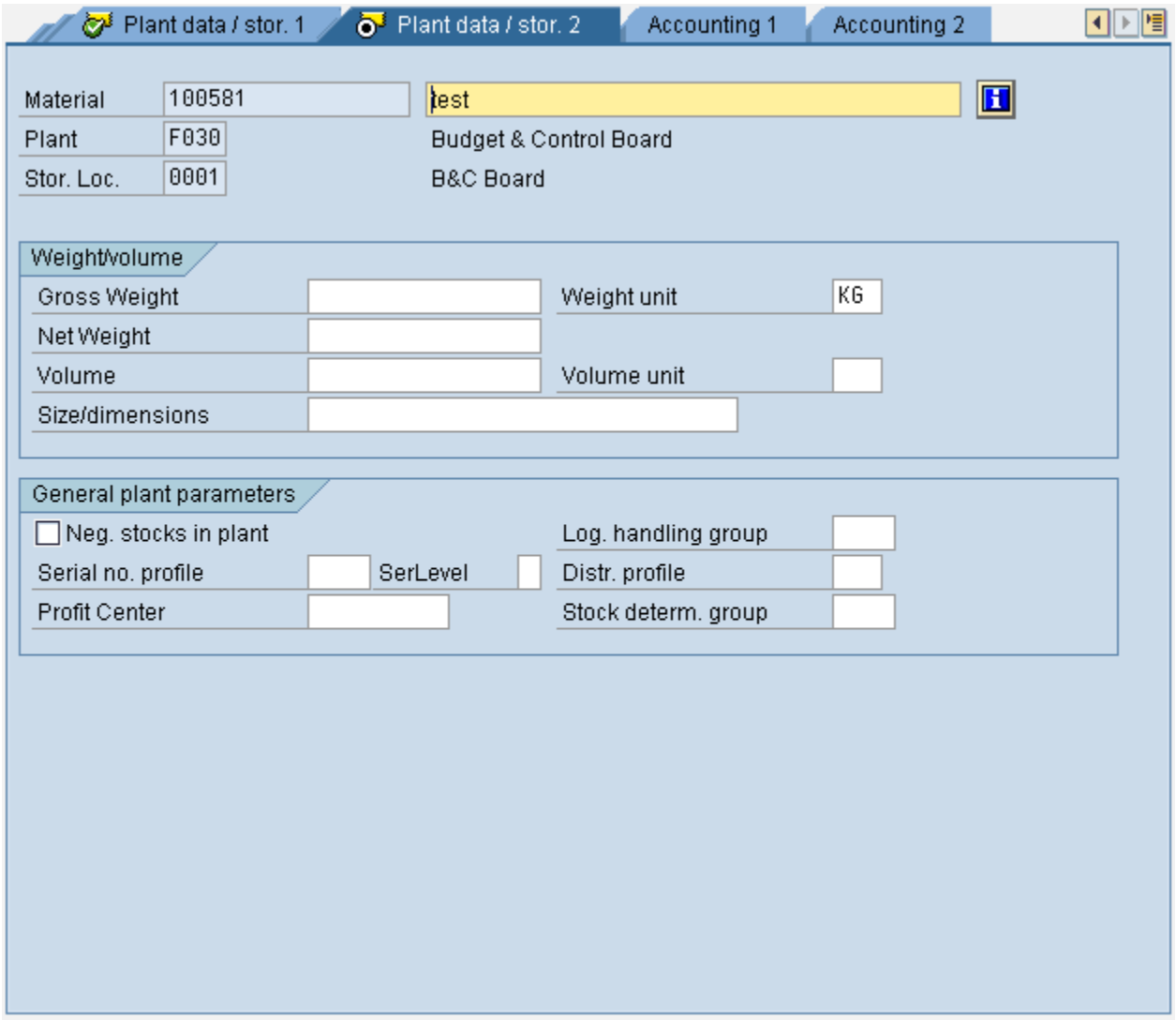
Work Scheduling



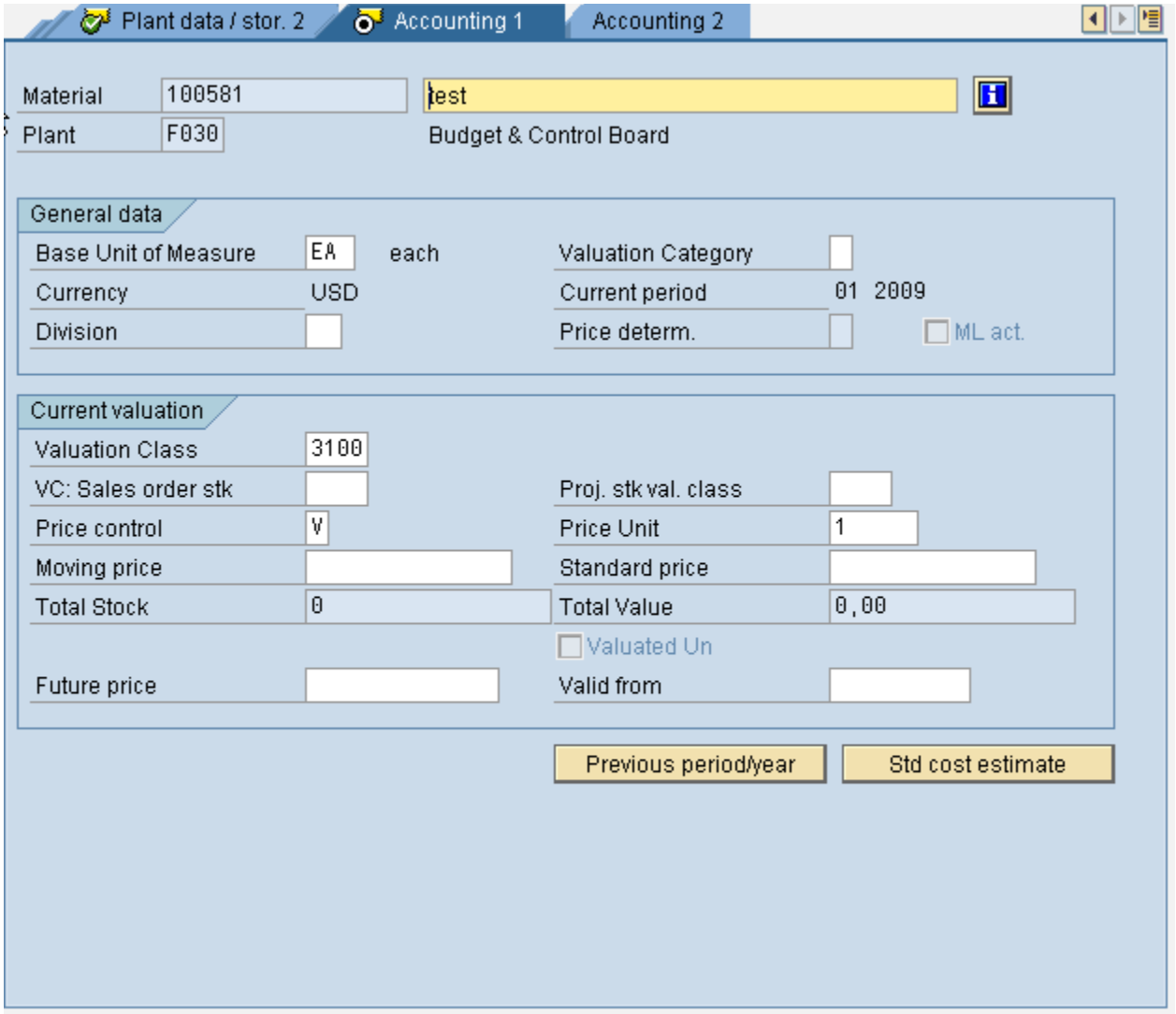
Plant data/ Storage 1



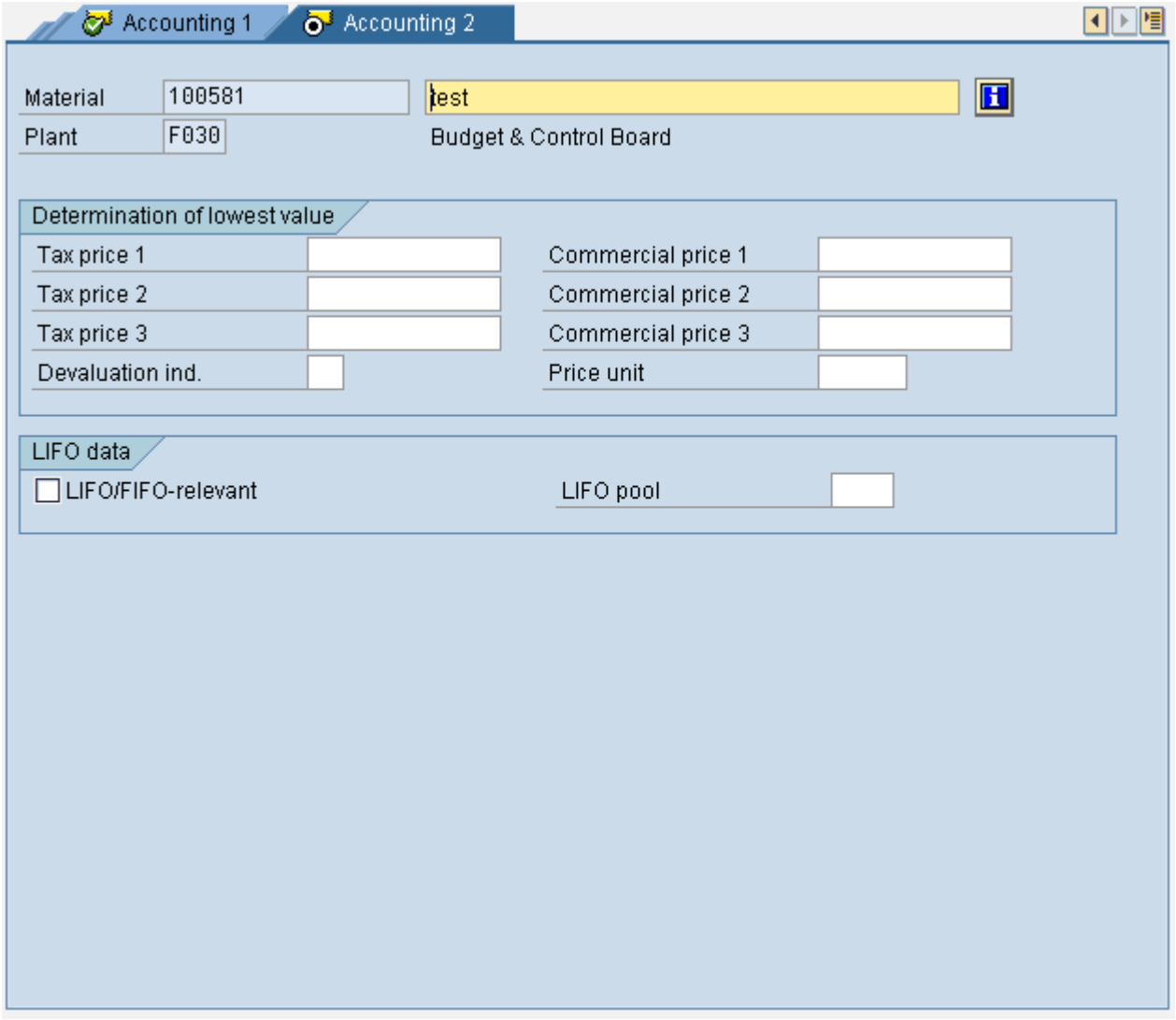
Plant data/ Storage 2



Accounting 1



Accounting 2



We will establish roles and responsibilities for the creation and modification of Material Master Records at the enterprise level and at the agency level.

Material Master Central Data Team – a group within SCEIS that is responsible for:

1. Creating Material Master Records and,

2. Maintaining Material Master Records

Material Master Agency Team – an agency material Master Record Processor tha is responsible for:

1. Requesting creation of new Material Master Records

2. Extending existing Material Master records to Plants within their organizational structure

3. Maintaining Plant specific inventory data

4. Flagging Material Master records for Deletion

Glossary

Client
The Client is the top level. Several company codes can be assigned to it.

Company Code
The Company Code is the smallest organizational unit for which a complete self-contained set of accounts can be drawn up for purposes of external reporting.

LO is an abbreviation for Logistics

MD is an abbreviation for Master Data

MM is an abbreviation for Material Management

Material Requirements Planning (MRP)
A term for procedures in materials planning that take into account and plan every future requirement during the creation of procurement proposals such as independent requirements, or dependent requirements. A term for the actions of creating a production plan or procurement plan for the materials in a Plant or company.

Plant
An organizational unit serving to subdivide an enterprise according to production, procurement, maintenance, and materials planning aspects. It is a place where either materials are produced or goods and services provided.

Storage Location
An organizational unit allowing the differentiation of material stocks within a Plant. All data referring to a particular storage location is stored at Storage Location Level. This applies mainly to storage location of inventory stocks.

Storage Type
A storage type is a storage area, warehouse facility, or a warehouse zone that you define in *Warehouse Management* (WM) for a warehouse number. This is a physical or logical subdivision of a warehouse complex that is characterized by its warehouse technique, the space used, its organizational form, or its function. A storage type consists of one or several storage bins.

You can define the following frequently-used physical storage types in WM:
- Bulk storage
- Open Storage
- High rack storage
- Picking area
- Shelf storage

You can also define storage types in WM that are shared by both the *Inventory Management* (IM) and *Warehouse Management* (WM) application components. These are called interim storage areas and include the following: Some of these include

- Goods receipt area
- Goods issue area
- Interim storage area for differences
- Posting change zone

Warehouse Number

An alphanumeric key defining a complex warehousing system consisting of different organizational and technical units (storage areas). All material data specific to warehouse management and relating to a particular warehouse number is stored at a warehouse number level. This includes data on palletizing, stock placement, and stock removal.