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Warehouse Management with SAP® ERP: Functionality and Technical Configuration
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The warehouse receives material, and most of the material is received into SAP IM, which creates a transfer requirement and then a transfer order in SAP WM. It is important to ensure that the material is moved into the warehouse stock correctly.

5 Goods Receipts

In warehouse management, a goods receipt is the movement of material into the warehouse from an external source, which could be a production system, a vendor, and so on. The warehouse management functionality checks the goods receipt for accuracy and then processes it, moving the material into the warehouse and increasing the stock levels of the material received. A goods receipt into the warehouse is triggered by one of two documents, which can be either:

- A transfer requirement from inventory management or production
- An inbound delivery if handling unit management or an external system is used

Now that we have introduced the concept of goods receipts, we can go on to discuss the goods receipt process with inbound deliveries in detail.

5.1 Goods Receipt with Inbound Delivery

An inbound delivery is a document containing all the data required for creating and completing the inbound delivery process. This process starts on receipt of the material at the receiving dock and ends with the putaway of the material in a storage bin in the warehouse.

This section will review goods receipts with inbound deliveries, so we will start with an overview of the process.
5.1.1 Inbound Delivery Overview

An inbound delivery can be created with reference to several processes:

- Purchase order
- Stock transport order
- Customer return

There are many reasons to create inbound deliveries. The most useful one is that you can perform some processes in the SAP system before the material arrives and a goods receipt is posted. The vendor can send information about the inbound delivery, which informs the warehouse of the items being sent, the information they contain, and the precise date and time of delivery.

5.1.2 Creating an Inbound Delivery

You can create an inbound delivery using the information from a vendor regarding a single purchase order for which it is supplying the material. The transaction to create a manual inbound delivery is Transaction VL31N, which you can find by following the menu path SAP • LOGISTICS • LOGISTICS EXECUTION • INBOUND DELIVERY • INBOUND DELIVERY • CREATE • SINGLE DOCUMENTS.

Figure 5.1 shows the initial screen for creating a manual inbound delivery. The vendor number and the purchase order number are required fields. Let’s discuss them here:

- **Delivery date**
  The delivery date is the date the vendor has given for delivery of the material. This is not necessarily the date stipulated in the purchase order to the vendor.

- **External ID**
  This is the identification that the vendor has assigned to this delivery. It may be the vendor’s outbound delivery number or any identification that it requires. This field can be up to 35 characters long.

- **Means of Trans.**
  The means of transport is the packaging material type. It can be configured using Transaction VHAR or by following the menu path IMG • LOGISTICS EXECUTION • SHIPPING • PACKING • DEFINE PACKAGING MATERIAL TYPE. The packaging material type defines how the materials are shipped.
Means of transport ID
The field to the right of the Means of Trans. field is the identification field, where you can enter a reference. For example, if the means of transport is a truck, then the means of transport ID may be the license plate of the truck or the trailer number or the vehicle VIN number. Up to 20 characters can be entered into this field.

![Initial Screen for Manually Creating an Inbound Delivery: Transaction VL31N](image1)

![Item Overview Screen for Creating an Inbound Delivery: Transaction VL31N](image2)
Figure 5.2 shows the item overview for the inbound delivery being created. The delivery quantity and the item number have been entered, with the purchase order entered in the reference document field. The delivery item category field has been filled with ELN, which is used for inbound deliveries. The system proposes this value, but you can change it. The value determines how the line item is processed.

From this screen, the inbound delivery can be processed and an inbound delivery number is returned to the screen after posting.

5.1.3 Creating a Transfer Order for an Inbound Delivery

Once the inbound delivery has been created, the transfer order is created with reference to the inbound delivery document. Use Transaction LTOF to create a transfer order for an inbound delivery. You can find the transaction by following the menu path SAP • LOGISTICS • LOGISTICS EXECUTION • INBOUND PROCESS • GOODS RECEIPT FOR INBOUND DELIVERY • PUTAWAY • CREATE TRANSFER ORDER • FOR INBOUND DELIVERY.

![Initial Screen for Creating a Transfer Order for Inbound Delivery: Transaction LTOF](image)

**Figure 5.3** Initial Screen for Creating a Transfer Order for Inbound Delivery: Transaction LTOF
Figure 5.3 shows the initial screen of Transaction LT0F, which shows the selections you can make to aid the creation of a transfer order. You must have the warehouse number and the inbound delivery when creating the transfer order. The other selection fields shown in Figure 5.3 are optional.

5.1.4 Using the Inbound Delivery Monitor

If you do not know the inbound delivery when using Transaction LT0F, you can use the Inbound Delivery Monitor to display open and completed deliveries. You also can use the monitor to process inbound and outbound deliveries.

Figure 5.3 also shows that you can access the Inbound Delivery Monitor through Transaction LT0F by clicking the DELIVERY MONITOR INB. DELIVERIES button on the initial screen. Otherwise, execute the Inbound Delivery Monitor via Transaction VL06I or by following the menu path SAP • LOGISTICS • LOGISTICS EXECUTION • INFORMATION SYSTEM • GOODS RECEIPT • INBOUND DELIVERY LISTS • INBOUND DELIVERY MONITOR.

In Figure 5.4, the monitor offers several options. In this section, we are creating transfer orders based on goods receipts. Therefore, you should select FOR GOODS RECEIPT on the monitor.

![Inbound Delivery Monitor](image)

**Figure 5.4** Initial Selection Screen for Inbound Delivery Monitor: Transaction VL06I
Figure 5.5 shows the selection fields that can be filled in to search for particular inbound deliveries based on the following search criteria. These are:

- **PO Data**
  A range for the purchase order and purchase order item

- **Time Data**
  The delivery date entered into the inbound delivery document

- **Putaway Data**
  The storage location and warehouse number

![Inbound Delivery Monitor for Goods Receipts Selection Screen](image)

**Figure 5.5** Inbound Delivery Monitor for Goods Receipts Selection Screen

The other two radio buttons in this area refer to warehouse checks at the header or item level.

If the **Check at Header Level** radio button is selected, then the system will only find inbound deliveries that have warehouse numbers in the header that meet the selection criteria.
If the **Check at Item Level** radio button is selected, then all deliveries that include at least one item that meets the warehouse number criteria are selected. Let’s take a look at these criteria:

- **Partner Data**
  - The vendor number or a range of vendor numbers of the required inbound deliveries

- **Doc. Data**
  - The inbound delivery number and the external delivery number

- **Material Data**
  - The UPC code or the vendor material number, if these are known

Once all the search criteria have been entered into the search, you can execute the transaction by choosing **Program • Execute** or by pressing the **F8** function key.

After the data is entered into the selection criteria, the resulting inbound deliveries, shown in Figure 5.6, are found to have met those criteria. You can create a transfer order from a chosen inbound delivery by selecting **Subsequent Functions • Create Transfer Order**.

**Figure 5.6** Search Results for Goods Receipt for Inbound Deliveries from Inbound Delivery Monitor

In Figure 5.7 a dialog box appears that requires you to enter parameters to create the transfer order from the inbound delivery. In the **Adopt Putaway Qty** field enter one of the options shown in Figure 5.7.
Once you have selected a parameter, the process of creating a transfer order is performed in the background. If the transfer order is created, the system will generate a message saying the transfer order has or has not been created successfully.

If the transfer order has been created, you can see the document flow for the inbound delivery by selecting the inbound delivery from Figure 5.6 and choosing Environment • Document Flow.

Figure 5.8 shows the original inbound delivery and the handling unit associated with it. The transfer order has been created for the inbound delivery and is shown as an element of the document flow.
Goods Receipt Without an Inbound Delivery

Transaction LT21 enables the display of the transfer order, noted in the document flow for the inbound delivery.

Figure 5.9 shows the transfer order created for the inbound delivery. The system sets the confirmation flag because the transfer order was confirmed when it was created in the Inbound Delivery Monitor.

Now that we have examined the goods receipt process with inbound deliveries, let’s look at what happens when goods receipts are made without inbound deliveries.

5.2 Goods Receipt Without an Inbound Delivery

A goods receipt without an inbound delivery can occur when material arrives at the receiving dock without reference to an inbound delivery. The goods receipt occurs in IM, and a transfer requirement is created for the movement of the material into the warehouse.

5.2.1 Goods Receipt in IM

Goods receipts relevant to a warehouse management system can be produced by the arrival of material at the plant from a purchase order with a vendor. A goods
receipt can be defined as a company’s formal acceptance that materials were received from a vendor against a purchase order. Once the material is received and the transaction completed, the value of the material is posted to the general ledger.

The goods receipt transaction is Transaction MIGO, which you can access via the menu path SAP Menu • Logistics • Materials Management • Inventory Management • Goods Movement • Goods Receipt • For Purchase Order • GR for Purchase Order.

Figure 5.10 shows the goods receipt for a purchase order of material 1157. It also shows the quantity of material that will be receipted into plant 1000 and the GR goods receipt type 101, which represents a goods receipt for a purchase order.

5.2.2 Reviewing the Material Documents

After all the relevant details such as storage location, batch number, and so on, have been added to the goods receipt transaction, the goods receipt can be
posted. If the goods receipt does not return any error messages, the transaction will post and display the number of the material document for the movement of the material.

To view the material document, use Transaction MB03, which you can find by following the menu path SAP MENU • LOGISTICS • MATERIALS MANAGEMENT • INVENTORY MANAGEMENT • MATERIAL DOCUMENT • DISPLAY. On the initial screen, enter the material document number displayed after the goods receipt posted and the year, as shown in Figure 5.11.

![Initial Screen for Displaying a Material Document: Transaction MB03](image)

**Figure 5.11** Initial Screen for Displaying a Material Document: Transaction MB03

After the material document number and the fiscal year have been entered, the material document can be displayed.

Figure 5.12 shows the material document that was created during the processing of the goods receipt for a purchase order. The material document shows the material, the plant, the storage location where the material will be stored, the purchase order number, the batch number of the material being receipted, and the movement type of the goods receipt that produced the material document.

In addition, the material document contains an option to show the accounting documents created because the material was received at the plant and moved into stock. The company therefore assumes financial liability for the material.

Figure 5.13 shows the accounting document relevant to the goods receipt of the material from the purchase order. The two lines of the accounting document show the financial liability moving from account 191100 (goods receipt account) to account 790000, which is the finished goods inventory account.
5.2.3 Reviewing Stock Levels after Goods Receipt

Once the goods receipt of the purchase order into inventory is complete, you can perform a stock overview to show the material in stock. To execute the stock overview, use Transaction MMBE, which you can access via the menu path SAP Menu • Logistics • Materials Management • Inventory Management • Environment • Stock • Stock Overview.

The stock overview screen shows the material that has been posted as a result of the goods receipt. The information regarding material 1157 is shown on the stock
overview, shown in Figure 5.14. It matches the information in the material document, shown in Figure 5.12.

![Stock Overview: Basic List](image)

**Figure 5.14** Stock Overview of Material 1157 in All Stock Locations: Transaction MMBE

### 5.2.4 Displaying the Transfer Requirement

The goods receipt of the material from the purchase order has been receipted into stock, as shown by the material documents and the stock overview program. This information reflects the movement into the stock location relevant to IM, but not the movement relevant to WM.

When the movement into the storage location was made, a transfer requirement was created, as the storage location is warehouse managed. You can find the transfer requirement by using Transaction LB11, which allows for a search of the transfer requirements by material number. To find this transaction, follow the menu path

*SAP Menu* • *Logistics* • *Logistics Execution* • *Internal Warehouse Processes* • *Transfer Requirement* • *Display* • *For Material.*

Figure 5.15 shows the initial screen of Transaction LB11. To find all the transfer requirements for the material that has been goods receipted, enter the material number, warehouse number, and plant. You can also enter other information such as shipment type. In this example, shipment type E has been entered, restricting the transfer requirement search to stock placements.
Figure 5.16 shows the transfer requirement found using the search criteria entered in Figure 5.15. The transfer requirement has been created as a result of the goods receipt for the purchase order. The line item shows the transfer requirement number, movement type, and description that created the transfer requirement, the purchase order number that has been receipted into stock, and the quantity on the transfer requirement.
Now that we have identified the transfer requirement, we can convert it to a transfer order. As Figure 5.16 shows, there are two ways to do this. You can create a transfer order in the foreground or the background.

To convert to a transfer order in the foreground, click the TO IN FOREGROUND button or press \( \text{Ctrl} + \text{Shift} + \text{F8} \). You can also create the transfer order by selecting ENVIRONMENT • TO IN FOREGROUND.

Figure 5.17 shows the first screen displayed after you click the TO IN FOREGROUND button. You can review and change the information if necessary and then click the GENERATE + NEXT MAT button to complete the line item.

![Figure 5.17 Conversion of Transfer Requirement to Transfer Order: Transaction LB11](image)

Figure 5.18 shows the transfer order that has been created from the information shown in Figure 5.17. You can post the transfer order by selecting TRANSFER ORDER • POSTING or pressing \( \text{Ctrl} + \text{S} \).

Once the transfer order has been posted, the system returns to the display of transfer requirements, as shown in Figure 5.16, and the transfer order number is displayed at the bottom of the screen.
5.2.5 Displaying the Transfer Order

You can see the transfer order created by the conversion of the transfer requirement to a transfer order with Transaction LT21 if you know the transfer order number. If you just know the material, use Transaction LT24 or follow the menu path SAP Menu • LOGISTICS • LOGISTICS EXECUTION • INTERNAL WAREHOUSE PROCESSES • STOCK TRANSFER • DISPLAY TRANSFER ORDER • FOR MATERIAL.

Figure 5.19 shows the initial selection criteria screen for displaying transfer orders. All the transfer orders can be displayed for a material in a warehouse. In this example, the transfer order created for the goods receipt of material 1157 is being searched for, and the selection criteria reflect this.

Figure 5.20 shows the transfer order that has been created for purchase order 4500017388 that was receipted into the plant. A transfer requirement has been created to start the putaway in the warehouse. The conversion of the transfer requirement to the transfer order and the confirmation of the transfer order have moved the 100 units of material 1157 into warehouse storage bin 01 – 01 – 01 in storage type 001.
In the last two sections, we described goods receipts with and without inbound deliveries. Now we will examine goods receipts that do not involve inventory management.
5.3 Goods Receipt Without Inventory Management

At first glance, this process may appear somewhat uncharacteristic. Normally, materials are receipted into a storage location, and that triggers a transfer requirement and a transfer order in WM. However, there are materials in the warehouse that sometimes do not require a goods receipt in IM but are required for warehouse operations. An example of this is packaging materials, such as pallets and crates. These are used for material storage and shipment but do not have to be goods receipted into IM.

5.3.1 Creating the Transfer Order for the Goods Receipt

You can create the transfer order without reference to a goods receipt from IM or a transfer requirement in WM. You can create a transfer order in Transaction LT01 or via the menu path SAP Menu • Logistics • Logistics Execution • Internal Warehouse Processes • Stock Transfer • Create Transfer Order • No Source Object.

![Initial Screen for Creating a Transfer Order Without IM: Transaction LT01](image)

Figure 5.21 shows the initial screen for creating the transfer order using Transaction LT01. Goods movement number 501 is used here refer to a receipt without
a purchase order. In this scenario, a vendor may have dropped off a shipment of 100 pallets to be used in the shipment of parts. Many industries use pallets that they lease at a very small charge per day; for example, GKN pallets.

**Note**

A GKN pallet is a series of blue wooden strips and blocks crafted into a square shape, about 1.2 square meters. It is manufactured by CHEP, a division of GKN, and is rented to companies for less than a dollar per day.

Figure 5.22 shows the detail screen for Transaction LT01. The screen shows that the material putaway will come from source storage type 902, which is the goods receipt area. The system will generate the destination storage type and storage bin. To create the transfer order, press **Ctrl** + **S** or select **TRANSFER ORDER • POSTING**. Once posting is complete, the system returns to the initial screen and displays the transfer order number it has created.

---

This is a detailed description of the process and a visual representation of the screen in question. It highlights the importance of managing inventory in a controlled manner, ensuring that all materials are accounted for and in the correct locations. The GKN pallets, in particular, are noted for their durability and cost-effectiveness, making them a popular choice in industries that require frequent transfers of materials.
5.3.2 Displaying Transfer Order for the Goods Receipt

You can review the information in the transfer order by using Transaction LT21 to display the contents of the transfer order or following the menu path SAP Menu • Logistics • Logistics Execution • Internal Warehouse Processes • Stock Transfer • Display Transfer Order • Single Document. The transaction requires that just the warehouse number and the transfer order number be entered to display the transfer order details.

Figure 5.23 shows the details of the line item in the transfer order created for the goods receipt. The material has been moved from storage type 902, storage section 001, and storage bin WE-ZONE to storage type 001, storage section 001, and storage bin 01 – 09 – 03. Note that the quantity of 100 has not been confirmed because the system has not selected the confirmation checkbox next to the warehouse number.

![Figure 5.23 Display of Transfer Order Created for Material Goods Receipt Without IM: Transaction LT21](image)

5.3.3 Displaying the Stock Levels

Prior to the posting of the transfer order and the receipt of the material into the warehouse stock, you can review the stock levels for the material in the ware-
house. To do this, use Transaction LS24 or follow the menu path SAP Menu • Logistics • Logistics Execution • Internal Warehouse Processes • Bins and Stock • Display • Bin Stock per Material.

Figure 5.24 shows initial screen for Transaction LS24, which allows selections to be made to report on the stock levels for the material required. In this example, the display for stock levels of material 1157 is limited to warehouse number 001, but for all storage types.

Figure 5.24 Initial Screen to Display a Transfer Order by Material: Transaction LS24

Figure 5.25 shows the stock levels for material 1157. It shows that the material is located in the 902 receiving area that is not yet moved to storage type 001 and placed in bin 01 – 01 – 01. Therefore, the transfer order should be confirmed using Transaction LT12 or by following the menu path SAP Menu • Logistics • Logistics Execution • Internal Warehouse Processes • Stock Transfer • Confirm Transfer Order • Single Document • In One Step.

Figure 5.26 shows the information required to confirm the transfer order and move the material from the goods receipt area to storage bin 01 – 01 – 01 in storage type 001.
Goods Receipts

You can confirm the movement by checking the bin stock using Transaction LS24. Enter the same information in the initial screen as in Figure 5.24. The resulting screen after confirmation of the transfer order shows the material posted into the
correct storage bin. Figure 5.27 shows the final placement of the material in the
warehouse.

![Stock per Material Report Showing Movement from WE-ZONE to Storage Bin 01 – 01 – 01](image)

Figure 5.27

---

5.4 **Business Examples—Goods Receipts**

A goods receipt into the warehouse is a movement of material into the warehouse from an external source, which could be a production system, a vendor, and so on. The functionality checks the goods receipt for accuracy and then processes it, moving the material into the warehouse and increasing the stock levels of the material received.

5.4.1 **Goods Receipt with Inbound Delivery**

You can create an inbound delivery with reference to several processes, such as a purchase order, stock transport order, or customer return. Inbound deliveries are useful, as it is possible to perform some processes in the SAP system before the material arrives and a goods receipt is posted.

**Example**

A manufacturer of elevator parts developed a goods receipt procedure for receiving raw materials used in their manufacturing process. Because the parts they
manufactured had to pass strict quality control standards the company had a goods receiving procedure that was equally as stringent. Each delivery of raw material was visually examined by the receiving staff for damages to the packaging, and if they believed the item was damaged, it was rejected before any other tests were made. If the packaging was found to be satisfactory, the raw material was received into a blocked stock area where physical and chemical tests were performed. If the quality department approved the items, then the goods receipt was processed and received into the warehouse.

The process ensured that only materials meeting the specifications were received into the warehouse, but it was a lengthy process that only verified the results given to them by the vendor. The length of the process was a problem on occasion due to material being needed for production orders that were about to commence. The production department became concerned that time and money was being wasted verifying the data supplied by vendors who they had been working with for many years.

The supply chain management team reviewed the concerns of the production department as well as the purchasing and quality teams who were equally apprehensive that items could be received that were not of sufficient quality.

The management worked with the most trusted vendors and proposed a revised procedure. Some vendors would allow testing of the parts at their facilities on a regular basis, and if the material was passed, inbound deliveries were created to expedite the goods receipt into the warehouse. The creation of an inbound delivery meant that the warehouse and quality departments spent less time and resources on receiving material that had already been tested.

### 5.4.2 Goods Receipt Without an Inbound Delivery

A goods receipt for a delivery that is not an inbound delivery can occur when the material is not packed, such as when material arrives at the receiving dock from the vendor without any containers or pallets. The goods receipt occurs in IM, and a transfer requirement is created for the movement of the material into the warehouse.

**Example**

A beverage company based in Austria purchased a small Polish regional beverage company. The Polish company operated with a variety of custom systems that
were interfaced using overnight batch processes. The disparate systems were often out of sync, and it was possible for items to arrive at the receiving dock without a purchase order, and sometimes the material file was still waiting for an update. The staff was aware of these issues, and items were received into the warehouse due to a lack of space to hold these incoming deliveries without valid paperwork.

After the migration to their parent company's SAP system, the warehouse staff in Poland was informed that they should always have an inbound delivery available due to the real-time nature of the data. Nevertheless, the staff would still on occasion receive deliveries directly into stock without an inbound delivery. This practice was immediately halted when it was found that one vendor frequently sent deliveries with quantities greater than the order quantity, with a shorter shelf life and no order documents.

After this situation was found, the company instituted a zero-tolerance policy, where no delivery was accepted without an inbound delivery.

### 5.4.3 Goods Receipt Without Inventory Management

Sometimes there are materials in the warehouse that do not require a goods receipt in IM but are required for warehouse operations. An example of this is packaging materials, such as pallets and crates. These are used for material storage and shipment but do not have to be goods-receipted into IM.

#### Example

A manufacturer of specialty parts for small aircraft had been supplying parts to customers with basic packaging when they were shipped by a local freight company. Several years ago the freight company implemented increased restrictions on shipping parts that contained fluids, such as batteries. The company was informed that fluids would have to be placed within a leak-proof plastic container supplied by the freight company.

Because the customer returns the damaged or worn part and the container to the manufacturer, the container is not sold and is nonvaluated. The containers are sent out with the part, and there is a period of time before the container is returned. At any one time there were over a hundred containers at customer sites
or in transit. The company required a stock of containers delivered to them at regular periods to cover this shortfall and to replace damaged containers.

Because the containers were not purchased, the shipping company delivered them to the manufacturer when they were required. The company did not receive the containers using a purchase order but created a transfer order for the items so they could be stored in the warehouse.

5.5 Summary

Material is receipted into stock using purchase orders or production orders. The material can easily be goods-receipted using inventory management, but several steps are needed to move and store the material in SAP WM. This chapter explained the procedures required when material is brought into the warehouse, either as a normal receipt or as a receipt that involves handling units.

Chapter 6 will examine the opposite of goods receipt: goods issue. Moving the material from the warehouse involves a variety of procedures that you should understand clearly.
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