

**Technical Specification Documentation**

For

Automation Landed Cost

**Version No.: 2.0**

**Date: 10th March 2017**

***Description***

* When a Goods Receipt PO (GRPO) is added into SAP, a Landed Cost document will be created automatically for upon GRPO creation.
* For Actual landed cost, user need to create manually at Landed cost module.

Clarification: How we could make landed cost two times for the single GRPO? What is meant by Estimated Landed cost No?

***Pre-requisition***

**The automation landed cost will be activating only when below condition is match:**

1. Below table need to be configure firs:
   1. Landed Cost – Setup (SAP Standard table)
   2. Landed Cost Component
   3. Courier Table
   4. Forwarder table
   5. Fuel Surcharge Table
   6. Inco Table
   7. Dimension Surcharge Table
   8. Zone Table
   9. User Defined Field in Document (PO, GRPO)
2. At GRPO screen, Landed Cost Method not equal to ‘None’

**Find the below User defined tables needs to create.**

1. *Landed Cost Component*
   1. If the component exists in this table, will be auto flow into Landed Cost.

|  |  |  |
| --- | --- | --- |
| Code | Component | Type |
| 1 | Freight Charges (ELC) | ELC |
| 2 | Insurance Charge (ELC | ELC |

Clarification: Whatever components we created in this table should match with Landed Cost setup table charges.

1. *Courier Table:*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Forwarder code (BP code) | Weight (kg) | Zone 1 | Zone 2 | Zone 3 | Zone 7 |
| DHL | 0.5 | 14.33 |  |  |  |
| DHL | 1.0 | 15.58 |  |  |  |
| DHL | 2.0 |  |  |  | 49.24 |

1. *Forwarder Table:*

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Forwarder | Country | Supplier  BP Code | Cur | Component | By Amount/Percent | By KG  /NET | Min | Flat | Basic | From Date | To Date |
| DHL Global | UK | ALL | GBP | Freight | Amount | KG | 20.00 | 1.20 | 0.00 | 01/01/2015 | 31/12/2015 |
| DHL Global | UK | ALL | GBP | Fuel | Amount | KG | 0.00 | 1.50 | 0.00 | 01/10/2015 | 31/12/2015 |
| DHL Global | UK | ALL | GBP | Handling | Amount | KG | 20.00 | 0.20 | 32.00 | 01/10/2015 | 31/12/2015 |
| DHL Global | UK | ALL | GBP | Export Fee | Amount | KG | 15.00 | 0.00 | 0.00 | 01/10/2015 | 31/12/2015 |
| DHL Global | UK | ALL | GBP | X-Ray | Amount | KG | 8.00 | 0.09 | 0.00 | 01/10/2015 | 31/12/2015 |
| DHL Global | UK | ALL | SGD | Local Handling | Amount | KG | 60.00 | 0.20 | 0.00 | 01/10/2015 | 31/12/2015 |

1. *Fuel Sur Charges Table:*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Courier | Country | By Amount/Percent | By KG /Net | Rate | Month |  |
| DHL |  | Percent | KG | 11.00 | October 2015 | 11% x Weight |
| FedEx |  | Amount | KG | 15.00 | October 2015 | $15 x weight |
| TNT |  | Amount | Net | 100 | October 2015 | $100 |

1. Inco Table

|  |  |  |  |
| --- | --- | --- | --- |
| **Inco-term code** | **PO Print Out Description** | **CFR value** | **Insurance rate** |
| EXW | EXW | 1.1 | 0.00025 |
| CIF | CIF | 0 | 0 |
| FCA-Overseas | FCA | 1.1 | 0.00025 |
| FCA-Local | FCA | 0 | 0 |
| FOB | FOB | 1.1 | 0.00025 |

1. *Dimension Sur Charges:*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Forwarder/Courier | Extra Charge | Weight | Weight Surcharge | Dimension | Dimension Surcharge |
| DHL Express | Yes | 70 | 45 | 120 | 40 |
| TNT |  | 70 | 41 | 120 | 41 |
| DHL Global |  | 70 | 40 | 120 | 0 |

1. *Zone table*

|  |  |  |  |
| --- | --- | --- | --- |
| **Country** | **DHL** | **TNT** | **FedEx** |
| Singapore | 1 | 1 | 2 |
| Australia | 3 | 3 |  |

1. *User Defined Fields:*  ***These below fields we need to create in document header.***

|  |  |  |
| --- | --- | --- |
| **Method** | Courier | UDF (Drop down list >> Courier, Forwarder, Spot Rate, Lump Sum, None) |
| **BP – forwarder (UDF)** | DHL Express | UDF (Choose From List - BP List) - **FMS** |
| **Ship From Country** | UK | UDF –pick from BP Master default ShiptoAdd Country code - **FMS** |
| **Zone** | 1 | UDF - FS based zone table – **FMS** |
| **Total Chargeable Weight** | 227 | **Sum of Chargeable weight from Packing details grid.** |
| **Spot Rate / Lump Sum** | (Amount column) | UDF – Mandatory if Method = Spot Rate / Lump Sum – **Manual Entry** |
| **Inco terms** | EXW | UDF – Default pick from BP Master Inco terms UDF based on select BP – forwarder. – **FMS – *Same field we need create in BP master*** |

**Packing Details Grid:**

* Packing Details to be created for Store to input Actual Weight and dimension by packaging type.
* P*ac*king Details (after Attachment tab) – will be at Grid Format as below:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | **Packaging**  **Type** | **Actual Weight** | **Len** | **High** | **Width** | **Chargeable weight (AUTO)** | **Calculation Formula** | **Highest Dim (AUTO CALC)** | **High Dimension Calculation** | **Dim Sur charge** | **Surcharges Calculation** |
| 1 | Pallet | 75 | 120 | 50 | 130 | 156 | =120\*50\*130/5000 | 130 | 120||50||130 | 85 | Find the below table |
| 2 | Pallet | 65 | 30 | 125 | 40 | 65 | =30\*125\*40/5000 | 125 | 30||125||40 | 40 |  |
| 3 | Carton | 3 | 20 | 30 | 50 | 6 | =20\*30\*50/5000 | 50 | 20||30||50 | 0 |  |
|  |  |  |  |  |  | 227 |  |  |  | 125 |  |

Fields Explanation:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Control type** | **Business Rules** | Calculation Area by Technical Team |
| 1. | Packaging type | Drop Down | Options: (can be add in future)   * Pallet , Carton, Box | Manual Selection |
| 2. | Actual Weight | Text Box | User Input | Manual |
| 3. | Length | Text Box | User Input | Manual |
| 4. | Height | Text Box | User Input | Manual |
| 5. | Width | Text Box | User Input | Manual |
| 6. | Chargeable Weight | Text Box | System auto pick from either Actual weight or Volumetric weight, whichever is higher.  **Formula of Volumetric weight:**  **Courier >>**  Length x height x width / 5000  **Forwarder >>**  **based on country code**  Length x height x width / 6000  Length x height x width / 3000 | IF GRPO header UDF Method is:   1. Courier:   Length x height x width / 5000   1. Forwarder:   Length x height x width / 6000?  Length x height x width / 3000?  *based on country code means*  *How we have to differentiate?*  6000 for which country? 3000 for which country? |
| 7. | Highest Dimension | Text Box | System auto pick from either Length or High or Width whichever is higher. | It will fetch automatically from either length or height or width whichever is highest. |
| 8. | Dimension Surcharge | Text Box | * One time charge per pallet, if one pallet exceeds both weight and dimension, then charge one time only whichever is higher between weight surcharge or dimension surcharge. * Charge only if exceed the maximum. * If Extra Charge in Surcharge table = Yes, both Weight and Dimension exceed maximum, Dimension surcharge will be Weight surcharge + Dimension | Find the below Dimension Surcharge table. Based on the input values in grid, we need match with the below table and calculate the charges.  **1st Line:**  Dimension: 130, Wight: 156,  If BP Code header: DHL Express  Check Dim and Weight is exceed from surcharge table  Dim: 120 < 130, Weight: 70 < 156.  Surcharge is max of either or: 45 or 40 = 45  Since extra charges = ‘YES’ , 40 + 45 = **85**  **2nd Line:**  Dimension: 125, Wight: 65,  Dim: 120 < 125, Weight: 70 > 65.  Since Dim exceeds the limit, So: 40  Since extra charges = ‘YES’ , 40 + 0 = **40**  **3rd Line:**  Dimension: 50, Wight: 6,  Dim: 120 > 50, Weight: 70 > 6  Since Both are not exceeds the limit, So: 0  Since extra charges = ‘YES’ , 0+ 0 = **0** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Forwarder/Courier | Extra Charge | Weight | Weight Surcharge | Dimension | Dimension Surcharge |
| DHL Express | Yes | 70 | 45 | 120 | 40 |
| TNT |  | 70 | 41 | 120 | 41 |
| DHL Global |  | 70 | 40 | 120 | 0 |

**GRPO UDF Values**: Based on this value we are going to calculate the charges, see the below:

|  |  |
| --- | --- |
| **Field Name** | Value |
| **Method** | Courier |
| **BP – forwarder (UDF)** | DHL Express |
| **Ship From Country** | UK |
| **Zone** | Zone 1 |
| **Total Chargeable Weight** | 227 |
| **Spot Rate / Lump Sum** | (Amount column) Ex: 1200 |
| **Inco terms** | EXW |

Calculation Area:

1. **Method = Courier**

[Courier Table + Fuel Surcharge Table + Inco Table + Dimension Surcharge table + Fuel Surcharge x Total Dimension Surcharge]

* **Courier Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Forwarder code (BP code) | Weight (kg) | Zone 1 | Zone 2 | Zone 3 | Zone 7 |
| DHL Express | 0.5 | 14.33 |  |  |  |
| DHL | 1.0 | 15.58 |  |  |  |
| DHL Express | 2.0 | 12.00 |  |  | 49.24 |

**Chargeable Weight**: 227 kg

**BP Code**: DHL Express

**Zone** = Zone1

***Calculation:***

Match the **BP Code, Weight and Zone** details with Courier Table:

Weight 227 >= 2.0 (3rd line) then

Calculation is (227 \* 12.00) = **2724**

Clarification: **Is it correct? Or Zone wise Amount is fixed?**

* **Fuel Sur Charges Table**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Courier | Country | By Amount/Percent | By KG /Net | Rate | Month |  |
| DHL |  | Percent | KG | 11.00 | October 2015 | 11% x Weight |
| FedEx |  | Amount | KG | 15.00 | October 2015 | $15 x weight |
| TNT |  | Amount | Net | 100 | October 2015 | $100 |
| DHL Express | UK | Percent | Net | 12.00 | October 2015 | ? |

**Chargeable Weight**: 227 kg

**BP Code**: DHL Express

**Country** = UK

Calculation:

Match the **BP Code, Weight and Country** details with Fuel Surcharges Table:

Clarification: **How we can decide whether is based on Amount/Percent and KG/Net?**

* **Inco Table**

|  |  |  |  |
| --- | --- | --- | --- |
| **Inco-term code** | **PO Print Out Description** | **CFR value** | **Insurance rate** |
| EXW | EXW | 1.1 | 0.00025 |
| CIF | CIF | 0 | 0 |
| FCA-Overseas | FCA | 1.1 | 0.00025 |
| FCA-Local | FCA | 0 | 0 |
| FOB | FOB | 1.1 | 0.00025 |

**Inco Terms**: EXW

Calculation:

Match the **Inco Terms** details with Inco Table:

Insurance Value = (**GRPO Total Value \* 1.1 \* 0.00025)**

Clarification: Inco Value will be considered as Insurance Charges in Landed Cost Screen?

* **Dimension Sur Charge Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Forwarder/Courier | Extra Charge | Weight | Weight Surcharge | Dimension | Dimension Surcharge |
| DHL Express | Yes | 70 | 45 | 120 | 40 |
| TNT |  | 70 | 41 | 120 | 41 |
| DHL Global |  | 70 | 40 | 120 | 0 |

In packing details, we have already calculated the Dimension surcharges in Line wise.

Now how we can calculate, please suggest.

Total Dimension Surcharges: **125**

Clarification:

Can we take the Total Dimension Surcharges from the packing details and include with landed cost?

Or

We need to take total Weight and Total dimension from the packing details then we have to match with this table for the Charges?

* **Fuel Sur charge \* Total Dimension Surcharges**

Clarification: Which means whatever we calculated in Fuel surcharges is multiply by Total Dimension Surcharges (packing Details)

1. **Method = Forwarder** -

[Forwarder Table + Inco Table + Dimension Surcharge table]

**Chargeable Weight**: 227 kg

**BP Code**: DHL Express

**Zone** = Zone1

**Country** = UK

* **Forwarder Table**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Forwarder | Country | BP | Cur | Component | By Amount/ Percent | By KG  /NET | Min | Flat | Basic | From Date | To Date |
| DHL Express | UK | ALL | GBP | Freight | Amount | KG | 20.00 | 1.20 | 0.00 | 01/01/2015 | 31/12/2015 |
| DHL Express | UK | ALL | GBP | Fuel | Amount | KG | 0.00 | 1.50 | 0.00 | 01/10/2015 | 31/12/2015 |
| DHL Express | UK | ALL | GBP | Handling | Amount | KG | 20.00 | 0.20 | 32.00 | 01/10/2015 | 31/12/2015 |
| DHL Express | UK | ALL | GBP | Export Fee | Amount | KG | 15.00 | 0.00 | 0.00 | 01/10/2015 | 31/12/2015 |
| DHL Express | UK | ALL | GBP | X-Ray | Amount | KG | 8.00 | 0.09 | 0.00 | 01/10/2015 | 31/12/2015 |
| DHL Express | UK | ALL | SGD | Local Handling | Amount | KG | 60.00 | 0.20 | 0.00 | 01/10/2015 | 31/12/2015 |

***Calculation:***

**Flat Amount = Total Weight \* Flat?**

**Then compare minimum and flat Amount whichever higher then plus basic.**

**The above mentioned steps are correct or wrong? Suggest.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Minimum | Flat | Flat Amount | Whichever is higher | Plus Basic | After convert SGD |
| Freight | 20.00 | 1.20 | 42.00 | 42.00 | 0.00 | 88.20 |
| Fuel | 0.00 | 1.50 | 1.50 | 52.50 | 0.00 | 110.25 |
| Handling | 20.00 | 0.20 | 7.00 | 20.00 | 32.00 | 109.20 |
| Export Fee | 15.00 | 0.00 | 0.00 | 15.00 | 0.00 | 31.50 |
| X-Ray | 8.00 | 0.09 | 3.15 | 8.00 | 0.00 | 16.80 |
| Local Handling | 60.00 | 0.20 | 7.00 | 60.00 | 0.00 | 60.00 |
|  |  |  |  |  |  | 415.95 |
| Insurance\* | = USD 1000 (GRPO Total Value) x 1.1 x 0.0025 = USD 2.75 | | | | | 3.85 |
|  |  |  |  |  |  | 419.80 |
| Dimension | = 80 ( Total Dimension Surcharge from Packing details) | | | | | 80.00 |
| **Total Estimated Landed Cost to be created** |  |  |  |  |  | **499.80** |

Clarification: **How we can decide whether is based on Amount/Percent and KG/Net?**

* **Inco table**

**Insurance Value from INCO terms table as mentioned previously in Courier Calculation?**

* **Dimension Surcharges table:**
  + **Dimension value from total dimension surcharges from packing details.**

Clarification:

Can we take the Total Dimension Surcharges from the packing details and include with landed cost?

Or

We need to take total Weight and Total dimension from the packing details then we have to match with this table for the Charges?

1. **Method = Spot Rate**

[GRPO Sport Rate UDF \* GRPO Weight (kg)] + Fuel Surcharge Table + Inco Table + Dimension Surcharge table + Fuel Surcharge apply to Dimension Surcharge

**Chargeable Weight**: 227 kg

**Spot Rate/LumSum**: 1200

**BP Code**: DHL Express

**Zone** = Zone1

**Country** = UK

***Calculation:***

**(227 \* 1200)**

* **Fuel Surcharges Table**

**Fuel Surcharges will be calculated from Fuel Surcharges table mentioned as previously in Courier method Calculation?**

* **Inco table**

**Insurance Value from INCO terms table as mentioned previously in Courier Calculation?**

* **Dimension Surcharges table:**
  + **Dimension value from total dimension surcharges from packing details.**

Clarification:

Can we take the Total Dimension Surcharges from the packing details and include with landed cost?

Or

We need to take total Weight and Total dimension from the packing details then we have to match with this table for the Charges?

* **Fuel Surcharges apply to Dimension Surcharges**

Clarification: Which means whatever we calculated in Fuel surcharges is multiply by Total Dimension Surcharges (packing Details)

1. **Method = Lump sum**

[GRPO Sport Rate UDF] (Considered as lump sum freight amount) (For sea freight)

**Spot Rate/LumSum = 1200**

This amount directly we have to apply as fright charges in landed cost screen.

1. **Method = None**

If Method selected “None”, no landed cost document will be created.

***Reports:***

## Report #1 – Landed Cost Contract Account Reconciliation Report

**Column in reports:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **BP** | **PO#** | **GRPO#** | **ALC**  **Required?** | **ELC#** | **ELC Amount**  **(Credit)** | **ALC~~#~~** | **AP**  **Inv #** | **Inv Amount**  **(Debit)** |

**Requirement:**

* This is report is for finance to do reconciliation for the landed cost.
* Finance has to input ELC no at AP Invoice line level match by PO no. if cancel invoice, finance to duplicate and amend accordingly.
* Filter by : BP Range, ELC #, PO#, ALC Required, Posting Date Range

Clarification: What is meant by ALC Required?

## Report #2 – Landed Cost with COS account report

**Column in reports:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **BP** | **PO#** | **GRPO#** | **ALC**  **Required?** | **ELC#** | **ELC Amount**  **(Credit)** | **ALC~~#~~** | **AP**  **Inv #** | **Inv Amount**  **(Debit)** |

**Requirement:**

* This is report is for finance to pass JE by cost centre for those ALC posted to Cost of goods sold account.
* Finance has to input ELC no at AP Invoice line level match by PO no. if cancel invoice, finance to duplicate and amend accordingly.
* Filter by : BP Range, ELC #, PO#, ALC Required, Posting Date Range

Clarification: What is meant by ALC Required?

## Report #3 – Freight Percentage

**Column in reports:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Forwarder/  Courier  Name | Weight | GRPO# | GRPO Amount | ELC-Freight  Charge | ELC Freight% | **ALC~~#~~** | ALC Freight Charge | Actual Landed Cost Amount | ALC% | AP Invoice# |
|  |  |  |  |  | ELC - Freight Charge / GRPO value \* 100 |  |  | Total ALC | Total ALC / GRPO value \* 100 |  |

**Requirement:**

* Filter by GRPO Date Range, Percentage above [>], Supplier Code Range, Forwarder Range.
* Show those with % above the given parameter.