Standard

LOGISTICS SUPPLIER MANUAL

Packaging and Logistics

24 October 2024

WAE-15-000-0001

Rev 02

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1 PURPOSE

The purpose of this document is to define and standardize the approach and expectations for all FORTESCUE ZERO suppliers across aspects of packaging, containers management, shipping, and data exchange. It is designed as the main source of information for both, new and current SUPPLIERs, in their understanding and responsibilities relating to supply chain design and operating principles.

The key objectives for the SUPPLIER Logistics Manual are:

- Provide alignment with RFQ (request for quote) pack.
- Act as a reference / training aid to SUPPLIER personnel.
- Act as a reference tool for new and current SUPPLIERs.
- Be source of information and order processing: how the SUPPLIERs should communicate with the company, what data they should provide, invoices, customs, etc.
- Drive packaging guidelines: how the SUPPLIERs should pack, label, and protect their products to prevent damage, loss or contamination during transportation.
- Define standards for shipping: how the SUPPLIERs should arrange and execute the transportation of their products to the company's locations, what documents they should prepare, etc;

The content is valid for all packaging used in relations with FZ. This guideline takes effect upon pre-production through series production.

The SUPPLIER is responsible for the quality of its products and for ensuring compliance with the requirements and rules set out in this LOGISTICS SUPPLIER MANUAL.

2 SCOPE

This guideline applies to FORTESCUE ZERO collaborators and FORTESCUE ZERO suppliers

3 USERS

Any staff working actively in contact with SUPPLIERS. This includes members from Logistics, Quality and Procurement.

4 DEFINITIONS

DG: Dangerous goods

ESD: Electrostatic discharge (ESD) is the release of static electricity when two objects come into contact.

FZ: Fortescue Zero

IATA: International Air Transport Association

IMDG: International Maritime Dangerous Goods

IPPC: International Plant Protection Convention

ISO: International Organization for Standardization

ISPM: International Standards For Phytosanitary Measures

MOQ: Minimum order quantity

MSDS: Material Safety Data Sheet

PDS: Abbreviation for Packaging Data Sheet, standard document filled by the SUPPLIER which is approved during PPAP phase.

PPAP: Production Part Approval Process. Through PPAP, SUPPLIER and customers agree upon the requirements needed to obtain approval of SUPPLIER manufactured parts.

RASIC: Responsible, Approving, Supporting, Informed and Consulted. Matrix used as a management tool to establish roles and responsibilities on a project or office workflow.

UN: United Nations

5 GENERAL RESPONSIBILITIES

5.1 SUPPLIER's responsibilities

It is the SUPPLIER's responsibility to ensure the delivery of undamaged parts. This holds for all packaging types used and is not affected by any packaging specification or the lack of thereof.

Furthermore, the SUPPLIER is responsible for the following processes:

Planning process and series preparation:

Proactive development of sample containers and packaging proposals.

Development of alternative packaging.

Perform packaging tests before series production to eliminate quality issues.

Notify FZ any intention of changing packaging concept before making them.

Test and design flow of returnable packaging with FZ logistics team, when applicable.

Series process:

Notify FZ before any changes on the current packaging and wait for approval.

Notify FZ as soon as possible if the SUPPLIER's production place is going to change.

Accept all empty deliveries, even if a deviation is detected (wet, wrong quantity or type of box). The return of empties must be arranged in collaboration with FZ. (applicable to returnable flows)

Reverse logistics process:

As part of the packaging design process, the part SUPPLIER must consider removal, cleaning, collapsing and re-use of the packaging.

Returnable packaging flow, process, methods and any cautionary steps shall be clearly documented in every packaging design and documented in the PDS (PACKAGING DATA SHEET doc number WAE-15-000-0008 – appendix 2)

Upon approval of design concept, FZ and the SUPPLIER shall define RASIC chart over empties management.

5.2 FZ responsibilities

It is FZ responsibility:

Align with the SUPPLIER the preferred packaging type (disposable/returnable) during quotation /PPAP process.

Review submitted concepts, specifications with the SUPPLIER. FZ will review submitted packaging proposals for parts protections, transportability, handling, MOQ review and costs.

Share experiences, lessons learnt and technical advice with SUPPLIERs.

Run in liaison with supplier, packaging tests and approve prototypes for Start of Production.

Maintain a database of all packaging types and dimensions for series production.

Schedule, organise and perform packaging audits with the support of the SUPPLIER.

6 PACKAGING DEVELOPMENT

Generally, the use of standard containers (returnable) is preferred over the use of special containers or expendable packaging. The use of a special container must be justified by the SUPPLIER and approved by FZ.

The SUPPLIER is responsible for the packaging design – shall design the packaging concept and quality such as to ensure product integrity during transport, transshipment, and storage.

The packaging must protect all employees and any other persons against any hazards posed by the products (e.g. dangerous goods/hazardous materials). The packaging itself must also not pose any hazard to persons (e.g. from protruding nails). For reasons of environmental protection, recyclable and non-mixed materials shall be used that are environmentally compatible and easy to dispose of and are labelled in compliance with the waste management industry specifications.

6.1 Process to develop a packaging concept with one-way or returnable packaging:

During nomination phase, Procurement Team will contact the SUPPLIER and request quotation with support of SUPPLIER's QAF template doc number WAE-12-000-0057. (See appendix 1)

SUPPLIER provides all relevant information including the packaging concept following the content of section 6.3 of this document.

FZ checks the proposed packaging and logistics costs and returns to the SUPPLIER about the acceptance or rejection of the concept. If rejected, the SUPPLIER is required to rework his concept.

Once approved, the SUPPLIER registered as main source for that part number.

At this stage, when PPAP documentation will be required, the PACKAGING DATA SHEET doc number WAE-15-000-0008 – appendix 2 will be required for completion. Eventually SUPPLIER must be requested to supply samples (parts and packaging). If the concept is not ready to be delivered, SUPPLIER can be allowed to supply pre-series parts on alternative packaging agreed previously between both parties. SUPPLIER must guarantee however, that the shipment will be free of contamination and damages.

Costs of trial packaging will be SUPPLIERs responsibility:

If, for any reasons the SUPPLIER doesn't have the approved packaging available for series deliveries an alternative packaging must be provided as a countermeasure action. The shipment needs to be approved previously with FZ.

Part orientation is to be discussed with FZ prior of the start of the design process i.e. "one-touch/pick, "one motion" on the assembly line.

6.2 Procurement

The SUPPLIER shall procure the approved one-way packaging (also containing all packaging aids needed) at its own costs. Generally, FZ covers the cost of the packaging by way of the product price. The packaging and logistics costs shall be itemized separately during quotation phase.

6.3 Packaging requirements

The general objective is to standardize the design of the logistical supply chain and the packaging concepts. Ideally returnable solutions will be developed with the SUPPLIERs, especially UK and Europe based SUPPLIERs. No disposable packaging will be accepted as series packaging unless proven by business case. For SUPPLIERs out of UK and Europe, every case will be evaluated individually. Independent from the packaging type, the SUPPLIER is responsible for the part quality. Any degradation due to deficient, wet, or dirty packaging is SUPPLIER's responsibility. Further requirements for packaging include:

Parts protection (e.g. damages, dust, dirt, ESD, corrosion) and dividers when needed (foam, bubble wrap, hives, etc including the ability to recycle after use)

Please prefer using kraft tape to seal the boxes rather than polypropylene and other similar materials.

Easy handling during opening and closing, for repacking operations. It needs to be designed in such a way that it enables simple, ergonomic, and effortless handling when parts are removed.

Cardboard boxes must not use staples to be assembled. They are just accepted to fix the bottom of master boxes on pallets to avoid slipping.

Stackability for identical loading units for a minimum dynamic stacking factor when possible. Stacking quantity must be marked on the box.

Optimum filling of packaging and loading units to optimize transportation costs.

The gross weight limit per manually handled package is 15 kg at maximum: alternative agreements can be made to accommodate specific requirements (lower limit at the SUPPLIER for example) or for reason of regional regulations.

The gross weight limit per single pallet is 500kg and maximum allowed height for a transport packaging (pallet + boxes, wooden collars, etc) is 1.3m

Loading units may not have any protruding or jutting labels or strips; cardboard boxes must be dimensionally stable and have correctly folded cover flaps.

Mixed pallets are generally permitted but must be **CLEARLY** labelled as mixed pallets. Posting and non-mixed storage must be possible at no additional cost or effort (such as stackable (interim) load carriers). Any use of mixed pallets is subject to coordination and agreement with the fz contact.

International symbols shall be used to label goods that are subject to special handling.

For an optimized flow of material, some dimensions are preferable. Anyway, discussions on special sizes can occur.

Preferred sizes of packaging:

Type	Width (mm)	Length (mm)	Height (mm)
Small boxes	200 300	300 400	Maximum 300
Medium / big / master boxes	400 600 800 1000	600 800 1000 1200	500 500 1300* 1300*
Euro or UK pallets	800 1000 1200 Extra large pallets must be agreed	1000 1200 1600 Extra large pallets must be agreed	1300* 1300* 1300* 1300*

*Maximum height of transport unit (boxes, pallets, stillage, collars)

Decision matrix to assist on packaging material for family of components.

Orientation on Approved Adequate Protective Packaging

TYPE OF PRODUCT	Cardboard box	Wooden box	Packaging foam	Vaccum-forming trays	High density/Foam/Blocks	Foam Filling *	Sealed plastic bags	Plastic caps / Blanks	Metal caps / Blanks	ESD foam + Conductive box	ESD Bag Anti-static dissipative conductive
3D printed parts	✓	✓	✓	✓	✓	✓	✓				
Bearings	✓	✓	✓	✓	✓	✓	✓				
Cables and Harness Assemblies	✓			✓			✓	✓			
Castings	✓	✓	✓	✓	✓	✓	✓				
Composite parts	✓	✓	✓	✓	✓	✓	✓				
Fasteners/Modified Fasterners	✓	✓	✓	✓		✓	✓				
Finishings	✓	✓	✓	✓	✓	✓	✓				
Hose Asseemblies	✓			✓			✓	✓	✓		
Machined parts	✓	✓	✓	✓	✓	✓	✓				
PCB/PCBA										✓	✓
Pipes Assemblies	✓			✓			✓	✓	✓		
Plastic parts	✓	✓	✓	✓	✓	✓	✓				
Seals/ O-ring	✓			✓			✓				

*** must be evaluated as last option during development**

One-way boxes, pallet boxes and crate shall be marked with indicated/relevant pictograms on both opposite sides (length side). Below there a list of most used:

This way up – The arrows indicate vertical position of the shipping container. This symbol is to be affixed on at least two opposite sides of the crate, pallet box or cardboard box.

Keep Dry – The symbol indicates that the shipping container shall be kept in a dry environment. This marking shall be affixed on at least two opposite sides of the packaging.

Fragile – The symbol indicates that the shipping container has a fragile content and shall be handled with care. This marking shall be affixed to the ends of the box.

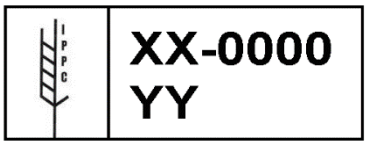
Centre of Gravity – The symbol indicates the centre of gravity of the package. This marking shall be applied when the centre of gravity is offset by more than 20% in relation to the geometrical axes.

Protect from heat – The symbol indicates that the shipping container shall be protected from heat.

Do not stack – The symbol indicates that the shipping container shall not be stacked on top of each other.

Lift here – The symbol indicates that the slings shall be placed at this location to lift and move the shipping container.

All one-way wooden packaging must present the ISPM 15 marking Plant Protection Convention marking (IPPC). For WAE deliveries only Heat Treatment (HT) is allowed.



The markings must be within a rectangular border with a vertical line separating the IPPC logo (on the left) from the identifying data.

XX - indicates a two letter ISO country code.

0000 - the next series of letters/numbers is the unique identification mark of the wood treatment agent or packaging manufacturer. The number of letters or digits may vary according to each country. The country code and treatment agent or manufacturer code must be separated by a hyphen.

YY - This indicates the type of treatment and will either be HT (Heat Treatment) or MB (Methyl Bromide).

6.4 Requirements for dangerous goods

IN CASE OF DANGEROUS GOODS, especially lithium-ion cells, the supplier may ensure that the product is packaged in compliance with regulatory standards and in accordance with the Material Safety Data Sheet (MSDS), ensuring safe transport. To ensure all dangerous goods, especially lithium-ion cells, are packaged in compliance with regulatory standards and in accordance with the Material Safety Data Sheet (MSDS), ensuring safe transport. **IMPORTANT: SUPPLIER, please attach to the PO a copy of the MSDS and a hard copy of it must be sent with the goods every delivery.**

6.4.1 Identify Dangerous Goods

Confirm whether the product is classified as dangerous goods under relevant regulations (e.g., UN Recommendations, IATA, IMDG).

Ensure lithium-ion cells or batteries are identified as per UN3480 (Lithium-ion cells or batteries) or UN3481 (Lithium-ion cells or batteries contained in equipment or packed with equipment).

Obtain the MSDS (Material Safety Data Sheet) for the dangerous goods, as this document provides essential safety and handling information.

6.4.2 Choose the Correct Packaging

Use UN-certified packaging for dangerous goods, ensuring it is in line with the item's MSDS and regulatory requirements.

Ensure packaging is suitable for the type of lithium-ion cells (e.g., small vs. large cells) and must meet Packing Instruction 965, 966, or 967 of the IATA Dangerous Goods Regulations.

Packaging must be strong enough to withstand shocks, vibrations, and punctures during transport.

6.4.3 Follow Packaging Guidelines

Primary Packaging:

Each cell or battery should be individually packaged whenever possible. In cases where cells or batteries are in the same primary packaging, the use of non-conductive materials and other protective measures should be taken to prevent the risk of short circuits. The packaging must always comply with UN standards.

Secondary Packaging:

Place individually packed cells inside a sturdy, rigid outer container.

Include cushioning material to prevent movement.

Ensure packaging is flame-retardant if applicable.

Ensure the packaging complies with the safety guidelines outlined in the product's MSDS.

6.4.4 Labelling and Documentation

Affix the appropriate hazard label (e.g., Lithium Battery Handling Label) on the outer packaging.

Include the required shipping documents (e.g., Shipper's Declaration for Dangerous Goods).

Ensure the package is properly marked with "Lithium Battery – Handle with Care" and UN identification numbers.

Provide the MSDS to the recipient prior to delivery to ensure they are aware of the product's handling and safety requirements.

6.4.5 Special Handling Requirements

Ensure packages are kept away from heat sources and are handled with care to avoid damage.

If shipping by air, ensure compliance with IATA regulations (e.g., state of charge limits for air transport).

Handle the package in accordance with the product's MSDS guidelines.

6.4.6 Training & Compliance

Ensure staff involved in packaging and handling are trained in dangerous goods regulations, MSDS interpretation, and packaging requirements.

Conduct regular audits to verify compliance with packaging, labelling, and documentation standards.

For further guidance, please refer to the latest IATA, IMDG, ADR Dangerous Goods Regulations, and the MSDS for the specific product, or contact TransportRequest@wae.com to discuss.

This document is a brief guide and does not replace regulatory documents. Always follow the specific requirements for your shipment, destination, and the product's MSDS.

7 DELIVERY SPECIFICATIONS – LABELLING

The SUPPLIER shall pack the packages unmixed, meaning that part numbers of different production batches, review status, shelf life, or countries of origin must be packaged separately. Products of differing modification or revision levels may not be combined in a single package.

The SUPPLIER shall combine the individual packages to form a transportable loading unit on the pallet, secured against slipping during transport.

Pallets shall be designed as 4-way pallets with three runners. For lower quantity volumes, any variances shall be agreed in advance with the FZ contact.

Any special requirements on plants unloading capabilities (side, back, crane, container) must be agreed and approved between parties.

FZ reserves the right to reject loads or partial loads if its conditions for safe unloading/loading for storing the load are not met. Resulting costs will be transferred to the SUPPLIER.

7.1 Box Labelling

Every box must be labelled with human-readable information and barcode (code 39) as the following picture.

1 Supplier name/Logo

2 Part number

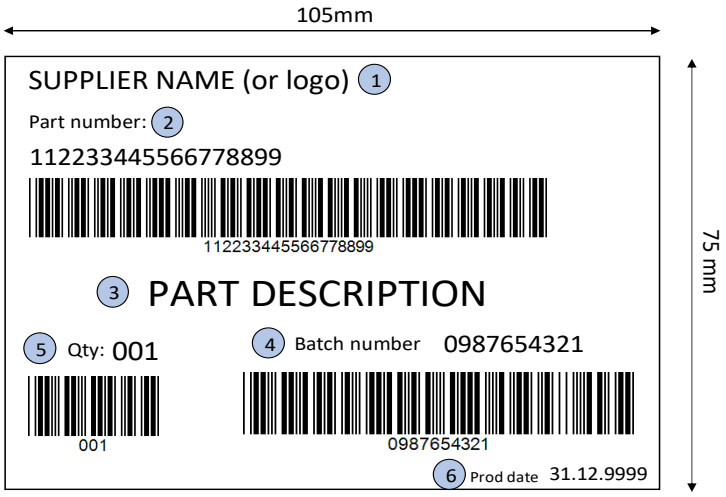
3 Part description

4 Batch Number (if required)

5 Quantity

6 Date of manufacturing

Recommended label dimension:
75mm x 105mm



7.2 Transport label: ODETTE

The Odette transport label (OTL) is widely used across the automotive industry.

The purpose of this label is to identify the material via barcoding and correlate the physical arrival with the previously information sent via ASN. By processing received parts correctly, FZ guarantee customer satisfaction and is fundamental to future supply chain improvements.

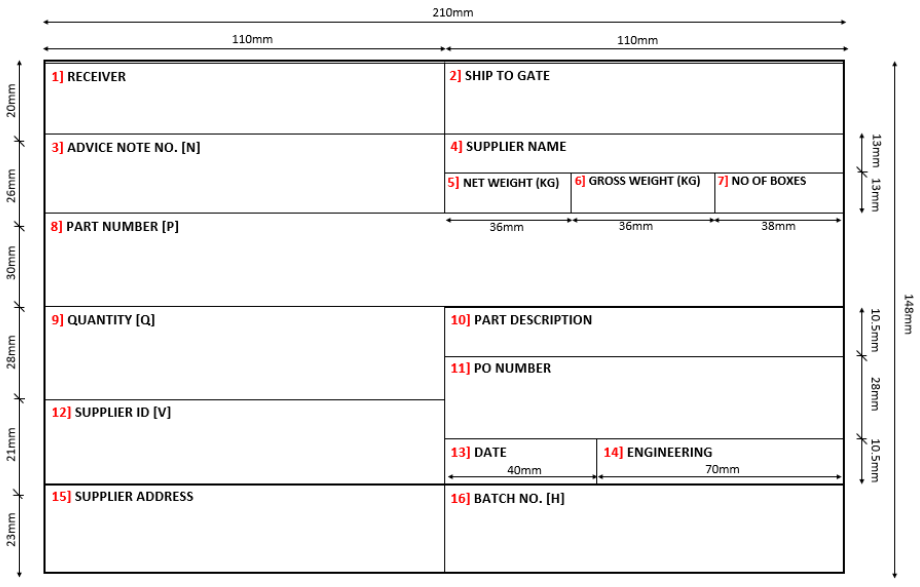
The following information sets the standard and expectation of how Odette Transport Label are to be formatted and applied to all parts delivered to FZ.

Basic Label and presentation

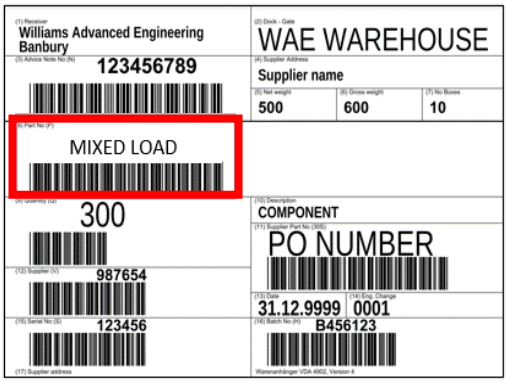
- The size of the label must be 210x 148mm at least
- The paper must be white with black printing
- The paper should weigh between 160-170gsm
- The font used should be arial and properly adapted to the size of the field
- The label must be also durable (water and sun resistant) that can be read at destination with no major issues (visual e barcode scanner)

The below illustrates dimensions for the label and the field data requirements. Titles of each area must be printed in English and placed on the upper left corner. All data is generated by the supplier and must be consistent with the delivery note. Also:

- Ensure Odette labels are located on the top right-hand corner of the pallet in at least 2 opposite sides.
- For one-way packaging use self-adhesive labels.
- For returnable packaging (KLTs, GLTs, etc) use non-sticking labels – **use stickers**, **don't use staples**



- **In the case of mixed parts on a pallet, ensure they are not put in the same small box and are divided by layers with a cardboard between on the pallet (when possible). The label also needs to indicate that it's a mixed load.**



Example of a label for mixed pallets

8 TRANSPORT LOGISTICS

8.1 Trade documentations requirements

If FZ is responsible for collection from the supplier, standard Incoterm Free Carrier (FCA) named place of collection on the SUPPLIER's premisses:

FZ will provide:

- Shipper's letter of instruction to include carrier details and customs clearance.

Supplier will provide:

- Commercial documentation for export (Invoice, Packing list, DG documentation, Export license as applicable)
- Completed Customs declaration for export
- Confirmation of shipment collection
- A copy of the MSDS if applicable

For shipments delivered under Incoterm Delivered At Place (DAP)

FZ will provide:

- Purchase order in agreed terms and conditions.
- Named place of destination (FZ Facility)
- Nominated Customs Broker (to be told during contract agreement)

Supplier will provide:

- Commercial documentation for export (Invoice, Packing list, DG documentation and Export license as applicable)
- Shipping documents – CMR, AIRWAY BILL, SEAWAY BILL, Bill of Lading
- Advanced Shipping Notice
- For container shipments supplier shall provide details of the Customs Security seal
- A copy of the MSDS if applicable

For shipments delivered under Incoterm Delivered Duty Paid (DDP)

this incoterm might be asked during RFQ process.
FZ will provide:

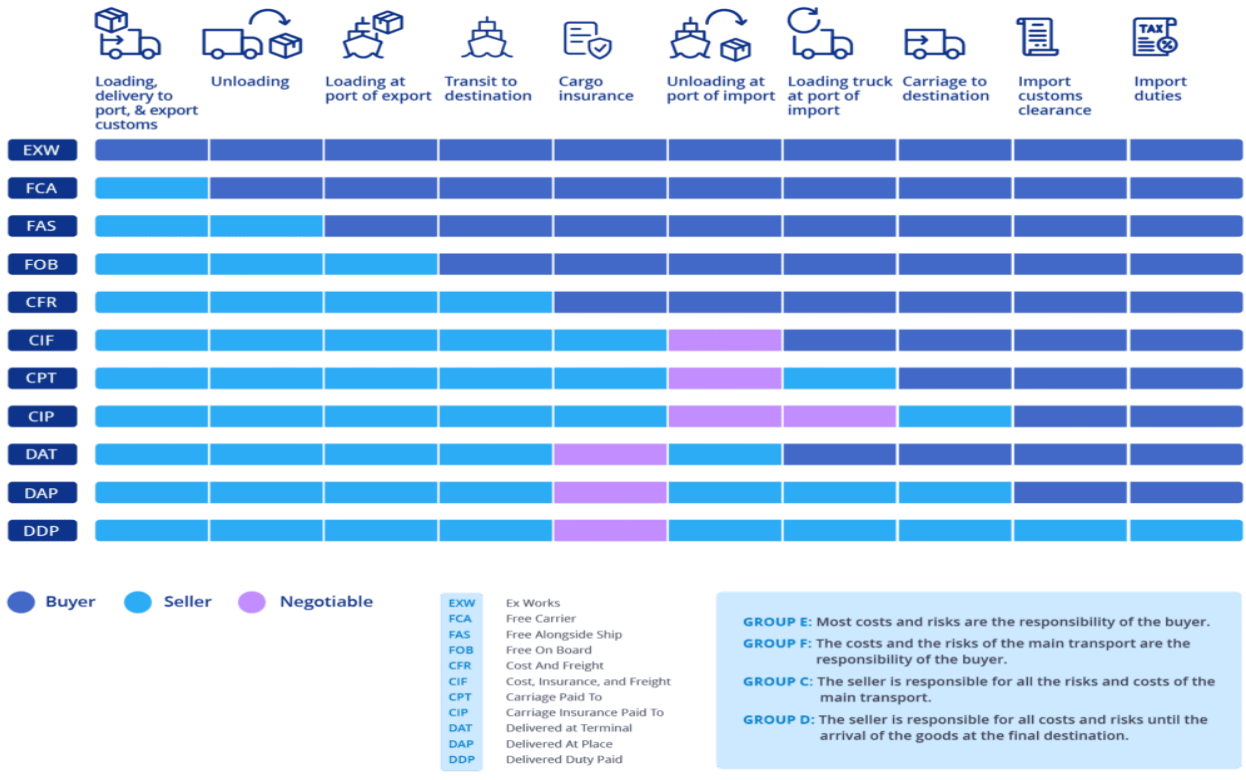
- Purchase order in agreed terms and conditions
- Named place of destination (FZ Facility)
- Any necessary documentation or information required by customs authorities

Supplier will provide:

- Nominated Customs Broker (to be told during contract agreement)
- Commercial documentation for import/export (Invoice, Packing list, DG documentation and Export license as applicable)
- Shipping documents – CMR, AIRWAY BILL, SEAWAY BILL, Bill of Lading
- Advanced Shipping Notice
- For container shipments supplier shall provide details of the Customs Security seal
- A copy of the MSDS if applicable

The SUPPLIER is responsible for ensuring that its products are safely loaded, and the packages secured for transport, particularly if an LSP is to assume charge of a fully packed container (swap body). The LSP can initially only conditionally confirm the number of packaging units. Follow-up corrections can be made subsequently provided the LSP is able to undertake a finalized count of the quantities it has taken into its safekeeping. Exceptions are only permitted in justified cases and subject to prior written approval by the FZ contact. The SUPPLIER shall combine multiple deliveries to the same FZ unloading point on a single day into a logistically sensible loading/shipping unit and execute delivery using the specified LSP.

The image below gives a better understanding of the responsibilities in the whole process.



8.2 Advanced Shipping notice (ASN)

For each shipment, the SUPPLIER shall send an advanced shipping notice (ASN) to FZ emails below: banburywarehouse@wae.com, Goodsin@wae.com and customs@wae.com
For the long-term business, there will be an EDI system or any other electronic interface in place, which WAE will contact suppliers timely. (mention about portal)
ASNs shall be sent one day before or at the same day of the scheduled consignment shipment from the SUPPLIER to FZ.

8.3 Delivery note

Effective Compliance and Governance are core business principles to FZ. Supplier must be compliant with the applicable trade regulations globally.
Clear and accurate documentation is expected and will create an efficient and sustainable flow of material and data across the end-to-end supply chain.
Invoices for goods supplied to FZ must include the following mandatory data:

- **Commodity codes or harmonized tariff schedule**
- **Clear and accurate description of goods**
- **Country of origin**
- **Export Control Classification (ECCN)**
- **Currency, unit and total price**
- **Quantities, unit of measure, net weights, gross weight**
- **Incoterms**
- **SUPPLIER name and sender address**
- **Bill to:** information: informed by FZ during supply contract agreement
- **Ship to:** informed by FZ during supply contract agreement (recipient plant, unloading point, etc)
- **Invoice number, date of issue and number of pages**
- **Date of shipping**
- **Shipped via:** company that will carry the delivery
- **Payment terms:** informed by FZ during supply contract agreement.
- **Item:** number that indicate a sequential order of items contained on the respective invoice
- **Customer PO number:** informed by FZ during supply contract agreement.
  Packaging requirements:
- Number and type of packaging (e.g. packing units, Euro pallets)
- Specification of material composition of the packaging material, e.g. wooden pallet, plastic pallet, if shipment crosses customs borders.

9 APPENDICES

- Appendix 1 - Suppliers QAF template - WAE-12-000-0057
- Appendix 2 – Packaging Data Sheet - WAE-15-000-0008

10 DOCUMENT CONTROL

Record name	Document number	Storage		Responsibility
		Retention time	Location	
Suppliers QAF template	WAE-12-000-0057	10 years	Procurement Drives	Procurement
Packaging Data Sheet	WAE-15-000-0008	10 years	Logistic Drives	Logistics