

Marine Protection, Packaging and Labelling Requirements

Revision 1.0

1st April 2019



Contents

| | | |
|-------|---|----|
| 1 | Purpose | 3 |
| 2 | Scope and applicability | 3 |
| 3 | General requirements | 3 |
| 3.1 | Protection, packaging and labelling requirements | 3 |
| 3.2 | Documented protection, packaging and labelling instructions | 3 |
| 4 | Definitions | 4 |
| 5 | Protection | 4 |
| 5.1 | First level protection | 4 |
| 6 | Packaging | 4 |
| 6.1 | General packaging requirements | 4 |
| 6.2 | General packaging material & dunnage requirements | 5 |
| 6.2.1 | Packaging material requirements | 5 |
| 6.2.2 | Dunnage requirements | 5 |
| 6.3 | First level, second level & third level packaging | 5 |
| 6.3.1 | First level packaging | 6 |
| 6.3.2 | Second level packaging | 6 |
| 6.3.3 | Third level packaging | 7 |
| 6.4 | Exceptionally large or heavy items / loads | 7 |
| 7 | Labelling | 7 |
| 7.1 | General labelling requirements | 7 |
| 7.2 | 1-D Bar code standards for all labels | 7 |
| 7.3 | Packaging label | 8 |
| 7.3.1 | Packaging label information | 8 |
| 7.3.2 | Packaging label requirements | 8 |
| 7.4 | Release documentation | 9 |
| 8 | Commodity specific packaging requirements | 9 |
| 9 | External Reference Material | 13 |
| | Change History | 14 |

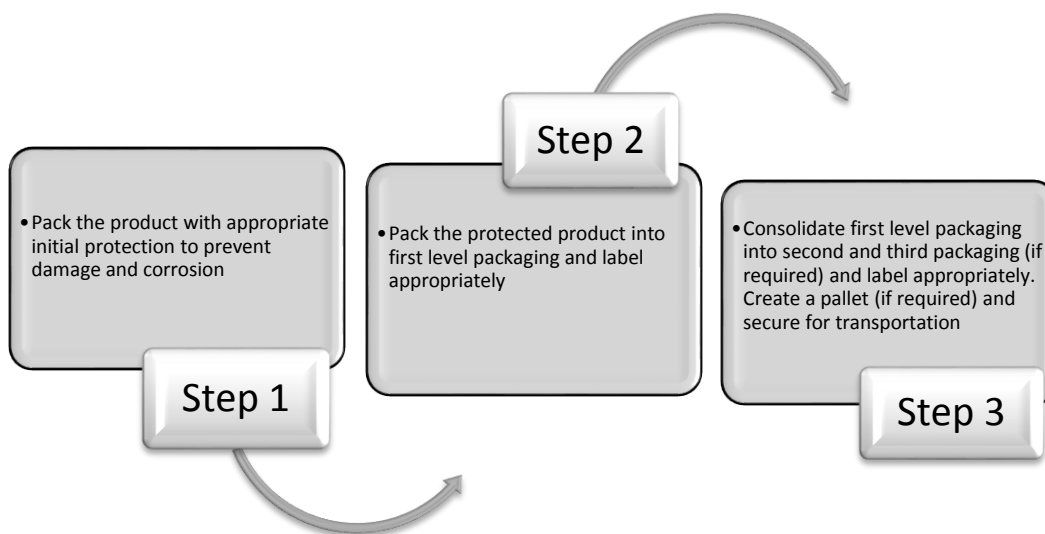
1 Purpose

The purpose of this document is to formally communicate requirements to the global supply chain relating to the protection, packaging and labelling of product being shipped in fulfilment of Kongsberg Maritime CM contracts / purchase orders.

The protection, packaging and labelling requirements are available to view and download from the [Global Supplier Portal \(GSP\)](#)

2 Scope and applicability

These protection, packaging and labelling requirements are applicable to all suppliers or partners who supply product to Kongsberg Maritime CM unless otherwise specified in the product definition or contract / purchase order, or local written agreement with the ordering site. This includes deliveries to Kongsberg Maritime CM sites, distribution centres, or direct to customers. These requirements consist of a series of generic requirements followed by commodity or product type specific requirements. The requirements of this document can be readily visualised as follows:



3 General requirements

3.1 Protection, packaging and labelling requirements

The supplier shall:

- Ensure that products are protected, packaged and labelled in accordance with the requirements of this document to a standard that will provide adequate protection against damage, deterioration, corrosion, tampering and other risks during shipment.

3.2 Documented protection, packaging and labelling instructions

The supplier shall:



- Establish documented protection, packaging and labelling instructions that shall be made available during the packaging process to ensure that the product is consistently protected, packaged and labelled in line with the requirements of this document.
- Establish a process of verification of protection, packaging and labelling (including readability and scanning of labels) prior to shipment.
- Ensure that the packaging complies with any additional or alternative specific requirements stated in the product definition or contract / purchase order.

4 Definitions

First level protection – Used as the first “layer” of protection for the product or component, and is typically specific to the material or product type.

Dunnage – Material used to provide adequate support, bracing and protection of product during shipment

First level packaging – Protects products from damage, deterioration and corrosion during transit and storage. Provides all necessary protection for the product.

Second level packaging (where required) – Second level packaging is used to consolidate one or more first level package for each product.

Third level packaging (where required) – Consolidates different products being shipped to the same delivery address. All products in the Third level package must comply with the first level and second level packaging requirements.

5 Protection

5.1 First level protection

Commodity specific first level protection and any additional requirements are defined in section 8. When a commodity specific category is not stated in section 8, the supplier shall ensure that products are protected, packaged and labelled in accordance with the general requirements of this document to a standard that will provide adequate protection against damage, deterioration, corrosion, tampering and other risks during shipment to Kongsberg Maritime CM. This shall be based on common best practise for the given commodity.

6 Packaging

6.1 General packaging requirements

The supplier shall:

- Ensure that products / part numbers are not mixed in first level packaging. Different part numbers shall not be packed in the same first level packaging.
- Parts shall be individually packed in first level packaging unless otherwise stated in Note 1 OR Section 8 below.
- Ensure that a packaging label (as described in section 7.3) is attached to all layers of the packaging (first, second and third level where applicable).
- Ensure that the product is packed in a manner that will allow the product to be removed from the packaging without damaging the product in the process.
- Ensure that the heaviest side of the package is indicated when the centre of gravity is off centre.
- Where the size and/or weight of a package may pose a risk to safe manual handling it shall be physically attached to a pallet base of suitable size & strength to enable mechanical handling. The packages shall not overhang the edges of the pallet base on any side.
- Make use of stackable packaging where practicable to maximise freight capacity, clearly marking packaging as “stackable”, and state the maximum permissible stacking load upon the outer layer of packaging.
- Ensure all Kits or Sets are clearly labelled as such on the first level Packaging.
- Ensure that all paperwork and labels are in English as a minimum.
- All wooden pallets, boxes and dunnage must comply with ISPM15 (International Standards for Phytosanitary Measures), be marked accordingly and be easily visible for inspection. Example below:



NOTE 1: Individual packaging is NOT mandated when:

- *Materials such as bar, sheet, tube are supplied as raw materials, including finished Anodes*
- *Small light components are packed together (surface to surface contact) and will not cause any damage, deterioration or contamination such as small washers or fasteners.*
- *When written authority is given by the relevant Kongsberg Maritime CM receiving area.*
- *Kits of products are delivered in specifically designed containers that have been agreed by Kongsberg Maritime CM.*

6.2 General packaging material & dunnage requirements

6.2.1 Packaging material requirements

The supplier shall:

- Ensure that the packaging material will not contaminate the goods enclosed.
- Use plastic banding when banding is applicable – Metal banding shall not be used. Where plastic banding is not suitable, alternative methods of securing the load should be used, such as fibre straps, or direct fixing.
- Ensure packaging used is appropriate to the size of the product in order to reduce waste, whilst being sufficient to prevent damage and preserve product integrity.
- Prevent direct contact between components where such contact could damage or degrade the product in any way.
- Wherever possible, make use of recycled packaging materials, and materials which can easily be recycled after use.

NOTE: The use of staples is only acceptable for packaging construction / reinforcement and must not be used for closing / sealing any openings.

6.2.2 Dunnage requirements

The supplier shall:

- Use dunnage as necessary to provide adequate support, bracing and protection of product during shipment.
- Dunnage shall be firmly packed so as to prevent compression, and therefore allowing movement of the component.

NOTE : Prohibited dunnage materials are as follows:

- *Any material that may present a risk of being caught inside hollow components.*
- *Polystyrene loose chippings.*
- *Shredded paper / tissue paper*
- *Expanding Polyurethane (PUR or PU) foam unless direct contact with the product is prevented with appropriate first level protection*

6.3 First level, second level & third level packaging

6.3.1 First level packaging

The supplier shall:

Ensure that the first level packaging provides:

- A robust package to provide all necessary protection for the product from damage, deterioration and corrosion during transit & storage.
- Edge protection shall be used for cardboard first level packaging to prevent stacking or strapping/banding damage (where first level packaging is the outer layer of packaging)
- Is appropriate for the size, weight and shape of the product.
- States the weight of the package when it exceeds 10KG (22lbs).

NOTE: When first level packaging is the only level of packaging, the requirements of both the first level & second level packaging shall apply.

Example 1 – Large single part

Product shown with first level protection, dunnage to prevent movement and first level packaging banded to pallet with edge protection.



Example 2 – Kit of parts

Each component has first level protection (VCI bag), foam inserts with cut-outs to prevent movement (dunnage). The kit is contained within first level packaging.



6.3.2 Second level packaging

The supplier shall:

Where second level packaging is required, ensure that it provides the following:

- A robust package to protect the first level packaging from damage during shipment and storage.
- Edge protection shall be used for cardboard second level packaging to prevent stacking or strapping/banding damage.
- Is appropriate for the size, shape & weight of the product.
- State the total weight in kilograms on the packaging adjacent to the associated release documentation. Total weight will be inclusive of packaging materials. Weight may be hand written using a permanent marker in clear and legible text.

Example 3 – multiple individually packed small & light parts

Single part first level protection (plastic bag), first level packaging (padded envelope), multiple first level packages in a second level package (cardboard box) with bubble wrap dunnage. Each level of packaging is labelled appropriately.



6.3.3 Third level packaging

The supplier shall:

Where third level packaging is required, ensure that it provides the following:

- A robust package to protect the second level packaged product against stacking or strapping/banding damage.
- Is appropriate for the size, shape & weight of the product.
- Has a statement on the outside of the third level packaging that clearly states what products and quantities are contained within.
- States the total weight in kilograms on the packaging adjacent to the associated release documentation. Total weight will be inclusive of packaging materials. Weight may be hand written using a permanent marker in clear and legible text.

6.4 Exceptionally large or heavy items / loads

Exceptionally large or heavy items / loads are typically defined¹ as having the largest dimension of either height, width or length in excess of 2.5 metres, or weight in excess of 1500 Kg.

The supplier shall:

- Ensure the safe delivery and handling of exceptionally large or heavy items / loads.
- Ensure that exceptionally large or heavy items / loads will only be delivered in accordance with a pre-defined packaging and handling specification formally agreed by the receiving site.

Note 1: Consult with your R-R point of contact where load weight, size or handling requirements may require special attention.

7 Labelling

7.1 General labelling requirements

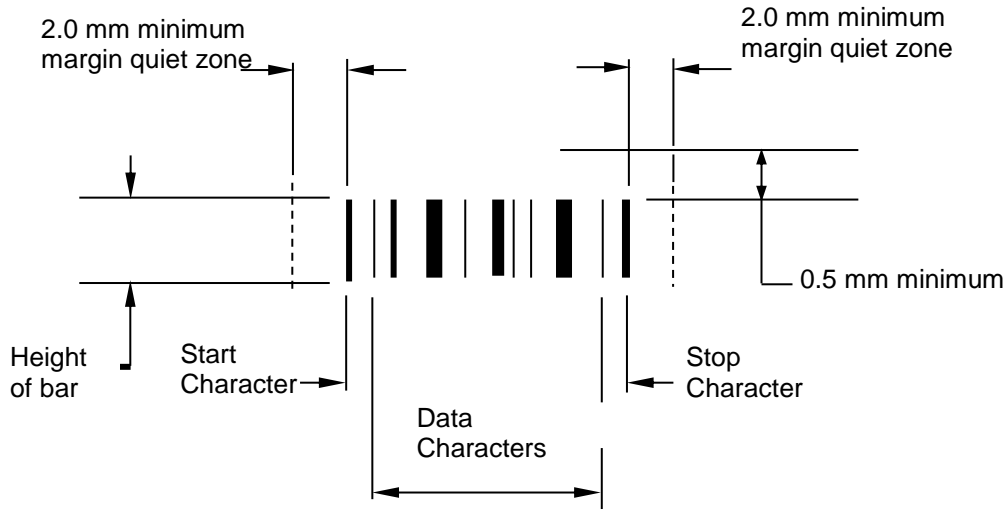
The supplier shall:

- Ensure that products are labelled to a standard that will provide adequate identification and traceability of the product at all levels of packaging.
- Part labels shall not be placed directly on to the component.

7.2 1-D Bar code standards for all labels

The supplier shall:

- Ensure that bar-code symbology to code 128 (preferred) to ISO / IEC 15417 symbology specification, or code 39 to ISO / IEC 16388 is used and is legible / readable.
- Ensure that all human-readable identification (text) associated with the bar-code markings has a height equal to or greater than 3.0 mm and can be read clearly without magnification. Ensure that the human readable identification is positioned anywhere above or below the bar-code providing that the "quiet zone" is not invalidated.



- Ensure that the human readable interpretation is contained in a one line string of characters.
- Ensure that the height of bar is 5mm minimum, but where space is limited, 3 mm minimum is acceptable

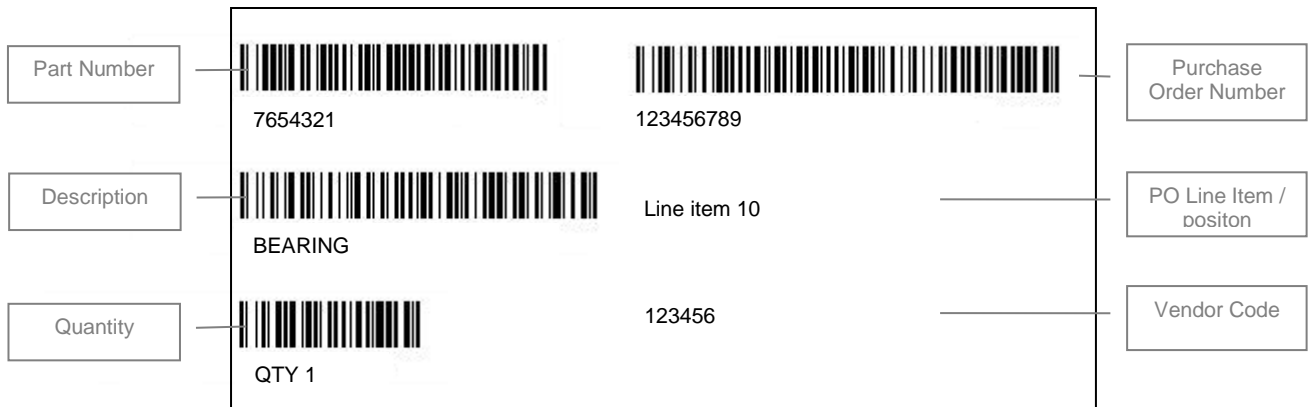
7.3 Packaging label

7.3.1 Packaging label information

The supplier shall:

- Ensure that packaging labels are attached to all layers of packaging.

Packaging label format (example)



7.3.2 Packaging label requirements

The supplier shall:

- Ensure that the packaging labels are attached to all layers of packaging, and include the follow required information plus additional information when applicable

| | | Required | When Applicable |
|--|---|----------|-----------------|
| Text + Barcode | Part Number – Part Number is the identity for the subject part, assembly or material item and is specified on the Kongsberg Maritime CM purchase order. The Part Number should be the one used by Kongsberg Maritime CM, not the suppliers own internal part number. (text and barcode) | √ | |
| | Description - Data format is the description of the product i.e. key words taken from the component definition (text, barcode is optional). | √ | |
| | Quantity – Quantity refers to the total quantity of items (e.g. 1, 5, 10, 100) contained within the package. The unit of measure e.g. sets, rolls, kg/lbs, meters, feet etc) are only required when applicable. (text and barcode) | √ | |
| | Vendor Code - Also known as Business Partner Code, and is allocated to the supplier by Kongsberg Maritime CM. (text only) | √ | |
| | Purchase Order Number – The number corresponding to the R-R Purchase Order against which the goods are being supplied. (text and barcode) Line item / position number shall be included (text only) | √ | |
| | Serial Number – The Serial number is required on the label if the part is serialised, as instructed by the engineering component definition e.g. drawing / Kongsberg Maritime CM technical specification, Data format is SER [space] followed by the unique serial number and barcode. For Rules on composition of serial numbers, please see relevant engineering specifications as defined on the engineering component definition. | | √ |
| Precautionary use data e.g. Hazardous material. | | | √ |

7.4 Release documentation

The supplier shall:




- Refer to SABRe release documentation for details of the information to be stated on the release documentation
- Ensure that all information provided with the product (such as labels, release documentation, references on the packaging etc.) is stated in English as a minimum.
- Enclose the release documentation in a document wallet and attach to the outside of the outer most layer of packaging. A duplicate copy of the release documentation shall also be included inside the outer most layer of packaging.
- Enclose a copy of customs documentation (when exporting a product) in a documentation wallet clearly identified as `customs documentation`, attached to the outer most layer of packaging.




8 Commodity specific packaging requirements



The supplier shall:

- Work in accordance with the commodity specific requirements defined below.

- In addition, apply all applicable legislation relating to the transportation of dangerous goods (products with UN-number on their safety data sheets). See Section 9 (External Reference Material) for associated links. Examples of dangerous goods includes:
 - Lithium Ion Batteries
 - Test consumables (such as certain gases)

| Commodity Category | First Level Protection | Example (if applicable) |
|--|---|--|
| Ancillaries / accessories (eg hydraulic assemblies, pumps etc) | <p>Leak proof polythene bag. Openings shall be sealed to prevent leakage of fluids from within the unit and / or entry to foreign matter.</p> <p>Caps, covers or plugs must be used. They shall be of distinctive appearance, being dissimilar in colour to the product so as to be clearly visible</p> |  |
| Bearings (e.g ball, roller, spherical) | <p>Corrosion preventive oil or VCI paper / film (Volatile Corrosion Inhibitor). Bearings shall be packed horizontally</p> |  |
| Magnets | <p>Permanent magnets, or magnets shipped in a magnetised state shall have keeper bars installed. It is the suppliers responsibility to calculate the required size/quantity, and check the magnetic field strength after packing.</p> | |
| Castings & Forgings | <p>Castings with fully / partially machined or finished surfaces that may be susceptible to damage shall be packaged in a manner that will prevent damage, deterioration or corrosion.</p> | |
| Electronic components or assemblies | <p>For all ESDS (Electro Static Discharge Sensitive) components - metallised bag with a shielding effect, which is marked to clearly show the presence of ESDS components.</p> <p>Additionally packed in a foam padded box to prevent damage. A metallised bag alone is not sufficient.</p> <p>All packaging and handling of electronic components and assemblies shall comply with IEC 61340-5-1</p> <p>Components with installed software shall include a label clearly indicating the software revision level.</p> |  |

| | | |
|--|--|---|
| <p>Electrical components or assemblies (eg drives, starters, motors, rotors)</p> | <p>All electrical components or assemblies should comply with the same requirements as Electronic components that are Electro Static Discharge Sensitive (ESDS)</p> | |
| <p>Energy Storage Units (eg batteries)</p> | <p>Work in accordance with UN38.3 for the transportation of dangerous goods</p> | |
| <p>Cables</p> | <p>Cables should be secured in a loop and placed in Non-VCI initial protection (polythene bag or bubble wrap).</p> |  |
| <p>Gears</p> | <p>Corrosion preventive oil or VCI paper / film (Volatile Corrosion Inhibitor).</p> |  |
| <p>Non-metallic parts</p> | <p>Apply mouldable wrap on sharp edges and projections, or use protectors on orifices to prevent the ingress of dirt or grime.</p> <p>Overwrap in Polythene film, the opening shall be heat sealed or folded over and closed with adhesive tape.</p> <p>Vacuum packaging in UV protective material should be used where parts are liable to UV breakdown</p> |  |
| <p>Raw materials</p> | <p>Raw materials such as bar, billet, sheet, tube, plate etc. do not require corrosion protection and normal industry standard practices shall be adopted</p> | |
| <p>Seals, O-rings and Gaskets</p> | <p>Seals or O-rings made of rubber should NOT be packed in VCI.</p> <p>O-rings should to be packed in a UV-protective plastic bag or black bag. Note: If the package becomes damaged and the part becomes open to UV light, the packaging must be replaced. If not immediately rectified or the timescale of damage is unknown then the part should be replaced.</p> <p>Multiple parts per first level package are permitted, however seals should be packed individually if the manufacturer's specification requires packing to remain sealed until use.</p> <p>Prevent the package from folding when placing in second level / third level package.</p> | |

| | | |
|--|--|--|
| | <p>Any openings in the first level package should be sealed closed.</p> <p>Any sharp edges in the second level / third level packaging should be covered to prevent contact with seals.</p> | |
| <p>Shafts and larger machined items</p> | <p>Corrosion preventive oil or VCI paper / film (Volatile Corrosion Inhibitor).</p> <p>Netting, or polythene film / bag</p> |  |
| <p>Small parts</p> | <p>Small, light components where 'surface to surface' e.g. 'metal to metal' contact will not cause any damage or contamination can be packaged together.</p> <p>Each package shall represent a single part number.</p> <p>The number of items in initial protection shall be restricted to a maximum weight of 2KG. Large quantity orders shall be made up of multiple first level packages of 2KG.</p> <p>Additional protection of small parts e.g. plastic sleeve or netting to protect each individual part can be used within the first level packaging.</p> | |
| <p>Tubes / Pipes (Flexible or Rigid)</p> | <p>Caps, covers or plugs must be used. They shall be of distinctive appearance, being dissimilar in colour to the product so as to be clearly visible.</p> <p>Under no circumstances shall pipes (tubes) protrude from the container.</p> |  |

9 External Reference Material

The following references may be used in support of this documents:

- Information relating to ISPM15 (International Standards For Phytosanitary Measures) <http://www.ukwpmmp.org/>
- DHL Express Packing Guidance http://www.dhl.co.uk/en/express/shipping/shipping_advice/packaging_advice.html
- Information relating to ISO / EC 15417 <https://www.iso.org/standard/43896.html>
- Information relating to ISO / EC 16388 <https://www.iso.org/standard/43897.html>
- Information relating to BS EN 61340-5-1 <https://shop.bsigroup.com/ProductDetail/?pid=00000000030082389>
- Information Relating to Transportation of Dangerous Goods
 - By Air - ICAO-TI/IATA-DGR <http://www.hse.gov.uk/cdg/manual/regenvirment.htm>
 - By Sea - IMDG-code <http://www.hse.gov.uk/cdg/manual/regenvirment.htm>
 - By Road and Rail - ADR/RID <http://www.hse.gov.uk/cdg/index.htm>

Change History

| Issue | Date | Description of Change | Author | Owner | Approval |
|-------|------------|---|-------------|-------------|-----------|
| 1.0 | 01-04-2019 | First issue of Kongsberg Maritime CM PPL requirements | M. Martinez | M. Martinez | S. Seddon |

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