PACKING OF GOODS

Procurement
August 2026
English

Contents

Hyvinkää,
1 August 2026

Dear Supplier,

We appreciate your partnership in providing us with high-quality products and services. As a responsible company, we are committed to reducing the environmental impact of our operations and products. In line with this commitment, we have created a document detailing our requirements for packaging materials. This document is designed to guarantee that our packaging not only meets high standards for sustainability, but also ensures our products are transported safely and efficiently.

The document outlines guidelines and specifications for using packaging materials that are environmentally friendly, reusable, recyclable, and/or biodegradable. Our aim is to minimize waste and ensure that the materials we use have a minimal impact on the environment throughout their life cycle.

We understand that sustainability is a collective responsibility, and we look forward to collaborating with you in achieving our environmental goals. We appreciate your support in implementing these requirements and helping us to reduce our environmental impact while maintaining the highest quality standards.

Thank you for your
cooperation!

Sincerely,
Konecranes team

1. General

The purpose of this document is to define Konecranes's requirements for packaging and packing for inbound logistics. In case more detailed item-specific packing instructions are needed; Konecranes will provide this information when required. This document does not describe technical details or design principles for packing.

This document is for all Konecranes suppliers delivering products and is applicable globally.

1.1. Basic Principles of Packaging

Packing has a significant role in the successful delivery of products. It provides adequate protection for products during transportation and storing. It also has an impact on transportation costs.

Packaging must fulfill following basic principles:

1. Safety
   - Safe handling
   - Safe materials used

2. Packaging materials and methods must comply with laws, directives and regulations of destination of the products, and Konecranes requirements set in Konecranes Restricted Substances-list Suppliers | Konecranes

3. Packaging should give sufficient protection to products during transportation and storage
   - Mechanical protection
   - Corrosion and humidity protection
   - ESD protection (if required)

4. Packaging should be optimized for logistics chains
   - Packing sizes
   - Packing space
   - Stacking capability
   - Handling capability
   - Labelling

5. Environmental impacts are minimized

   - Packing costs are optimized from the full logistics chain perspective (packing, transport, storing, unpacking etc.). Usage of materials is minimized.
   - No prohibited materials.
   - Bio-based, recycled and/or recyclable packaging; and mono materials

are preferred.

2. Environmental considerations

Always aim to optimize packaging, make efficient use of resources and reduce its environmental impact without compromising product quality and safety. When possible, use packaging material that is renewable, can be reused, recovered and recycled to minimize the environmental impacts of its disposal. Suppliers should have adequate material data sheets available for the packaging material that is used. Suppliers shall be willing to send their material datasheets to Konecranes whenever requested.

The following general requirements apply to the packaging materials provided to Konecranes:

1. Avoid unnecessary and/or excess packaging

2. Packaging should include clear labels that:
    - Indicate how the packaging should be handled or recycled (e.g., recycling symbols),
    - Specify the raw material used in the packaging (e.g., plastic type, paper grade).
3. If possible, supplier should be able to provide emission data related to the packaging materials provided to Konecranes.

Packaging placed on the market in the EU, or delivered to the EU, must comply with applicable EU packaging legislation, including the Packaging and Packaging Waste Regulation (PPWR), where applicable. "Placing on the market" refers to the first time a product is made available on the EU market, either for distribution, consumption, or use, whether for free or against payment. This applies regardless of whether the packaging is manufactured within the EU or imported from outside of EU.

Upon Konecranes' request, the supplier must provide documentation demonstrating compliance with the PPWR as defined in Annex I. Such documentation includes a technical documentation and declarations of conformity. The supplier must ensure that the documentation is accurate, up to date, and made available within a reasonable time upon request.

If after reading this document there are any questions about packing or delivery specifications, please contact your Konecranes Supplier Manager or Konecranes contact person, e.g., the unit responsible for purchases.

Wooden packaging and packaging including natural rubber must comply with the EU regulation on Deforestation-free Products (EU 2023/1115). This means that such materials must not originate from land that has been subject to deforestation after December 31, 2020. Operators must be able to demonstrate due diligence, including information on the supply chain and the geographic origin of the materials used.

PWWR sets minimum criteria for recycled content and recyclability of packaging.

Recyclability

Packaging must be designed to support recyclability and to avoid unnecessary barriers to recycling, in line with applicable legal requirements set in PPWR. The supplier must therefore favour packaging solutions that are recyclable at scale and avoid materials or combinations of materials that hinder recycling.

Recycled content in plastic packaging

For plastic packaging, the PPWR includes requirements concerning recycled content for certain packaging types. Suppliers must, where technically feasible and legally applicable, favour recycled and recyclable plastic materials.

3. Logistics and Packaging

Minimize transport impacts by using packaging that maximizes the efficiency of transport by optimizing weight, fully utilizing shipping space (pallet efficiency and truck height) and using bulk packaging for distribution where appropriate.

3.1. Logistics Requirements

Packaging must be selected in accordance with knowledge of the product and logistics (route, conditions, transport method, storage). With large and heavy products, it is important to find out how the product will be loaded (from the side or the top of the truck) and what are the lashing and safe handling capabilities of the receiver before shipping.

Transport packaging needs to have normal handling capabilities depending on product weight and size, e.g., it must be able to be handled by fork-lift trucks, or with lifting straps and slings, and must be strong enough to withstand the use of straps and ropes (e.g., regarding how packaging are usually attached for road transportation). Transport packaging should be stackable whenever possible and reasonable.

Packaging must fulfil the demands set by the selected transport method: road freight, sea freight (sea container), air freight, weight limits for couriers, etc.

3.2. Packaging Requirements

The following requirements are set for packaging in general:

- Before packing, the products should be free of water, humidity, moisture and corrosion
- Products must be supported or fixed in the packaging with filling material, fixing screws or straps
- Close the packaging firmly with tape or straps. Wooden packaging can be closed with screws or nails – screws are preferred

- Use standard pallets sizes, see table 1 and 2 in next page
- Pallets should have the possibility for 4-way handling whenever reasonable
- Packaging must be always fixed to a pallet with straps or wrapping film, for example
- Pallet size should be large enough so that packaging and products do not exceed pallet edges and are not stacked in a pyramid shape. See Image 1.

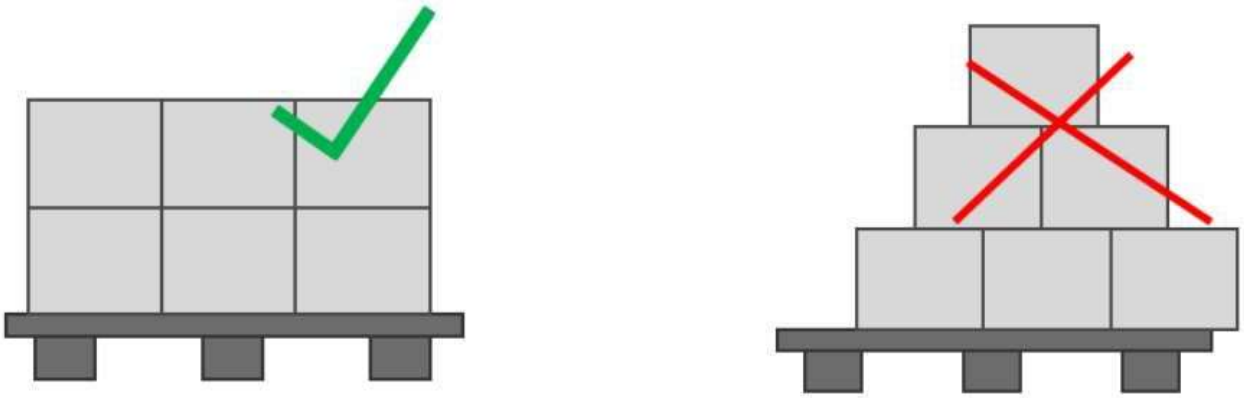

Image 1. Stacking and positioning of goods.

Preferred pallet size according to ISO (International Organization of Standardization) standard 6780: Flat pallets for intercontinental materials handling-principal dimensions and tolerances.

Dimensions, mm (W x L)	Dimensions, in (W x L)	Region where most used
1219 x 1016	48 x 40	North America
1000 x 1200	39,37 x 47,24	Europe, Asia
1165 x 1165	44,88 x 44,88	Australia
1067 x 1067	42 x 42	North America, Europe, Asia
1100 x 1100	43,30 x 43,30	Asia
800 x 1200	31,50 x 47,24	Europe

Table 1. Preferred pallet sizes

Area	Measures	Max height	Load capacity	Max load height
FIN EUR 3	1000 x 1200 mm	150 mm	1000kg	
EUR 1	800 x 1200 mm	150 mm	600kg	1800 mm

Table 2. Examples of load capacity on pallet

4. Packing Materials

Always minimize the use of materials and other resources without compromising product quality and safety. The used material must be fit-for-purpose, resource-efficient, made from low-impact materials and reusable or recyclable at the end if its useful life.

All wooden material including pallets must fulfill ISPM 15 (International Standards For Phytosanitary Measures no.15) requirements and must be stamped as conforming to ISPM-15. Detailed information about ISPM 15 requirements can be found from IPPC (the International Plant Protection Convention). See Image 2.

Konecranes recommends suppliers use PEFC (Programme for the Endorsement of Forest Certification) and FSC (Forest Stewardship Council) certified wood. We also recommend that all packaging material is identified by being labelled in line with European Commission Decisions 97/129/EC.

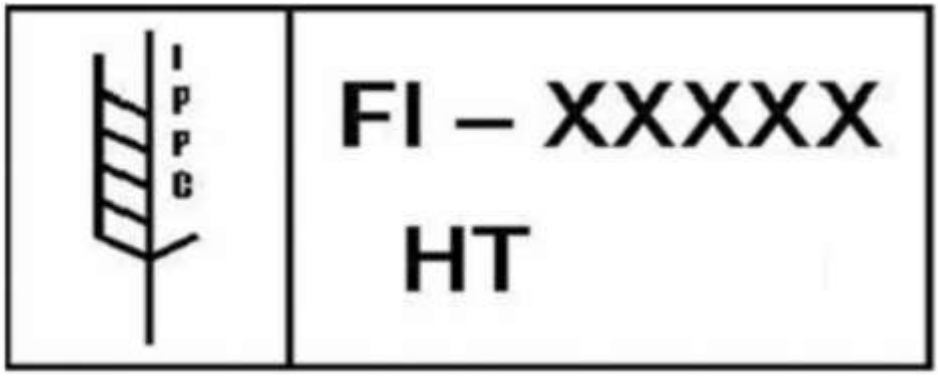

Image 2. Example of ISPM 15 standard, IPPC logo. FI = Country Code, XXXXX = Marking of the owner (number); HT = Heat Treatment Code

4.1. Restricted Materials

A list of the restricted substances can be found in the "Konecranes Restricted Substances List" document which is based on Reach Directive

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The list defines the chemicals which do not conform to Konecranes' requirements and policies and are therefore banned from use or can be restrictedly used in Konecranes' own production or in any products which Konecranes purchases from its suppliers, including packing materials.

Materials not recommended for use are PVC (Polyvinyl chloride), EPS (Expanded polystyrene) and PUR/PU (Polyurethane).

Prohibited materials are cross-linked PE foam and wooden material that is harvested from conversation areas.

4.2. Material Guidelines for Packaging

Item	Preferred[1]	To avoid[2]	Not approved[3]
Plastic	-Recycled and recyclable materials -Monomaterials -Bio-based materials -Compostable materials	-Foamed plastics -PS - Coatings -PVC -PUR	-Oxo-degradable plastics -Not separable materials like PET-GAG
Cardboard or paper	-Recycled and recyclable materials -Corrugated fiberboard - FSC- or PEFC-certified materials	-Virgin fiber -Laminated paper or cardboard	
Boxes (folding boxes, shipping boxes)	-Reusable shipping boxes made of plastic (e.g., PP) -Corrugated fiberboard -GD/GT paperboard	-Virgin fiber -Laminated paper or cardboard	
Blisters	-Recycled and recyclable materials -PET -Monomaterials -Bio-based materials	-Not separable materials -PVC	
Shrink or stretch wrapping	-Recycled and recyclable materials -Bio-based materials -PE	-PVC	

Cushioning or inlays	-Recycled and recyclable materials -Paperboard or corrugated fiberboard, Paper pulp	-PUR -Air-bubble foils -Organic cushioning materials (excluding paper)	
Bags or sacks	-PE -PP -Paper -Recycled and recyclable materials		
Wooden packaging	-Certified by FSC, PEFC International, ISPM 15 or equivalent recognized schemes - Hardwood	- Coatings	
Plywood	-Hardwood -PEFC certified	-Softwood	

[1] Preferred material is the most favorable option for Konecranes. However, it is not a strict requirement and can be discussed and agreed separately. Compostable materials may be used only where suitable for the intended application and accepted by the relevant waste management system.

[2] Avoided materials are not a preferred option for Konecranes, but their use is accepted in some circumstances. Their use can be discussed and agreed separately.

[3] Not approved materials are not approved in any circumstances.

4.3. Dangerous Materials

International and national laws and regulations must be complied with when transporting dangerous materials. Dangerous materials include, e.g. explosive, flammable, radioactive, poisonous, corrosive and allergenic materials that can cause damage to humans, the environment and property.

Regulations regarding the transportation of dangerous materials can be found from:

- ADR International Carriage of Dangerous Goods by Road
- GHS Globally Harmonized System of Classification and Labeling of Chemicals
- IATA International Air Transport Association
- ICAO International Civil Aviation Organization
- IMO International Maritime Organization
- RID International Carriage of Dangerous Goods by Rail

The correct package type and material must be used when transporting dangerous materials. The packaging and the testing of the packaging are heavily regulated.

Packaging containing dangerous materials must also be appropriately marked and labelled in accordance with the applicable international dangerous goods regulations, which are generally based on the UN Recommendations on the Transport of Dangerous Goods.

When goods are shipped as dangerous goods, a manufacturer's safety data sheet and dangerous goods declaration form must be sent along with package and/or shared with the relevant purchasing unit of Konecranes and its contact person.

4.3.1. Batteries

Deliveries containing batteries may be classified as dangerous goods. Battery packaging and delivery requirements must comply with regulations published by the International Air Transport Association (IATA), http://www.iata.org and the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA), http://phmsa.dot.gov/hazmat. Additionally, other international regulatory requirements apply, such as the International Maritime Dangerous Goods (IMDG) Code, ADR Dangerous Goods Regulations for European Road Transport, or Transport Canada Dangerous Goods Regulations (TDGR).

All deliveries with batteries must have appropriate certification and labelling to identify the content of the delivery.

5. Component and Product Protection

5.1. Corrosion and Humidity Protection Requirements

Packaged products or components must be protected against corrosion when required. If there is a risk of corrosion during transportation or storing, e.g. long sea freight, then additional protection is needed. Recommended solution for additional protection is VCI (Volatile Corrosion Inhibitor) film or VCI bag. Alternative solution is sealed moisture barrier film with desiccant bags inside to minimize humidity. The quantity of desiccant should be calculated according to DIN 55474.

If protection must use protective liquids or waxes, their amount should be minimized.

Note that there should not be any organic material, such as cardboard or wood inside VCI protection.

5.2. ESD Requirements

ESD (electrostatic discharge) sensitive components and products must be protected against electrostatic discharge and have environmental and climatic protection. Materials used for packaging ESD sensitive products must comply with the requirements of standard IEC 61340-5-1 (Protection of Electronic Devices from Electrostatic Phenomena Standard).

All packing material used in EPA (ESD Protected Area) must also comply with the same requirements.

All ESD products must be marked with appropriate markings to identify the content of the delivery.

6. Packaging and Shipping Labels

6.1. Packing labelling

All packaging and shipping labels should be placed so that they are visible throughout the whole delivery and transportation chain. If stickers are used, the stickers must be waterproof or otherwise protected. Appropriate packaging labels must be used to indicate safe handling procedures. This is mandatory when packaging has self-evident limitations regarding the lifting or moving of packaging, e.g., places for lifting eyes or lugs must be marked if the packaging must be lifted or moved with slings.

The required labelling must correspond to ISO 780, i.e., Symbols for the handling and storage of packaging. Whenever a material is recyclable, the appropriate recycling symbol shall be visible.

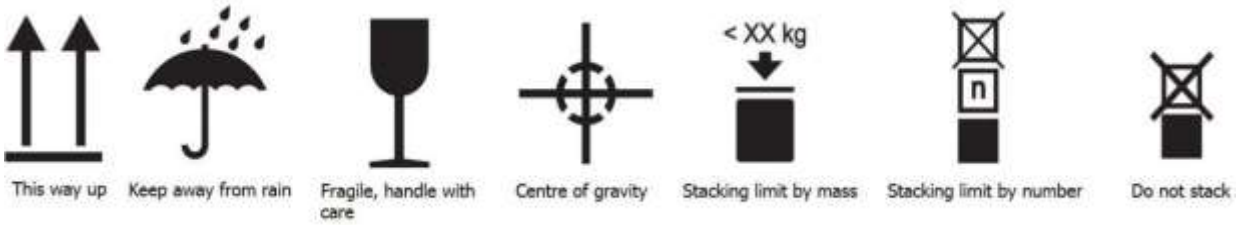

Image 3. Example pictures from ISO 780

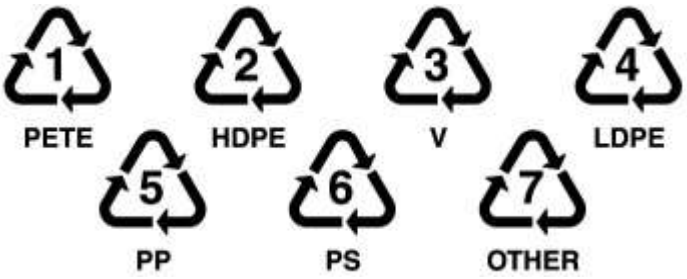

Image 4. Recycling symbols for plastics

Image 5. Recycling symbols for paper and cardboard

Image 6. United Kingdom will require new logos for recycling by April 1, 2026

6.2. Waybill, packing lists and delivery content

Packaging must identify the product and contain the packaging list and waybill. The documents must be placed in a pouch and attached to the outer package. Other delivery content material must be placed in the pouch as well. The packing list must always contain the dimensions and weight of the package. Whenever requested, the supplier must be able to place product serial numbers outside of the package to eliminate unpacking and repacking at the warehouse.

The waybill must contain the following information for Konecranes:

- Konecranes purchase order and purchase order line (also in barcode format if possible)
- Konecranes item ID and specification
- Quantity of products (in the same format as in the Konecranes purchase order)
- Quantity of parcels in the shipment, e.g. parcel 1/3, parcel 2/3, parcel 3/3. etc.
- Konecranes delivery address with building and door number

Image 7. Simplified image of required basic information

6.2.1. Placement of Documents

The waybill must be placed so that it can be read (including bar code) without removing it from the pouch. Use the following guidance when placing the packing list and waybill information pouch on the packaging:

- Pallet package: Documents should be on shorter side and 400-800mm from the bottom of the pallet. See Image 5.
- Small box: Documents should be placed in the middle of the surface on the top of the box. See Image 6.
- Larger box: Documents should be placed on the side of the box. See Image 7.

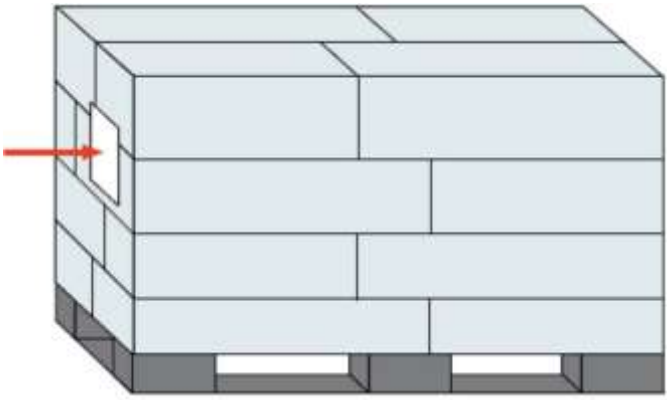

Image 8. Placement of documents on a pallet package

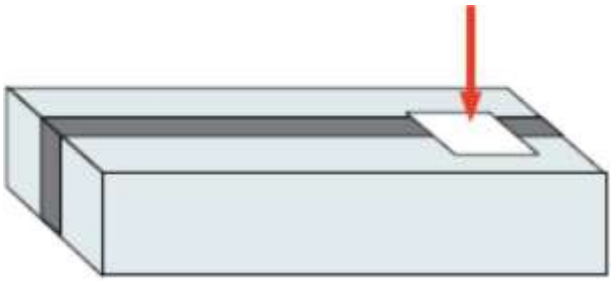

Image 9. Placement of documents on a small box

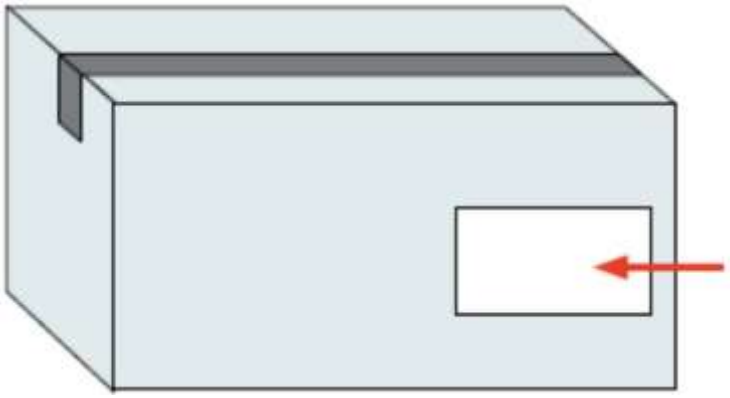

Image 10. Placement of documents on a large box

7. Test Requirements

Packaging tests can be performed to ensure the strength of the package. Suitable test standards are, e.g. ISTA (International Safe Testing Association) and IEC 60068-2, or equivalent internationally recognized packaging test standard.

As a basic requirement, Konecranes has no test requirements for normal packaging, excluding Dangerous Goods packaging.

If the testing of packaging is required, a Konecranes supplier manager will inform the supplier separately.

Annex I
Technical Documentation and Declaration of Conformity

Under the PPWR, packaging must meet clear requirements before it can be placed on the EU market. Companies must show that each packaging type meets the regulation. Without the clear documentation, companies cannot demonstrate compliance – even if the packaging itself meets all requirements.

1. Technical Documentation

Technical documentation is a package of information that describes a packaging item and proves it meets the regulation. It must be complete, clear, and available on request. For each packaging type, companies must collect information such as materials used in the packaging, structure and components (layers, coatings, inks) or information on restricted substances.
The PPWR does not ask for a specific format.

The technical documentation must contain at least the following elements:

a) a general description of the packaging and its intended use,
b) conceptual design, manufacturing drawings and materials of components,
c) descriptions and explanations necessary for the understanding of the drawings provided under point (b) and the schemes and operation of the packaging,
d) a list of harmonized standards[1] (article 36),
e) the common specifications[2] (article 37),
f) other relevant technical specifications used for measurement or calculation purposes, in the event of partly applied harmonised standards or common specifications, an indication of the parts which have been applied; in the event of harmonised standards or common specifications not being applied, a description of the solutions adopted to meet the requirements referred to in point 1,
g) a qualitative description of how the assessments provided for in Articles 6, 10 and 11 have been carried out, and
h) test reports.

[1] Companies must document which EU standards we rely on to prove that the packaging meets PPWR requirements. EN standards (European Norms) are technical documents that define safety, quality, and performance requirements for products and processes across the European Union.

[2] Common specifications are fallback technical rules defined by the European Commission, which can be used to demonstrate compliance if harmonised standards are not available or not sufficient.

2. Declaration of Conformity (DoC)

The DoC is the formal statement that confirms a packaging item meets all PPWR requirements. Even though the document itself is short, it carries significant weight: by signing it, the responsible company takes full legal responsibility for the packaging's compliance with EU law. The DoC must clearly identify the packaging, reference the technical documentation behind it, and include the responsible company's details, signature and date. When packaging changes, the DoC must be updated, so it always reflects the current version.
The manufacturer shall draw up a DoC for each packaging type.

The DoC needs to contain the following elements:

a) unique identification of the packaging
b) Name and address of the manufacturer
c) It needs to be written that the declaration of conformity is issued under the sole responsibility of the manufacturer.
d) the type of packaging (e.g. box, crate, pallet wrap), the purpose/use (e.g. transport packaging for spare parts), the materials (e.g. cardboard, wood, plastic), any product or packaging code / identifier, optionally: supplier, model, or design reference if relevant
e) Clearly state that the identified packaging meets EU legal requirements, and
f) List the specific EU laws/regulations that are applicable and have been complied with
g) You must list which technical standards or specifications you used to demonstrate compliance
h) A catch-all section for anything relevant that does not fit elsewhere.

Where the manufacturer is established outside the EU, the required technical documentation and DoC shall be provided to Konecranes upon request. Konecranes shall keep the DoC together with the technical documentation at the disposal of the national authorities for 5 years after single-use packaging has been placed on the market, and 10 years after reusable packaging has been placed on the market.