

Preservation, Packaging and Labelling Requirements



Rev. D	Rev. C1	Rev. B3	Issue:	Original			Type:
JHa	TLS	PHau	Sign.:	mbran	Bergen Er	ngines	KLS no.:97
22.11.2022	14.01.2016	22.04.2014	Date:	19.06.2013	1	Scale	Replaced by:
SGu SGn	PHau	KSF	Check.:	anand/TDa	-[-·- -(·(±))		Replaces:
øfв ØFВ	KSF	KSF	Appr.:	KSF	7 +		Ref.:
	REDÆEN Title:						Drawing no.:

E N G I N E S
ON LAND. AT SEA.

Preservation, Packaging, and Labelling Requirements

All products

DR 1128/02
Page 1 of 17

Table of Contents

	Document identification	1
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	Cleanliness	4
5	Protection	
6	General packaging requirements	4
6.1	Packaging and crating.	4
6.2	Dunnage requirements	5
6.3	Cartons	6
6.4	Pallets	6
6.5	Cases	
6.6	Large or heavy items / loads	7
7	Labelling	
7.1	General labelling requirements	
7.2	Packing slip	
7.3	Packaging label information	
7.4	Special Handling Instructions	
7.5	Dangerous Goods	
7.6	Center of gravity	
7.7	Goods without packing	
8	Preservation	
8.1	General	
8.2	Corrosion protection for metallic components	
9	Commodity specific packaging requirements	
10	Export control	
11	Environmental Protection / Health & Safety	
12	External Reference Material	
	Appendix	
13.1	Corrosion protection/packing with VCI products (Ref. 8.2.1)	
13.1.	- 1 9 - 1 1	
13.2	Preservation with corrosion resistant metal coatings (Ref. 8.2.2)	17

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 Bergen Engines AS (BEAS) contracts / purchase orders. The protection, packaging and labelling requirements are managed with revision control through Bergen Engines drawing system. The document will be made available/distributed in the BOM or by the supply chain. These requirements are also intended to ensure that products arrive unharmed at the point of use for Bergen Engines, and the products are traceable and easily identifiable.

2 Scope and applicability

These protection, packaging and labelling requirements are applicable to all suppliers or partners who supply product to Bergen Engines <u>AS unless otherwise specified in the product definition or contract / purchase order, or local written agreement with the ordering site</u>. This includes deliveries to Bergen Engines AS subsidiaries 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:

Goods shall be packed by supplier for transportation and storage in accordance with internationally recognised good practices.

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 and storage.

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.
- This document overrules the packing and preservation requirements set up in former "Production descriptions".

Responsibility

- The supply chain in Bergen Engines is responsible to inform the suppliers about protection, packaging, and labelling requirements. Specification to be sent separately to supplier if they are not included in the BOM.
- The Supplier is responsible for complying with the following requirements and thus for the packaging, preservation, labelling of the supplied product(s).

- In case of claims in connection with packaging, preservation, labelling, the Supplier is the responsible party.
- All storage prior to, during and after completion of the manufacturing of the
 product, is the responsibility of the Supplier and it is further the responsibility of
 the Supplier to deliver product(s) in impeccable condition, clean, and free from
 damages. If special conditions (temperature, humidity, light, contact etc.) are
 required for storage of the product, it is the supplier's responsibility to deliver the
 products in packages that protect the product and make special instructions if
 crucial for the quality. (Example: ISO 2230, "Rubber products Guidelines for
 storage")

Acceptance criteria

- Damage to products or packages because of improper packaging or improper preservation cannot be accepted.
- Proper and easy handling must be possible.
- Traceability of the products must be possible. There must be clear labelling on all packages.

4 Cleanliness

All products must be cleaned properly, suitable for the engine product's intended use or for further preservation, handling, and packaging. Products must be clean and free from casting and machining residues, loose particles, and particles which may become loose during transportation, assembly, or operation.

- High product standard and special attention must be set on drillings, threads, inside channels and fine machined surfaces.
- Cleanliness of fuel injection equipment and lubrication oil channels are critical and must be in line with relevant industry norm for actual items.

Product specific suggestion/detailed description can be sent to BEAS for evaluation if in doubt.

5 Protection

General protection (preservation and packing) is defined in section 6 and 8.

Commodity specific first level protection and any additional requirements are defined in section 9.

When a commodity specific category is not stated in section 9, 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 and storage at Bergen Engines AS, subsidiaries, or at customer. This shall be based on common best practise for the given commodity. Parts are to be preserved and packaged so that they can be stored without deterioration/reduction in quality. Period to be agreed (in writing) between parties, but minimum 6 months.

6 General packaging requirements

6.1 Packaging and crating.

For the purpose of this document, the following definitions of packaging types are used:

"Cases" - fully enclosed packaging.

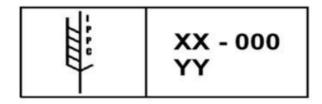
"Pallets" – Pallet in good condition as defined by the conditions for exchange issued by the European Pallet Association, EPAL.

The supplier shall, unless otherwise approved by Bergen Engines AS, arrange suitable packing for

all purchase orders, following the minimum packing requirements. Supplier shall 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.

All material shall be strongly packed for shipment in accordance with the best commercial practice. Palletised cases/pallets for forklift loading and unloading must be used.

Timber packaging and dunnage materials must have the official IPPC / ISPM15 logo/icon stamped/marked on the timber for it to be IPPC / ISPM15 compliant. An IPPC / ISPM15 compliant mark must include:



- IPPC / ISPM15 certification symbol
- XX: represents the two letter ISO country code
- 000: represents the unique certification number issued by AQIS to the wood treatment provider or wood packaging manufacturer. Inclusion of this certification number ensures that the wood packaging material can be traced back to the treatment provider and/or manufacturer.
- YY: is the treatment abbreviation where:
- HT is the code for heat treatment to a minimum of 56° C for a minimum of 30 minutes.
- MB is the code for methyl bromide fumigation.

Wherever possible, make use of recycled packaging materials, and materials which can easily be recycled after use.

All goods must be shipped in complete sets.

6.2 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 to prevent compression, and therefore allowing movement of the component.
- Do not use wood dunnage directly on machine surfaces, due to corrosion and damage risks

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 Cartons

Cardboard cartons can be used for packaging where applicable. Supplier to ensure that cardboard packaging is in accordance with internationally recognized good practices and standards. Supplier to ensure that goods supplied under the contract are in accordance with any special requirements as set out in the contract, to reach the point of use undamaged and in good condition and, to the extent not immediately used, shall ensure that the goods are preserved in good condition.

Edge protection shall be used for cardboard, to prevent stacking or strapping/banding damage. Maximum weights for cartons are 20 kg.

A waterproof envelope must be attached to the pallet with a copy of the packing list enclosed.

6.4 Pallets

EUR pallets are preferred and must be used in combination with pallet collars, unless the size of the single component exceeds the standard dimension of a EUR pallet.

Pallets must be made of timber and all timber must be and stamped/marked with the official ISPM15 logo.

Disposable pallets should be avoided where possible and pallets in steel or plastic must not be used.

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.

All pallets must be constructed for lifting by fork-lift truck, unless otherwise approved by Bergen Engines.

A waterproof envelope must be attached to the pallet with a copy of the packing list enclosed.

A list of content of each coli must be included on outside of the package.

Where metal or prepared paintwork may come into contact with the pallet or pallet collars, it must be protected from abrasion by pelt pads, foam rubber, plastic, or cardboard.

6.5 Cases

Packing must be in cases of solid timber and the base of all cases must be constructed for lifting by fork-lift truck unless otherwise approved by Bergen Engines/contract

The timber should be joined by using the appropriate screws.

Where metal or prepared paintwork may come into contact with the case timers, it must be protected from abrasion by pelt pads, foam rubber, plastic, or cardboard.

A waterproof envelope must be attached to the pallet with a copy of the packing list enclosed. Cases must be marked on minimum two opposing sides.

6.6 Large or heavy items / loads

Large or heavy items / loads are typically defined as having the largest dimension of either height, width or weight that is over the standard of an EUR pallet.

The supplier shall:

- Ensure the safe delivery and handling of large or heavy items / loads.
- Ensure that large or heavy items / loads will only be delivered in accordance with a predefined packaging and handling specification formally agreed by the receiving site.
- The packing construction must be dimensioned and suitable for actual weight, size, and shape.

Note 1: Consult with your Bergen Engines AS point of contact where load weight, size or handling requirements may require special attention/agreement.

7 Labelling

7.1 General labelling requirements

For the purpose of this document, the following definitions of labelling types are used:

"Packing slip" - Purchase order information

A list of content of each coli must be included on outside of the package.

It is the supplier's responsibility to ensure that all packages despatched to Bergen Engines AS are marked

in a professional manner and to a standard that will provide adequate identification and traceability of the product.

Materials used for marking must be waterproof and resistant to fading.

All marks, tags and labels shall be in the English language.

Parts labels shall **not** be placed directly on the component.

Large items must be labelled on at least two sides.

If one purchase order or part number consist of several packages the packages shall be clearly marked with 1 of 3, 2 of 3, etc.

To prevent confusion, old marks, remains of old labels etc. must be removed from load carriers.

7.2 Packing slip

Ensure that all paperwork and labels are in English as a minimum.

Packing slip should be in 2 sets:

- 1 set placed inside of each package
- 1 set affixed to the outside of the package

	Packing slip should contain minimum:	Required	When Applicable
	Part Number – Part Number is the identity for the subject part, assembly or material item and is specified on the Bergen Engines AS (BEAS) purchase order (PO). The Part Number should be the one used in PO by BEAS (incl. suffix if defined; ".W", ".A", ".AD", "CC", ".D").	٧	
	Description - Data format is the description of the product i.e., key words taken from the component definition (BEAS description)	√	
	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	Vendor Code - Also known as Business Partner Code, and is allocated to the supplier by BEAS (Vendor code from PO. Supplier name is also acceptable)	√	
	Purchase Order Number – The number corresponding to the BEAS Purchase Order against which the goods are being supplied. Line item / position number shall be included.	√	
	Serial Number – The Serial number is required on the label if the part is serialised, where agreed with BEAS and as instructed by the engineering component definition e.g. drawing / BEAS technical specification, Data format is SER [space] followed by the unique serial number (i.e turbochargers)		1
	For Rules on composition of serial numbers, please see relevant engineering specifications as defined on the engineering component definition.		
	(Ref. Note below) Country of origin - represents the country or countries of manufacture, production, design, or brand origin where an article or product comes from	√	
	HS Code - The Harmonized Commodity Description and Coding System, also known as the Harmonized System (HS) of tariff nomenclature is an internationally standardized system of names and numbers to classify traded products.	1	
	Number of packages contained in the delivery and gross weight - For several packages, the shipping document must contain a list of packages and products (list of contents). - Packages must be marked "x" of "x" (Example: 1 of 3, 2 of 3 and 3 of 3)		1
Pre	cautionary use data e.g. Hazardous material.		1

Please note:

If items require any sort of Certificates, process required to be handled in accordance with procedure DR5027 00, "Certificates – Guidelines for suppliers".

The BEAS procedure DR1130_95 "Product Document Identification (PDI)" can be used if applicable. (a system for traceability, from physical marking on a component to relevant documents for this component. The documentation may include material certificates, pressure test reports, NDT reports, dimensional control reports, welding documentation or similar)

7.3 Packaging label information

The supplier shall:

- Ensure that packaging labels are <u>attached to all layers of packaging.</u>
- Information to be included on the packaging label:
 - Part number (Bergen Engines AS)
 - Description

- Quantity
- Purchase order number (PO)
- PO Line item/position
- Supplier name/Vendor Code

7.4 Special Handling Instructions

Depending on the characteristics and different requirements in shipping individual items of equipment and materials, packages must be conspicuously marked with "Fragile", "Handle with Care", "Right Side Up", "Keep Dry", etc., in English and with the appropriate international standard symbols, to prevent possible damage. Indoor or outdoor storage is to be noted on package. On each package that requires special handling, the following ISO symbols, as appropriate must be used. All symbols must be shown right way up, and on two opposing sides of each crate or package.



7.5 Dangerous Goods

All dangerous, hazardous, or restricted materials must be clearly identified and properly described, packaged, marked, and labelled in accordance with the dangerous goods regulations.

The supplier must ensure that the Material Safety Data Sheets and a Multimodal Dangerous Goods Form is supplied to Bergen Engines AS at the time of collection.

The responsibility to pack and document Dangerous Goods shipments lies with the supplier.

7.6 Center of gravity

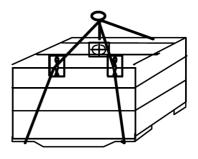
The supplier must (if appropriate) ensure that the centre of gravity and hoisting position/certified lifting points are obvious/clearly marked on two sides of each case to facilitate loading, unloading, and handling.

Handling procedure and lifting diagram must be provided for large units.

The following symbols shall be used:







EXAMPLE OF DISPLAY

7.7 Goods without packing

The above-mentioned markings must be indicated on those Goods without packing, with waterproof label secured to the Goods.

8 Preservation

8.1 General

- In all cases, products must be suitably preserved for the relevant method of transportation and storage (i.e quality of package, surface treatment, etc.).
- The packaging must be clearly labelled when using VCI/Tectyl or corresponding material in accordance with the Global Harmonising System (GHS).
- · Parts packed in wood box for storing outside must be covered by plastic or tarpaulin
- Use commodity specific requirements below if not included as part of product definition/BOM or special agreement (in writing) with BEAS exists.
- The corrosion inhibitor must provide guaranteed protection for an agreed period (See pkt. 5, "Protection", Minimum 6 months)

8.2 Corrosion protection for metallic components

As corrosion/oxidation inhibitors, the following may be used:

- 8.2..1 VpCI/VCI applied to carrier materials made of paper, cardboard, foils, or foam or incorporated into powders, sprays or oils or corresponding products (mostly in closed atmospheres). See work instruction/guidelines in appendix (13.1).
- 8.2..2 Corrosion preventive compound. Preservation with corrosion resistant metal coatings VpCl, Oil, wax (mostly in open atmospheres). Use of Tectyl or similar products is not desirable and has to be agreed with BEAS. See appendix (13.2) for details.
- 8.2..3 Moisture absorbers / Silica bags or rope.

9 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 12, 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)	Location for storage in BEAS
Raw materials (Bar, billet, sheet, tube, plate etc.)	Normal industry standard practices shall be adopted (Most of the raw materials do not require corrosion protection)		Bars: Outside Tubes/pipe parts: Inside

	Engine blocks shall be primed and painted according to specification and delivered on a closed truck or a properly sealed transportation. Reloading, exposing or/and storage of engine	2000000	Inside
Iron Casting, Blanks	blocks outside is not acceptable.		Outside
(Pump house, etc.)	Parts must be painted according to specification. Unpainted surfaces to be protected as		(In a tent)
, ,	specified in 8.2 <u>for storage in a tent</u>		
Iron casting, Machined (i.e., pump house, flywheels, turbocharger brackets, etc.)	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 Unpainted surfaces to be protected as specified in 8.2		Outside (In a tent)
Large steel parts, Machined (Shafts and larger	Corrosion preventive oil/film or VCI paper/bag as specified in 8.2 Netting, or polythene film / bag		Inside
machined items i.e Bolts, Front Shaft, Camshaft, gear wheels, etc.)	Netting, or polytherie min / bag		
	Small, light components where 'surface to surface' e.g. 'metal to metal' contact will not cause any damage or contamination can be packaged together.		Inside
Screws, bolts, and nuts (2-Bin)	Each package shall represent a single part number.		
	The number of items in initial protection shall be restricted to a maximum weight of 2Kg.	N.S.	
	Additional protection of small parts e.g. plastic sleeve or netting to protect each individual part can be used within the packaging.		
	Unpainted surfaces to be protected as specified in 8.2		
Cylinder liners, exhaust modules, brackets	Unpainted surfaces to be protected as specified in 8.2 for storage in a tent		Outside (In a tent)
(Bigger volume than euro pallet)			
Forgings, Blanks	To be protected as specified in 8.2 – point 1 VCI plastic, <u>for storage in a tent</u>		Outside (In a tent)

Forgings, markings			Inside
Forgings, machined	Forgings 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.		inside
	Surfaces to be protected as specified in 8.2		
Fabrication, Welded	Unpainted surfaces to be protected as specified in 8.2 for storage outside		Outside
(Transport brackets, Flywheel covers etc.)			
Large Machined Fabrication	Corrosion protection type Tectyl(506-EH) or Dinitrol (4010) for storage outside on all machined surfaces (Ref. 8.2)		Outside
(i.e Welded and machined sump, foundation, exhaust	Openings in top to be closed by plywood to avoid water pockets		
module)	Tarpaulin or an industrial shrink wrap solution as top cover.		
	Complete sump and foundation packed according to instruction DR5022_13.		
Fabrication, Machined Small to medium	Corrosion protection on all machined surfaces (Ref. 8.2) for storage in a tent		Outside (In a tent)
(i.e Welded and machined brackets, pipes, equipment module, tools,)			
Fabricated Pipes,	Unpainted surfaces to be rust protected		Inside
Welded (i.e welded gas, air, oil, and water pipes, etc.)	(typically inside channels) according to 8.2. If protection strip/threads are used for rust protection during storage, a special marking "Remove inside protection before start of engine" should be placed on the product to avoid damage.	~	
Generator	Corrosion protection adjusted to product for storage outside		Outside
	(A label needs to specify if connection to electricity is necessary		
	Tarpaulin or shrink film as top cover		
Silencers,	Shrink film as top cover <u>for storage outside</u>		Outside
	1		

SCR equipment	Unpainted surfaces to be protected as specified in 8.2 <u>for storage outside</u>	Outside
Gas Regulating unit (gas-ramp), Air bottles	Unpainted surfaces to be protected as specified in 8.2 for storage outside	Outside
Tubes / Pipes (Flexible or Rigid)	Caps, covers or plugs must be used. They shall be of distinctive appearance, being dissimilar in colour to the product to be clearly visible. Under no circumstances shall pipes (tubes) protrude from the container. Unpainted surfaces to be protected as specified in 8.2	Inside
Other tailor-made equipment (I.e., turbochargers, coupling, hub, Charge air cooler, heat exchanger, pump, fuel equipment, etc.)		Outside (In a tent)
Ancillaries / accessories (i.e., hydraulic assemblies, pumps, tools, etc)	Leak proof polythene bag. Openings shall be sealed to prevent leakage of fluids from within the unit and / or entry to foreign matter. Caps, covers or plugs must be used. They shall be of distinctive appearance, being dissimilar in colour to the product to be clearly visible. Unpainted surfaces to be protected as	Inside

Coolo O mira era era l		Inside
Seals, O-rings, and Gaskets	O-rings should be packed in a UV-protective plastic bag or black bag, and according to ISO 2230, "Rubber products — Guidelines for storage"	
	Seals or O-rings made of rubber should NOT be packed in VCI.	
	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.	
	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.	
	Prevent the package from folding. Any sharp edges should be covered to prevent contact with seals.	
Bearings (i.e., ball, roller, spherical)	Corrosion preventive oil or VCI paper / film / bag as specified in 8.2	Inside
	Bearings shall be packed horizontally	
Cables	Cables should be secured in a loop and placed in non-VCI initial protection (polythene bag or bubble wrap).	Inside
Magnets	Permanent magnets, or magnets shipped in a magnetised state shall have keeper bars installed. It is the supplier's responsibility to calculate the required size/quantity and check the magnetic field strength after packing.	Inside
Electronic components or assemblies	For all ESDS (Electrostatic Discharge Sensitive) components - metallised bag with a shielding effect, which is marked to clearly show the presence of ESDS components.	Inside
	Additionally, packed in a foam padded box to prevent damage. A metallised bag alone is not sufficient.	
	All packaging and handling of electronic components and assemblies shall comply with IEC 61340-5-1	
	To be protected with silica bags, VpCI-emitter, as specified in 8.2	
	Note to be made if special conditions are required (i.e., temperature, humidity, etc.)	

Electrical components or assemblies (i.e., drives, starters, motors, rotors, El- cabinets)	All electrical components or assemblies should comply with the same requirements as electronic components that are Electrostatic Discharge Sensitive (ESDS) To be protected with silica bags or VpCI-emitter, as specified in 8.2 Note to be made if special conditions are required (i.e., temperature, humidity, etc.)	Inside
Non-metallic parts	Apply mouldable wrap on sharp edges and projections or use protectors on orifices to prevent the ingress of dirt or grime. Overwrap in Polythene film, the opening shall be heat sealed or folded over and closed with adhesive tape. Vacuum packaging in UV protective material should be used where parts are liable to UV breakdown	Inside
Energy Storage Units (i.e., batteries)	Work in accordance with UN38.3 for the transportation of dangerous goods	Inside

10 Export control

Bergen Engines AS is committed to a policy of compliance with the strategic export control laws, regulations and procedures of all relevant jurisdictions and regimes in which it operates.

To comply with our regulatory and customer obligations, we are required to identify the Export Classifications of all Items we buy from suppliers or assembly ourselves, and where applicable obtain information relating to any Export Authorisation(s) involved.

In addition, we are committed to comply with any applicable re-export requirements and must ensure that we do not export to a sanctioned party and/or embargoed country if an Export Authorization may be required.

All applicable guidelines can be found here:

https://bergenenginesno.sharepoint.com.mcas.ms/sites/Intranet AboutUs/SitePages/Ethics-&-Compliance.aspx

11 Environmental Protection / Health & Safety

The supplier commits to complying with all legal regulations for environmental protection, health and safety and energy efficiency. The aim is to reduce the impact of industry on human beings and the environment to a minimum.

Bergen Engines AS recommends obtaining environmental, health & safety, and energy certifications according to ISO 14001.

Bergen Engines AS reserves the right to conduct environmental audits with suppliers not maintaining an environmental management system.

12 External Reference Material

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

- Information relating to treat wood materials of a thickness greater than 6mm, used to ship products between countries.
 - ISPM15 (International Standards for Phytosanitary Measures)
 - https://en.wikipedia.org/wiki/ISPM_15
- DHL Express Packing Guidance
 - http://www.dhl.co.uk/en/express/shipping/shipping_advice/packaging_advice.html
- Information relating to bar code:
 - o ISO / IEC 15417
 - https://www.iso.org/standard/43896.html
 - ISO / IEC 16388
 - https://www.iso.org/standard/43897.html
- Information relating to Electrostatics. Protection of electronic devices from electrostatic phenomena.
 - o BS EN 61340-5-1
 - https://shop.bsigroup.com/ProductDetail/?pid =0000000000030082389
- Information Relating to Transportation of Dangerous Goods
 - o By Air ICAO-TI/IATA-DGR
 - http://www.hse.gov.uk/cdg/manual/regenvirnment.htm
 - By Sea IMDG-code
 - http://www.hse.gov.uk/cdg/manual/regenvirnment.htm
 - By Road and Rail ADR/RID
 - http://www.hse.gov.uk/cdg/index.htm

13 Appendix

13.1 Corrosion protection/packing with VCI products (Ref. 8.2.1)

V C I stand for Volatile Corrosion Inhibitor. Also known as vapor phase corrosion inhibitors (VpCI),

Due to its evaporation properties, the VCI material - applied to carrier materials made of paper, cardboard, foils or foam or incorporated into powders, sprays or oils - passes into the gas phase in a relatively continuous pace and settles as an invisible monomolecular protective coating on the packaged goods (metal surfaces) in the form of a film. Therefore, neither humidity nor atmospheric oxygen can have direct contact to the metal surface.

- The parts to be protected must be clean. All rust, water, salt, cleaner residue, dirt etc. must be removed beforehand. Coated gloves (not cotton gloves) must be worn to prevent corrosion (fingerprints).
- Products to be packed must be completely cleaned of non-PH-neutral contaminants
- No other corrosion inhibitor must be used additionally unless its compatibility has been verified.
- Items to be packed must not come into contact with sweaty hands.
- Items to be packed must be completely dry; this also applies to crevices, ducts, bores and pores.
 To ensure that the component is completely dry, it must be left to dry until it has reached room temperature.
- When using foils, ensure that the functional side (evaporation side) is facing the right way.
- Keep humid and warm air away from the packing location.
- Direct water ingress into the packing (foil) must be prevented.
- The packing must be tightly closed (e.g. foil is folded over and secured with PE tape); largevolume exchanges with ambient air must be avoided.
- In order to build up a protective atmosphere, VCI packing systems need a 'rest' period the length
 of which depends on component size and the VCI materials in use. Information can be obtained
 from the VCI supplier.

- During this period, the packing must not be subjected to ambient changes (temperature/ humidity).
- Firm contact of the foil with the component does not affect the efficiency.
- Repeated, brief opening and closing of the packing does not cause any problems if the rules referred to above are observed.
- The use of packaging materials containing adhesive (e.g. corrugated card, cardboard packaging without VCI effect etc.) or consisting of wood within VCI foil bags is not permitted.
- Phosphated finished parts must be preserved. The phosphate layer alone does not constitute corrosion protection, especially in the case of longer storage times.

13.1.1 Unpacking VCI-protected components

- The packaging unit must have assumed ambient temperature.
- After removal of individual components, reseal the package in order to avoid large volume gas interchange with the ambient air and to ensure corrosion protection for the residual components.
- VCI protection exists for approx. one hour after removal of the components from the VCI atmosphere.

13.2 Preservation with corrosion resistant metal coatings (Ref. 8.2.2)

- Corrosion protection with:
 - o Dinitrol 4010*
 - Cortec VpCI-369* Corrshield (spray)
 - o Tectyl 506-EH or VpCl 368*
 - o Corrosion preventive Oil
 - Corrosion preventive Wax

*or Corresponding products

(For BEAS: Corrosion protection type 1 Ref DR 1161_08)

(For BEAS: Corrosion protection type 2 Ref DR 1161_08)

(For BEAS: Corrosion protection type 3 Ref DR 1161_08)

- Use of corrosion resistant metal coating shall be clarified with Bergen Engines AS beforehand (to take manufacturing/cleaning process into consideration)
- Coat the surfaces of the cleaned and dry items to be packed evenly and completely with corrosion inhibitor by brush-coating, spraying or immersion.
- Allow items to be packed to drip dry, if necessary, rotate or tilt to ensure that all residual fluids are discharged from chambers and ducts.
- Allow to dry at room temperature until a grasp-able film is established.