

PROTECTION, PACKAGING AND LABELLING REQUIREMENTS

Issue 27

28th July 2014

Contents

1	Purpose	3
2	Scope and applicability	3
3	Definitions and glossary / terminology	3
4	General requirements	3
4.1	Protection, packaging and labelling requirements	3
4.2	Documented protection, packaging and labelling instructions	3
4.3	Approval for new packaging for new and changed PPAP identified parts	3
5	Protection	4
5.1	General product protection requirements	4
5.2	Corrosion protection of metallic product	4
5.3	Shipping caps, covers & plugs	4
6	Packaging	5
6.1	General packaging requirements	5
6.2	Primary, secondary & tertiary packaging	5
6.2.1	Primary packaging – must have a packaging label (as described in section 7.4) attached	5
6.2.2	Secondary Packaging – must have a packaging label (as described in section 7.4) attached ...	5
6.2.3	Tertiary Packaging – must have a packaging label (as described in section 7.4) attached	6
6.2.4	Individually packaged product [1 each]	6
6.3	Packaging material & dunnage	6
6.3.1	General packaging material requirements	6
6.4	Dunnage	7
6.5	Weight, size & shape of packages	7
6.6	Pallets	7
6.7	Exceptionally large or heavy items / loads	8
6.8	Reusable containers	8
6.9	Plastic banding	8
6.10	Drop test	8
7	Labelling	9
7.1	General labelling requirements	9
7.2	1-D Bar code standards for all labels	9
7.3	Text Element Identifiers (TEI) for all Labels	9
7.4	Packaging label	10
7.4.1	Packaging label information	10
7.4.2	Colour coded strip	10
7.4.3	Packaging label requirements	11
7.5	Receipt label	12
7.5.1	Receipt label (E-Manifest)	12
7.5.2	Receipt label (non-E-Manifest)	13
7.6	Kit labels	13
7.6.1	Kit label requirements	13
7.7	Concession labels	14
7.8	Labelling information for release documentation	14
7.9	Labelling requirements for shipments containing multiple serial numbers	14
8	Commodity Specific Packaging	15
	Change History	22

1 Purpose

- The purpose of this document is to formally communicate Rolls-Royce requirements and expectations to the global supply chain related to the protection, packaging and labelling of product being shipped to Rolls-Royce
- The protection, packaging and labelling requirements are available to view and download from the Rolls-Royce Global Supplier Portal (GSP) <https://suppliers.rolls-royce.com>

2 Scope and applicability

- The protection, packaging and labelling requirements are applicable to all suppliers, Partner Managed Inventory suppliers or partners who supply product related to Rolls-Royce contracts / purchase orders unless otherwise specified in the product definition or Rolls-Royce contract / purchase order.

3 Definitions and glossary / terminology

- Refer to SABRe definitions and glossary / terminology for additional information, which you can view and download from the Rolls-Royce Global Supplier Portal (GSP) <https://suppliers.rolls-royce.com>
- Polythene and Polyethylene shall be regarded as being the same.

4 General requirements

4.1 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 to Rolls-Royce, plus the storage and subsequent distribution within Rolls-Royce and / or external despatch to Rolls-Royce customers.

4.2 Documented protection, packaging and labelling instructions

The supplier shall:

- Establish a documented (product group / commodity specific) protection, packaging and labelling instruction(s) that shall be made available to personnel involved in the protection, packaging and labelling process to ensure that the product is consistently protected, packaged and labelled in manner that meets the requirements of the protection, packaging and labelling requirements document.
- Establish a process to inspect all labels prior to shipment to ensure they are readable and scan correctly. This process should be available to Rolls-Royce.

4.3 Approval for new packaging for new and changed PPAP identified parts

The supplier shall:

- Ensure that all packing is approved in line with Rolls-Royce requirements and signed off as fit for purpose, with transit and handling trials completed to meet and prove out the quality and shipping standards. Approval must be signed off in line with the PPAP requirements defined in section C of SABRe as part of the Parts Submission Warrant (item 10).

5 Protection

5.1 General product protection requirements

The supplier shall:

Provide adequate protection of the product against damage, deterioration, and corrosion.

5.2 Corrosion protection of metallic product

This table provides the basic requirements for the corrosion protection of metallic product. Refer to relevant engineering standards shown on the product definition for further information related to corrosion protection of metallic product.

Material	Corrosion Protection	
Low alloy steel 12% Chromium steels	Corrosion preventive oil	+ Polythene film over wrap
	VCI paper / film ^[1]	+ Polythene film over wrap + Non-absorbent container
Austenitic stainless steels Nickel or Cobalt base alloys Titanium alloys	No preservation required	
Aluminium alloys Copper alloys	Corrosion preventive oil (<i>unpainted surfaces</i>)	+ Polythene film over wrap + Non-absorbent container
Magnesium alloys		

NOTE 1: VCI paper / film (Volatile Corrosion Inhibitor).

NOTE 2: Application of preservative materials shall be preceded by thorough cleaning of products to remove foreign objects from processing and handling, i.e., metal chips, abrasives, blasting grit, metal finishing compounds, fluxes, cutting fluids, lubricants, test fluids, moisture, fingerprints etc.

5.3 Shipping caps, covers & plugs

The supplier shall:

- Establish appropriate precautions to prevent the ingress of foreign objects and contamination into components with orifices
- Ensure that shipping caps, covers and plugs are plastic (not rubber) and of sufficient flexibility so that cracking will not occur. Shipping caps, covers and plugs shall be push-on type and have broad flanges – Refer to ARP 5862 Shipping Caps, Covers and Plugs for further information
- Ensure that PVC Shipping caps, covers and plugs do NOT come into contact with titanium alloys under any circumstances.

6 Packaging

6.1 General packaging requirements

The supplier shall:

- Ensure that new, used and scrap product is NOT mixed in the same package
- 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.

6.2 Primary, secondary & tertiary packaging

6.2.1 Primary packaging – must have a packaging label (as described in section 7.4) attached

- ❖ *Primary packaging is the first level of packaging applied to the product and may include additional levels of packaging i.e. polythene film, carton, dunnage etc, where required.*
- ❖ *The purpose of primary packaging is to protect the product from damage, deterioration, corrosion during storage.*

The supplier shall:

- Ensure that the primary packaging provides the following:
 - A robust package to protect the product from damage, deterioration, corrosion during storage
 - Includes any protective materials (dunnage) where required
 - Is appropriate for the size, shape & weight of the product
- Establish a primary packaging standard for each product and use the same primary packaging standard for each shipment.

NOTE: When the supplier uses a single container as the only level of packaging then the rules and requirements of both the primary & secondary packaging shall apply.

6.2.2 Secondary Packaging – must have a packaging label (as described in section 7.4) attached

- ❖ *Secondary packaging is used to contain one or more primary packaged product.*
- ❖ *The purpose of secondary packaging is to protect the primary packaged product during shipment / delivery by road, sea or air from the supplier's premises to Rolls-Royce.*

The supplier shall:

- Ensure that the secondary packaging provides the following:
 - A robust package to protect the primary packaged product against damage, stacking, crushing, strapping, impact, careless or accidental handling and mechanical handling, during shipment
 - Includes any protective materials (dunnage) where required
 - Appropriate for the size, shape & weight of the product
 - Primary packages of the same part number / kit number.

NOTE: When the supplier uses a single container as the only level of packaging then the rules and requirements of both the primary & secondary packaging shall apply.

6.2.3 Tertiary Packaging – must have a packaging label (as described in section 7.4) attached

- ❖ *Tertiary packaging is the outermost level of packaging.*
- ❖ *The purpose of tertiary packaging is to consolidate multiple packages of secondary packaged product being shipped to the same delivery address.*
- ❖ *Tertiary packaging is limited to non-e-manifest suppliers.*

The supplier shall:

- Ensure that the tertiary packaging provides the following:
 - A robust package to protect the secondary packaged product against damage, stacking, crushing, strapping, impact, careless or accidental handling and mechanical handling, during shipment
 - Appropriate for the size, shape & weight of the product
 - A statement on the outside of the tertiary packaging of how many batches are contained within.

6.2.4 Individually packaged product [1 each]

The supplier shall:

- Ensure that products / part numbers are packaged separately / individually^[1] (1 each)
- Ensure that product identified as `Critical'(refer to RRES90002) are packaged individually (1 each)
- Ensure that serialised products are packaged individually (1 each) with a correct label stating the serial number in text and barcode format (as described in section 7.4)

NOTE 1: Individual packaging is NOT applicable when:

- *Materials such as bar, sheet, tube, forgings, castings and partially machined components have no finished surfaces that may be susceptible to damage.*
- *When small light components are packed together (surface to surface contact) and will not cause any damage, deterioration or contamination.*
- *When written authority is given by the relevant Rolls-Royce receiving area.*

6.3 Packaging material & dunnage

6.3.1 General packaging material requirements

The supplier shall:

- Ensure that the packaging material will not contaminate the goods enclosed.
- Wherever possible, use packaging which allows the reclamation of mixed materials with the minimum of effort (e.g., avoiding the use of bonding systems that prevent separation of individual materials).
- Select packaging on the basis of its ease of recycling, if more than one packaging material satisfies the requirement for product protection.
- Ensure packaging is sufficient to prevent damage and preserve product integrity whilst also being minimised as far as is practicable to reduce waste.
- Make use of reclaimed or recycled packaging materials wherever possible.

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

6.4 Dunnage

- ❖ *Dunnage is the materials used to provide adequate support, bracing and protection of product during shipment i.e. padding in a shipping container to prevent unnecessary movement of load.*

The supplier shall:

- Use dunnage as necessary to provide adequate support, bracing and protection of product during shipment
- Wrap or bag the product to ensure that dunnage material does not come into direct contact with the product.

NOTE 1: 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.*

NOTE 2: PVC shall NOT, in any circumstances, be used in contact with Titanium alloys.

NOTE 3: To facilitate reclamation / recycling, the supplier will ensure that dunnage materials are not to be mixed (when possible).

6.5 Weight, size & shape of packages

The supplier shall:

- Ensure that the size, shape and weight of the packages used will not present difficulties to the normal handling
- Indicate the heaviest side of the package when the centre of gravity is off centre
- State the total weight in kilograms on the secondary / tertiary packaging adjacent to the associated release documentation. Total weight will be inclusive of packaging materials. Weight may be hand written using permanent marker in clear and legible text
- State the weight of each individual package when several individual packages are banded together, The total weight of all combined packages will be recorded adjacent to the release documentation and marked as total weight
- State the weight of primary packages that exceeds 10 KG (22 lbs).

6.6 Pallets

The supplier shall:

- Ensure that when a package is physically too large or too heavy for safe manual handling it will be attached to a pallet base to enable mechanical handling
- Use pallets and bases that are in good condition
- Ensure that packages do not overhang the edges of the pallet base
- Ensure that the pallet material is suitable to carry the product load during transit and storage.

6.7 Exceptionally large or heavy items / loads

- ❖ *Exceptionally large or heavy items / loads are defined as having the largest dimension of either height, width or length in excess of 2.5metres (98.4 inches), or weight in excess of 3000kgs (3 tonnes or 3.307 tons).*

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 to Rolls-Royce to either:
 - A pre-defined packaging and handling specification formally agreed by the Rolls-Royce receiving site
 - Prior one-off agreement by the Rolls-Royce receiving site to accept a delivery to a specifically defined packaging and handling specification
 - The Rolls-Royce Business Unit purchase department placing the order has arranged contact with the supplier and the receiving Rolls-Royce site - as / where applicable.

6.8 Reusable containers

- ❖ *Reusable containers may be introduced by Rolls-Royce that is managed by an inbound collection service.*

The supplier shall:

- Ensure that reusable containers are fit for purpose. The supplier shall contact the Rolls-Royce packaging service provider when a reusable container has been deemed to be unfit for purpose
- Store Rolls-Royce supplied re-usable containers indoors at all times. The minimum requirement is undercover, in a shelter, protected by three sides, a roof, and not in standing water
- Ensure that reusable containers are NOT used to deliver any product other than those designated and labelled on the container.
- Each supplier to have a process for removing old labels before reusing packaging

6.9 Plastic banding

The supplier shall:

- Use plastic banding to package products (*when applicable*) – Metal banding shall not be used.

NOTE: Banding of multiple packages is not permitted where method of transportation to the delivery destination will include airfreight unless each individual package has release documentation and a receipt label attached (Not applicable to raw materials, forgings, castings etc).

6.10 Drop test

- ❖ *This process is only applicable to Rolls-Royce Aerospace contracts / purchase orders.*

The supplier shall:

- Ensure that the secondary / tertiary / outer packaging capable of withstanding the following conditions without damage and/or subsequent deterioration of the product contained within:
 - For packages up to 10 kg - A drop of 90 cm
 - For packages between 10 and 50 kg - A drop of 60 cm
 - For packages above 50 kg - An end drop of 60 cm or through 10°, whichever is lower. A horizontal impact of 2.5 m per second.

7 Labelling

7.1 General labelling requirements

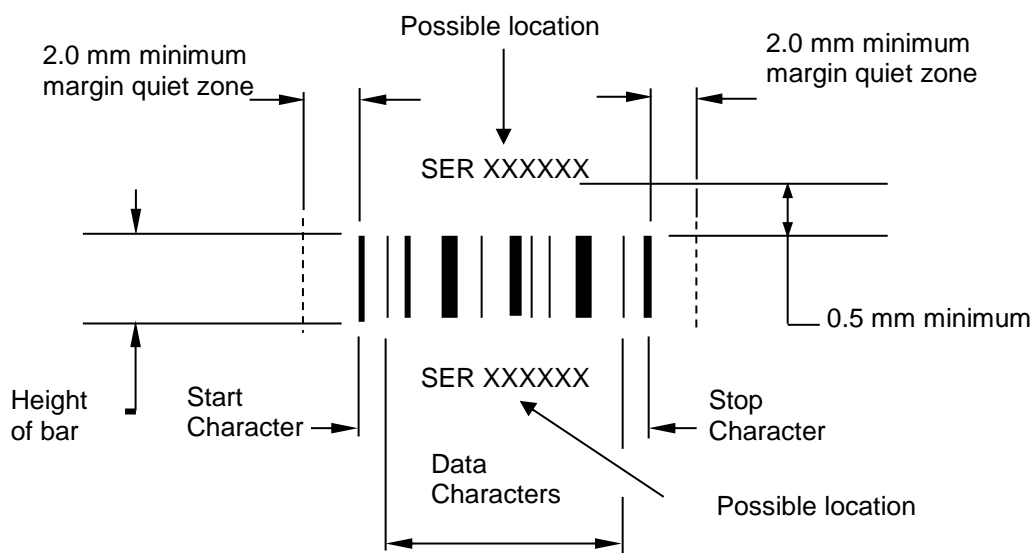
The supplier shall:

- Ensure that products are labelled to a standard that will provide adequate identification and traceability of the product. The supplier shall ensure that products and packages are labelled in accordance with the two basic categories i.e. packaging label ([see 7.4](#)), receipt labels ([see 7.5](#))
- Use kit labels ([see 7.6](#)) and concession labels ([see 7.7](#)) when applicable.

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 2.0 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 Text Element Identifiers (TEI) for all Labels

The supplier shall:

- Ensure that the text element identifiers (see section 7.4.3 for acceptable TEIs) are used to identify the text being read. The TEI shall consist of the characters followed by a space. The bar code, when read, must display exactly the human readable text - including the 'TEI'.

7.4 Packaging label

7.4.1 Packaging label information

The supplier shall:

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

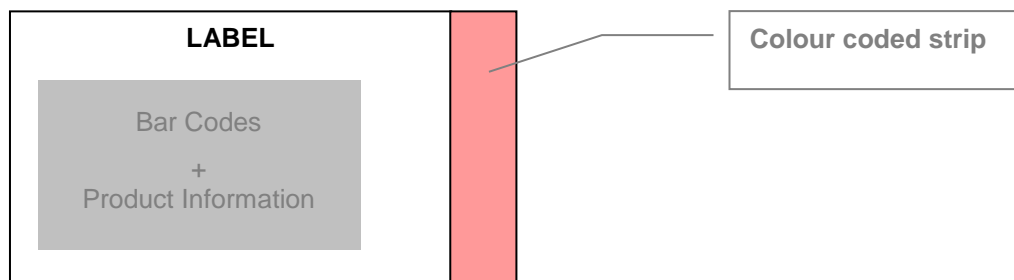


NOTE: See [7.4.2](#) for packaging label Information that shall be included on the label as a basic (minimum) requirement and / or when applicable.

7.4.2 Colour coded strip

The supplier shall:

- Include a colour coded strip to signify the year of preservation and packaging of metallic components and parts containing metallic components (Refer to RPS 367).



7.4.3 Packaging label requirements

The supplier shall:

Include the following packaging label Information as a basic (*minimum*) requirement and / or when applicable.

		Required	When Applicable
Text + Barcode	PNR - Part Number – Part Number is the identity for the subject part, assembly or material item and is specified on the Rolls-Royce purchase order. Data format is PNR [space], followed by the part number + barcode.	√	
	Description - Data format is the description of the product i.e. key words taken from the component definition + barcode (barcode is optional).	√	
	QTY – Quantity refers to the total quantity of items (e.g. 1, 5, 10, 100) contained within the package. Data format is QTY [space] followed by the total number of items + barcode. The unit of measure e.g. sets, rolls, kg/lbs, meters, feet etc) are only required when applicable.	√	
	VC - Vendor Code - Non-serialised parts only - Data format is VC [space] followed by the supplier vendor code + barcode. (Allocated by Rolls-Royce). SPL supplier identification code can be used as an alternative - Data format is SPL [space] followed by the supplier code + barcode. Local Service Providers (LSP) do not have to provide traceable vendor code or SPL information.	√	
	SER - 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 / Rolls-Royce technical specification, Data format is SER [space] followed by the unique serial number and barcode.		√
	MFR - Manufacturer – When identified on the engineering component definition as ‘CAGE’ or ‘MFR’, the five characters Commercial and government entity (CAGE) code is required. This identifies the organization controlling the design and part number assignment of the product. Data format is MFR [space] followed by the five digit manufacturers code + barcode (refer to relevant Engineering standards shown for CAGE code guidance and applicability).		√
	DMF - Date of Manufacture – The Date of Manufacture is only required when identified on the engineering component definition, purchase order instructs the requirement, or the item has a shelf-life. This must be the date the life-limiting process was completed (e.g., etch date / cure date / manufacture date). Data format is DMF [space], followed by day, month and year separated by a period (i.e., DD.MM.YYYY) + barcode. Cure dated parts must state the material group (A, B, X etc.)		√
Colour coded strip to signify the year of preservation / packaging of <u>metallic components</u> and parts containing metallic components (Refer to RPS 367)		√	
2D Barcode (Data Matrix) shall be included when instructed by contract and/or the engineering component definition (e.g. RRES90003).		√	
Precautionary use data e.g. Hazardous material.		√	

7.5 Receipt label

❖ *The receipt label has a standard format designed to permit fast processing of receipts using bar-codes.*

The supplier shall:

- Attach a receipt label as specified within two categories as follows:
 - Receipt label: e-manifest suppliers - attached to the secondary packaging ([see 7.5.1](#))
 - Receipt label: non e-manifest suppliers - attached to the secondary packaging ([see 7.5.2](#)).

The requirements of section 7.5 are not applicable to Rolls-Royce Repair & Overhaul business.

7.5.1 Receipt label (E-Manifest)

❖ *E-manifest is a global collection service between the supplier, logistics provider and Rolls-Royce.*

The supplier shall:

- Ensure that a receipt label is attached in a prominent position on the outside of the secondary packaging (only one receipt label per total batch, not per box)
- Ensure that a duplicate copy of the receipt label is attached to the reverse side of the release documentation ([see 7.8](#)).

EXAMPLE

Manifest Collection	
Sequence / Purchase Doc No. / Item / Serial No.	
	321/5500000052/00001/N
Material Part Number/Qty/Sloc/Plant	
	LK7654321/1/ENGD/1202
Release Note	
	987654321

Batches containing critical parts (RRES90002), the e-manifest receipt label shall be identified as a “Y” **(Yes)**.
Batches that do not contain critical parts the e-manifest bar code label shall be identified as “N” **(No)**.

NOTE 1: Each e-manifest label will have a unique numerical sequence i.e. a sequential number that must not be used more than once on the same collection day. This number MUST be 3 digits in length.

NOTE 2: The 1-D bar-coded elements required on the receipt label will comply with the standards defined in section 7.2.

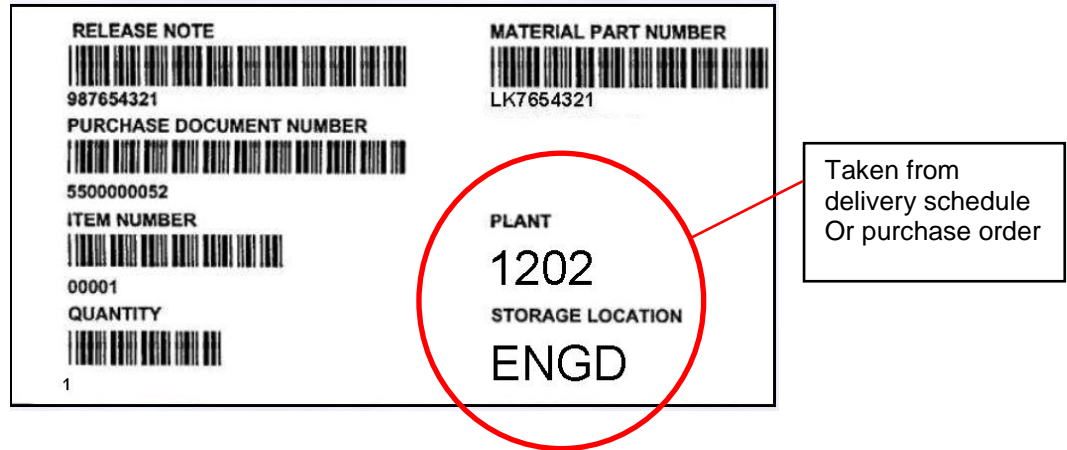
The requirements of Section 7.5.1 are not applicable to Rolls-Royce Repair & Overhaul business.

7.5.2 Receipt label (non-E-Manifest)

The supplier shall:

- Ensure that a copy of the receipt label is attached in a prominent position on the outside of the secondary packaging (only one receipt label per total batch, not per box).
- Ensure that a duplicate copy of the receipt label is attached to the reverse of the release documentation (see 7.8).

Example



NOTE: The 1-D bar-coded elements required on the receipt label will comply with the standards defined in section 7.2 and 7.3.

7.6 Kit labels

7.6.1 Kit label requirements

See section 8 – “Kits”

Kit number: Alpha numeric format

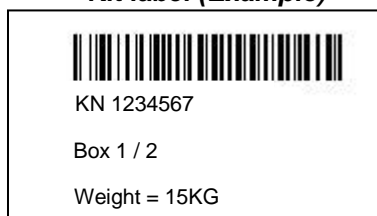
Bar code (Kit number) Standard format (see 7.2 and 7.3).

Note: Where a kit uses multiple boxes, the bar code is only required on Box 1; subsequent boxes shall not to have a bar code identifier. Each box must have a label listing the serial numbers of all serialised parts within the box.

Box: To display the number of boxes that makes up a kit.
 1 of 1 where only 1 box makes a kit.
 1 of 2, 2 of 2 etc where multiple boxes make up a kit.

Weight: See 6.4

Kit label (Example)



7.7 Concession labels

The supplier shall:

- Ensure that the concession label is attached to the primary, secondary and tertiary packaging of parts subject to concession in accordance with SABRe non-conformance control and SABRe release documentation.

7.8 Labelling information for release documentation

The supplier shall:

- Refer to SABRe release documentation for details of the information to be stated on the release documentation
- Ensure that a receipt label is attached to the reverse of the release documentation
- Ensure that all information provided with the product e.g. labels, release documentation, references on the packaging etc., is stated in English unless otherwise authorised by the Rolls-Royce region receiving the goods
- Enclose the release documentation in a document wallet and attach to the outside of the secondary packaging
- Include the information related to serialised parts with each batch of serialised parts or kit containing serialised parts as applicable. This information will be supplied either as a label or labels attached to the reverse of the release documentation or a list of serial numbers (text + barcode) as appropriate ([see 7.2 to 7.4](#))
- Enclose a copy of the First Article Inspection Report (FAIR) approval document in separate document wallet attached to the outside of the secondary packaging. The FAIR document wallet shall be clearly identified 'FAIR'. Where the size of FAIR documents makes it impractical to use the document wallet, the wallet shall contain a copy of the signed FAIR Approval Form only. In such cases the document wallet shall be clearly endorsed 'FAIR enclosed within packaging' with the completed FAIR documents being placed in the container for ease of access (preferred), or clearly endorsed 'FAIR shipped separately'
- Enclose a copy of customs documentation (when exporting a product) in a documentation wallet clearly identified as 'customs documentation'
- State the country of origin on the secondary / tertiary packaging (when exporting a product).

7.9 Labelling requirements for shipments containing multiple serial numbers

Where multiple serialised parts are supplied in one container, the serial number information must be on all layers of packaging (excluding dunnage):

- Outer packaging for delivery
- Shelf packaging for storage
- Individual part packaging for individual part sales (e.g. turbine blades)

The supplier shall:

- Provide a 1-D barcode for each serial number, accompanied by man-readable text. The serial number information on the outer packaging can be supplied as a label or multiple sheets **if a label is not practicable (e.g. if the surface of the package is too small to support multiple labels)**. **These sheets must be securely attached to the packaging in a separate document wallet from the Certificate of Conformance. The serial numbers on the label shall be in the same format as that shown in section 7.4.1.**

8 Commodity Specific Packaging

Commodity Category	First Level Packaging	Dunnage	Primary / Secondary Packaging
Accessories / Ancillaries (e.g., Gear Box, Fuel Pump, Sensors etc.).	Leak-proof Polythene bag	See 6.3	Container/ Carton
<p>Additional Information:</p> <p>Protection: Accessories shall be inhibited when necessary to achieve the agreed shelf life. Openings shall be sealed to prevent leakage of fluids from within the unit and / or entry to foreign matter. Protection shall be made to guard external features of the unit against damage as required.</p> <p>Caps, covers and plugs must be physically unable to pass into the unit so that they cannot be inadvertently left in situation. Any part of the blank (e.g. sealing gasket, 'O' rings, etc.) shall be such that they remain attached to the protective blank and do not break on normal removal or enter into the unit. They shall be free of cavities that could cover foreign objects and release them into the accessory after being fitted. In addition, they shall be of distinctive appearance, being dissimilar in colour to the accessory and shall be clearly identified (e.g. 'Transportation Blank').</p> <p>All protective fittings shall be defined by the supplier's Drawing Introduction Sheet (DIS) / Master Parts List (MPL).</p> <p>Packaging: The supplier shall ensure that the packaging prevents the damage or deterioration of the product. Specific requirements concerning the method of protecting and packaging shall be defined and instructed by the supplier;</p> <p>Containers: All accessories shall be packed in a leak-proof Polythene bag and placed within the appropriate external container. The design of the container shall be such that no damage to nor change of calibration of the unit shall result from dropping the container.</p>			
Annulus Fillers	Polythene Bag	Bubble Wrap	Carton
Asbestos or Asbestos Containing Materials Which can produce Dust during Handling or Transport	Polythene Bag	Bubble Wrap	Carton
<p>Additional Information:</p> <p>Coat with a Film of Silicone Resin or Rubber. Pack as single items in Polythene Bag and Seal. Attach Asbestos Warning Label Pack in Quantities Specified on Order. Overwrap with Polythene and Attach Asbestos Warning Label.</p>			
Asbestos Containing Materials, Firmly Bonded with Rubber or Resin	Pack in Quantities specified on order. overwrap with Polythene and attach asbestos warning label	Bubble Wrap	Carton



Commodity Category	First Level Packaging	Dunnage	Primary / Secondary Packaging
Ball / Roller Bearings & Spare Roller Elements	Bag made from heat sealed, plasticised PVC sheet.	See 6.3	Carton / Container
Burner Parts /Assemblies	Polythene film / bag	Polythene Foam or Bubble Wrap	Carton
Castings	As Received	Industry standard practices shall be adopted.	Industry standard practices shall be adopted.
	<p>Additional Information:</p> <p>Castings do not require corrosion protection and normal industry standard practices shall be adopted except for castings made from magnesium alloys or non-corrosion resistant alloys where appropriate corrosion protection shall be applied.</p> <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>		
Casings (Aluminum & Magnesium)	Polythene film / bag	Fibre-board Furniture or Bubble Wrap	Wood or Plywood Case or Double or Triple Wall Corrugated Board Framed Container
	<p>Additional Information:</p> <p>For magnesium casings a 'MAGNESIUM' label attached to both the primary and secondary packaging.</p>		
Composites	External Surfaces Covered with Polythene film / bag	Fibre-board Furniture or Polythene Foam or Bubble Wrap	Carton, Wood or Plywood Case or HDF Container



Commodity Category	First Level Packaging	Dunnage	Primary / Secondary Packaging
Compressor Blades and Vanes	Refer to Additional Information	Refer to Additional Information	Carton (Sectioned Box)
	Non-Serialized Parts	The parts shall be wrapped in an individual Polythene bag and then packed in a sectioned box with a Receipt Label attached	
	Serialized Parts	The parts shall be wrapped in an individual Polythene bag with the packaging label attached and then packed in a sectioned box with a Receipt Label attached. All serial numbers shall be listed in text and barcode format on the outside of the box.	
	Parts shipped as a kit	Where compressor blades and/or vanes are shipped as a kit, the parts shall be packed in a sectioned box. The box shall have the packaging label attached showing the serial numbers for all serialized parts within the kit – as described in section 7.6.1.	
Electrical Components	Polythene Bag / Anti-Static Bag	Bubble Wrap	Carton or Wood Case or HDF Container
	Additional Information: A label shall be attached to the outside of the Primary Packaging that has a statement similar to the following: 'This equipment contains parts and assemblies susceptible to damage by electrostatic discharge (ESD). Use precautionary procedures when touching, removing or inserting parts or assemblies'.		
Fabrications (Large)	Polythene film / bag	HD Fibre-board or Wood Furniture or Bubble Wrap	Wood or Plywood Case or HDF Container
Forgings	As Received	Industry standard practices shall be adopted.	Industry standard practices shall be adopted.
	Additional Information: Forgings do not require corrosion protection and normal industry standard practices shall be adopted. 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.		
Gears	Polythene film / bag with Mouldable Wrap as Required.	Polythene Foam or Bubble Wrap.	Individual Carton
	Additional Information: Apply appropriate corrosion protection (see 5.2).		



Commodity Category	First Level Packaging	Dunnage	Primary / Secondary Packaging
Jet Pipes (Plain) and Power Plant Components	Polythene film / bag Plus Protective Film / bag to for External Surfaces.	Fibre-board and/or Bubble Wrap	Specially Designed Case
Kits	Refer to Additional Information	Refer to Additional Information	Kit Box
	<p>Additional Information:</p> <p>Supplier(s) shall agree their own designs of kit boxes with Rolls-Royce. This does not apply to reusable containers supplied by Rolls-Royce (see 6.7).</p> <p>For parts defined as serialised by the engineering component definition, a serial number label shall be attached to the kit box exterior for each serialised part contained within the kit box – as described in section 8.6.1.</p> <p>Where any changes are made to the detail of a Kit Detail label, the labels attached to all boxes in circulation for this kit shall be replaced.</p>		
Magnesium Parts	<p>The supplier shall ensure that packages that contain components manufactured from magnesium carry a 'MAGNESIUM' label that is attached to both the primary and secondary packaging (i.e. Black lettering on a Red Background). Apply appropriate corrosion protection (see 5.2).</p>		
Non-Metallic Parts	Polythene film / bag	See 6.3	Carton
	<p>Additional Information</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 / bag to attain a 0,125mm minimum thickness around the component. Alternatively, if Polythene bags (1000g minimum) are used, the opening shall be heat sealed or folded over and closed with adhesive tape.</p> <p>Vacuum skin packaging with Polythene film / bag may be used to pack non-metallic items</p> <p>Particular care shall be taken when packing thin items such as gaskets or rubbing strips, to ensure a level of protection which will prevent folding or creasing.</p>		
Nozzle Guide Vane	Polythene film / bag	Bubble Wrap	Carton
Raw Materials	As Received	Industry standard practices shall be adopted.	Industry standard practices shall be adopted.
	<p>Additional Information:</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 except for magnesium alloys where appropriate corrosion protection shall be applied.</p>		



Commodity Category	First Level Packaging	Dunnage	Primary / Secondary Packaging
Rubber / Synthetic Parts (including Composite Metallic / Non-metallic & Rubber Assemblies)	Opaque sealed envelopes	See 6.3	Carton
<p>Additional Information: ARP5316 Storage of elastomer seals</p> <p>Acceptable packaging media:</p> <ul style="list-style-type: none"> ➤ Heat sealable opaque material (to prevent exposure to sunlight) ➤ Polythene coated Kraft paper. ➤ Aluminium foil, with paper or Polythene laminated coatings. ➤ Opaque Polythene bag. ➤ Manila envelopes <p>Packaging shall be achieved in conditions of low relative humidity not exceeding 75%. Components packaged shall be free from strain and no part shall be tied or tagged. Acceptable master packaging is 2 ply brown paper sacks.</p> <p>Packaging of vulcanised rubber products shall be in accordance with the controlling specification. Vulcanised rubber components shall be delivered from the supplier with 90% or greater shelf life remaining.</p> <p>Vulcanised rubber components delivered through a 'Direct Line Feed' system shall be delivered with 50% or greater of shelf life remaining. Note - Direct Line Feed is a method of supply whereby an external service provider delivers parts direct to a bin or carousel in the Rolls-Royce manufacturing areas, monitoring the usage rate and maintaining required stocking levels.</p> <p>Sealed units (e.g. fuel systems & accessories) are excluded from the above requirements, however any rubber elements installed within such products shall continue to be controlled in accordance with the relevant / governing technical specification requirements - prior to any physical incorporation, testing and final shipment to Rolls-Royce.</p>			
Rings (Large Diameter)	Polythene film / bag or sealed box	Fibre-board Furniture Bubble Wrap for Lighter Components).	Triple or Double Fluted Board Container
Rings and Seals	(Parts Super cleaned (where applicable)		
Spacers (Large Steel)			
Shafts & Wheels 10 to 15 kg	Polythene film / bag	Polythene Foam or Fibre-board Furniture or Punched Triwall	Rigid Carton Lined with Triple Wall Corrugated Board
<p>Additional Information:</p> <p>Preservation – VCI paper / film (see 5.2).</p> <p>For etched integral bearing surfaces on shafts de-watering oil may be used.</p> <p>For additional information refer to applicable engineering standards.</p>			



Commodity Category	First Level Packaging	Dunnage	Primary / Secondary Packaging
Shafts & Wheels over 15 kg	Polythene film / bag	Fibre-board Furniture or Punched Triwall	Timber Case or Double or Triple Wall Corrugated Board Framed Container.
	Additional Information: Preservation – VCI paper / film (see 5.2). For etched integral bearing surfaces on shafts de-watering oil may be used. For additional information refer to applicable engineering standards.		
Small Parts	Polythene film / bag	See 6.3	Carton
	Additional Information Small light components where 'surface to surface' e.g. 'metal to metal' contact will not cause any damage or contamination can be packaged together. Each package shall represent a single part number The primary package shall be restricted to a maximum weight of 2KG / 4.4 pounds, unless otherwise specified on the Rolls-Royce purchase order. Large quantity orders shall be made up of multiple primary packages of 2KG Max up to a maximum of 10KG. Additional protection of small parts e.g. plastic sleeve containers to protect each individual part, can be included within the primary packaging.		
Taper Bolts, Blade Pins and Bushes	Polythene film / bag with Further Protection as Necessary	Polythene	Carton
Thrust Reverser and Re-heat Jet Pipes	Polythene film / bag	Not Applicable	Specially Designed Case
Tubes / Pipes (Flexible)	Polythene film / bag with Caps (see 5.3).	Polythene Foam or Bubble Wrap.	Rigid Carton
	Additional Information: A label stating 'Do not bend / manipulate prior to installation' is required to be attached to the secondary packaging.		

Commodity Category	First Level Packaging	Dunnage	Primary / Secondary Packaging
Tubes / Pipes (Rigid)	Polythene film / bag with Caps (see 5.3).	Refer to additional information shown below.	Rigid Carton
	<p>Additional Information:</p> <p>Long heavy pipes (tubes) assemblies with outside diameters of 25mm or greater and length greater than 1 metre, shall be packed in double thickness Polythene sleeves and <u>double</u> heat sealed at both ends.</p> <p>Whenever long heavy pipes (tubes) and lightweight pipes (tubes) are to be packed as batches or kits, cardboard partitioning and / or bubblewrap shall be used to avoid movement and provide separation during transit. Alternatively pipes (tubes) shall be transported in Rolls-Royce approved kit or transit cages / containers.</p> <p>Lightweight pipes (tubes) can be primary packaged and placed in secondary packaging in batch quantities of greater than one in a manner that will prevent damage.</p> <p><u>Under no circumstances shall pipes (tubes) protrude from the container.</u></p>		
Finished Machined Turbine Blades	Refer to Additional Information	Refer to Additional Information	Carton (Sectioned Box)
	<p>Additional Information:</p> <p>Where turbine blades are shipped as a kit, the parts shall be packed in a sectioned box with the packaging label attached - with all serial numbers listed in text and barcode format on the outside of the box – as described in section 7.6.1.</p> <p>Where turbine blades are sold as individual parts, the parts shall be packaged in an individual polythene bag with the packaging label attached and then packed in a sectioned box with a receipt label attached - with all serial numbers listed in text and barcode format on the outside of the box.”</p>		
White Metal Bearings Lead Bronze Bearings	Polythene film / bag	Polystyrene Moulding or Bubble Wrap	Carton

Note 1: Polythene film / bag – The supplier shall ensure that polythene film / bags are sealed when used as the first level of primary packaging for the product.

Note 2: When a specific commodity category is not addressed within the commodity specific packaging requirements matrix shown above then the supplier shall ensure that products are protected, packaged and labelled in accordance with the requirements of the appropriate sections of this document to standard that will provide adequate protection against damage, deterioration, corrosion, tampering and other risks during shipment to Rolls-Royce plus the storage and subsequent distribution within Rolls-Royce.

Change History

Issue	Date	Description of Change	Author	Owner	Approval
20	01-10-2007	Section 4.6 amended and re-titled to read "Packaging of Rubbers, Non-metallics and Rubber & Metallic Assemblies", minor revision to Sections 2, 4.1, 4.6, 4.10.1 and Appendix 1 + references to Rolls-Royce Marine (Submarines) removed from process.	-	-	K. R. Angus.
21	01-04-2008	Minor amendment in Sections 4.1 and 4.6 to improve clarity / align with RPS 259 + slight modification to 4.10.1 to align with associated Supplier Delivery Specification.	-	-	K. R. Angus.
22	01-10-2008	Major re-construction of process content to identify specific protection, packaging and labelling sections. Elements of the Supplier Delivery Specification (Briefing Pack) transferred to the main SABRe process.	D. Brown C. Peters	R. Hawkins	R. Hawkins D. Brown C. Peters
23	01-04-2009	Section 4.3 Flowchart removed. Minor amendments to sections 4 – 8. Section 7.7 added to reflect concession label requirements.	D. Brown C. Peters	R. Hawkins	R. Hawkins D. Brown C. Peters
24	01-10-2011	Amendments so all section related to the clarification of mandated requirements.	C. Peters	R. Hawkins	R. Hawkins C. Peters
25	01-04-2012	Title change to a guidelines document. Section 6.10 (Drop test) added.	C. Peters	R. Hawkins	R. Hawkins C. Peters
26	02-09-2013	Title change to become a requirements document, clarification added around "Date of Manufacture" on the primary packaging label. Labelling requirements for multiple serial numbers (Section 7.9) added. Section 6.3.1 updated to include recycling improvements. Turbine Blades requirements clarified to apply only to Finished Machined Turbine Blades.	P. Lewin	P. Adkins	SABRe Steering Committee Nigel Smitten
27	28-07-2014	Changes made to refine the details required for parts serialisation project (sections 7 and 8). New section added (section 4.3) stating parts which are subject to PPAP require formal sign off of the packaging as part of the PSW.	J.Bird	N.Smitten	N.Smitten. T.Moffat

Document update policy

This document may be updated periodically. Major amendments will be shown as an update from one revision number to a higher revision number (e.g., revision 1 to revision 2) and therefore the content of the higher revision will be regarded as the latest requirements. A minor amendment will be shown as a number change after a decimal point (e.g., revision 1.1 to revision 1.2) and therefore any of these revisions shall be regarded as the latest requirements until a major amendment is introduced.



Rolls-Royce

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