Replaces:
RN 72:2023-04-12

Packaging and Preservation

Supply parts for production

Content

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Changes

2023-06-20:
The following changed in comparison to RN 72:2023-04-12:

a) updated references
b) editorially revised

1 Scope

This factory standard serves as a delivery specification for the packaging and preservation of any supplied parts for REINTJES production with the aim of having them delivered free of corrosion, dirt and other avoidable contamination. Specifications regarding cleaning and preservation are not to be applied to components that are delivered in raw condition and are further processed by REINTJES, if REINTJES has confirmed this in writing.

It also serves to improve quality, create uniform regulations, avoid queries and ensure the perfect condition of the delivered parts.

2 References

The following documents, cited in part or in whole, shall apply for the use of this standard. In the case of dated references, only the referenced edition applies; in the case of undated references, the latest edition of the referenced document (including all amendments) applies. The applicable version of the standards listed below shall apply to all contents not covered by this factory standard.

DIN 7716	Rubber products; requirements for storage, cleaning and maintenance
EN 61340-5-3	Electrostatics - Part 5-3: Protection of electronic devices from electrostatic phenomena - Properties and requirements classification for packaging intended for electrostatic discharge sensitive devices
RN 68	Welded Constructions
RN 79	Colour Coatings
RN 1936	Labelling; Raw material, parts and gearboxes

3 Terms and Definitions

The following terms are used in this document.

Load carrier	load-bearing means for combining goods into a loading unit (pallet, container etc.)
Small load carrier	Euro crate, Euronorm container or Euronorm box; a transport and storage crate made of polypropylene standardised by the VDA
VCI Corrosion Protection	corrosion protection based on vapour phase inhibitors, e.g. an oil that actively protects against corrosion by releasing inhibitors into the surrounding atmosphere (VCI = Volatile Corrosion Inhibitor)

4 Components with bare metallic surfaces

4.1 Cleaning

a) Before starting the preservation, the parts to be protected must be thoroughly cleaned and then dried. The packaged goods must be completely dry, even in indentations, channels, holes and pores.
b) The required degree of cleanliness of the surfaces must be ensured by selecting suitable cleaning media and, if necessary, with the use of technical aids. Any corrosion, rust, water, salt, detergent residues, dirt, etc. must be thoroughly removed from the inside and outside.

c) Clean work gloves must be worn to avoid contamination of the packaged goods with hand sweat or fingerprints. Surfaces that have been treated with anti-corrosion fluids must not be touched with bare hands.
d) Castings are to be delivered free of foundry residues.

4.2 Preservation

a) Preferably, preservation with VCI corrosion protection agents (corrosion protection fluids, foils, papers, cardboard, dispenser materials) should be carried out. The handling of VCI corrosion protection agents requires specific knowledge and should therefore only be carried out by appropriately trained employees.

b) Unmachined forgings and castings made of ferritic materials should be rinsed or sprayed with a corrosion protection fluid after the cleaning and drying process, e.g. AVILUB VCI or comparable.

c) All openings should then be closed immediately with suitable caps or lids.

d) Depending on the nature of the component, dry preservation with other VCI corrosion protection agents can also be carried out in individual cases but only after consultation with and approval by REINTJES.

e) For castings, preservation with a sealed VCI bag in a mesh box is sufficient. For long-term storage, appropriate long-term preservation shall be implemented.

f) When using foils, the correct position of the functional side (evaporation side) of the foil must be ensured.

4.3 Protective duration

The protective duration of the corrosion protection agent must be guaranteed for at least 24 months in closed rooms.

5 Packaging

5.1 General requirements

The Supplier

- is responsible for the selection of suitable packaging,
- must assume combined road/rail/air transport with multiple worldwide handling of goods when selecting packaging.

In general, packaging shall be selected in such a way that

- no contamination of the packaged goods and no risk to people with hazardous substances can occur; in particular, the films used must not contain any heavy metal, nitrite or chloride,
- shock-sensitive parts, in particular electronic components and components with sealing surfaces and control edges, must be protected from damage during transport by suitable load carriers or small load carriers and, if necessary, moulded parts or similar,
- the parts are suitably preserved,
- VCI films can be placed loosely around the component to allow an effective protective atmosphere to build up inside,
- the highest possible proportion of recyclable materials is contained. All materials must be individually removable and separately disposable.

Components that are painted on the outside or protected against corrosion with other coatings can optionally be packed conventionally.

If a VCI corrosion protection system is used, a blue VCI instruction label must be affixed to the packaging so that it is clearly visible. For VCI packaging systems, the packaging date corresponds to the designated preservation date and vice versa.

Example:

5.2 Component-specific requirements

a) Roller bearings are to be delivered individually packaged (original packaging and preservation of the manufacturer).

b) Shafts or shaft ends are to be additionally provided with a grid protection hose for protection against mechanical damage or to avoid contact corrosion.

c) Components made of elastomers/plastics

- shall be individually packaged and delivered in UV-impermeable, airtight welded bags,
- shall be marked legibly with manufacturer's name, date of manufacture, designation, dimension and material as well as, if applicable, certificate number, commission number and the REINTJES material number,
- O-rings up to approx. 300 mm diameter must not be twisted,
- and furthermore stored acc. to the requirements of DIN 7716.

d) Electronic components shall be packed according to EN 61340-5-3. Desiccants and moisture indicators as well as corresponding labelling incl. warning labels are required.

6 Housings

For completely as well as partially machined cast and welded housings, the specifications made here as well as the REINTJES factory standards RN 68-1, RN 68-2 and RN 1936 must generally be complied with. In addition, the following specific requirements apply:

a) Enclosures shall preferably be supplied bolted and pinned together.

b) For enclosures or assemblies with dimensions > 1500 x 1500 x 2000 (L x W x H) [mm] or heavier than 2000 kg the following applies:

All main components (e.g. upper part, middle part and lower part) are to be delivered disassembled and individually preserved and packed. All individual parts shall be hard marked.

c) If more than one enclosure of the same series is to be supplied via a production order, each component shall be hard marked with a unique and conclusive index.

d) Enclosures must also be delivered free of corrosion residues on unmachined areas. This also applies to pre-primed surfaces.

e) Components shall be uniquely assignable to each other even when disassembled.

f) The labelling is further to be carried out according to RN 1936.

7 Further Requirements

a) The production order or the customer order number must be attached to each component in a visible place.

b) If special load carriers/small load carriers are required for components, REINTJES shall specify this separately if necessary.

c) Parts shall always be secured against slipping, heavy components shall be stabilised accordingly (e.g. by moulded parts).

d) Components at risk of corrosion, such as castings in a pre-primed condition, shall be stored prior to processing in such a way that the described delivery condition is achieved. This also includes storage in suitable, roofed buildings.

e) Corrosion damage caused, for example, by interim storage must be removed without residue before delivery of the components.

f) Deviating specifications for special applications shall be listed separately in the order.

g) Should the Contractor wish to use other preservation and packaging methods, these shall be agreed in writing with REINTJES in advance.

h) In case of ambiguities REINTJES shall be contacted by the supplier for clarification.

i) Should the Supplier fail to comply with the provisions of these delivery specifications or other agreements on corrosion protection or packaging, REINTJES may charge the supplier for any costs incurred (e.g. for disposal or de-preservation).