

Standard of quality for a European "Y" charge carrier made of steel (EUR box-pallet), measuring 800 mm x 1 200 mm

Norme qualitative pour un porteur de charge EUR "Y" en acier (box-palette EUR) de dimensions 800 mm x 1 200 mm

Gütenorm für einen europäischen EUR-Ladungsträger aus Stahl (EUR-Boxpalette) "Y" mit den Abmessungen 800 mm x 1200 mm



UNION INTERNATIONALE DES CHEMINS DE FER
INTERNATIONALER EISENBAHNVERBAND
INTERNATIONAL UNION OF RAILWAYS

Leaflet to be classified in Volumes:

II - Freight Traffic

IV - Operating

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7th edition, January 1990	with 2 Amendments.
8th edition, January 2005	Overhaul of the leaflet.
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The person responsible for this leaflet is named in the UIC Code

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Summary

This leaflet is applicable to the manufacture, testing and marking of reusable and repairable EUR load carriers made of steel (EUR box pallets) measuring 800 mm x 1 200 mm.

1 - Technical characteristics

1.1 - Dimensions

The dimensions with their tolerances are given in Appendix A - page 9 to page 16.

The nominal size 800 mm x 1 200 mm is based on the internationally standardised packing module 400 mm x 600 mm. The internal dimensions of the width and length as well as the height, measured between the bottom and the lower side of the stacking frame, shall be at least:

800 mm x 1 210 mm x 800 mm

The tare weight of the (EUR) box-pallet (see Glossary - page 31) may not exceed or be less than 70 kg +8/ -2 kg.

1.2 - Load bearing capacity

The (EUR) box-pallet shall be able to withstand when stacked in a rack or on the forks of a fork lift truck, without permanent distortion:

- a load of 1 500 kg, if this load is evenly distributed on the pallet surface,

In the stack, the additional load on the lowest (EUR) box-pallet may be four times the load bearing capacity provided it is resting on a flat, level and rigid floor.

1.3 - Framework

The lower frame, the corner uprights, the stacking frame and the frames of the hinged flaps shall be made of sectional steel (angle iron or folded sheet metal). The frames, except for corner uprights, may be made in several **assembled parts. No joined profiles may be used.**

The stacking frame shall allow for stacking of an extra (EUR) box-pallet or an (EUR) flat pallet with identical nominal dimensions.

1.4 - Fixed sides

The three fixed sides shall consist of a metal latticework made of round steel wire, welded to the steel frame, and shall not have any part projecting inside.

The horizontal wires of the latticework shall lie outside the frame.

1.5 - Hinged flaps

The two hinged flaps must be able to rotate 180° around the central axis. For latticework welding, reference must be made to point 1.4 - page 2 and Appendix D - page 22 and page 23.

The bolts shall be easy to manipulate and, when the hinged flaps are closed, shall lock automatically centrally and completely in the recess of the fixed part of the locking mechanism.

1.6 - Floor

The floor of the (EUR) box-pallet shall be made up of four identical wooden boards, placed longitudinally in order to rest on the edges of the angle-irons of the lower frame and on the longitudinal members. The securing flanges of the boards shall be riveted onto the longitudinal members by means of blind steel rivets in steel.

1.7 - Feet

The feet of the (EUR) box-pallet, which may be composed of one or several parts, shall, as shown in the drawing, have inward-slanting sides to facilitate stacking and the bearing surfaces shall be rounded at the sides to allow for easy handling by roller conveyors.

1.8 - Characteristics of the component materials

1.8.1 - Steel

All parts of the framework shall be made of steel with a minimum tensile strength of 370 N/mm².

The latticework wires shall have a minimum tensile strength of 500 N/mm².

The wire/wire welded connections shall have a minimum shear strength of 20 Nm (torque).

The blind rivets shall be made of steel, shall have a minimum shearing strength of 2 400 N and a minimum tensile strength of 3 000 N rivet section.

1.8.2 - Wood

The bottom boards shall comply with the quality requirements laid down in *UIC Leaflet 435-2* (see Bibliography - page 32).

1.9 - Welds

1.9.1 - Corner uprights, floor frame

The corner uprights shall be arc welded to the floor frame on both the inside and outside. Continuous penetrative welding from below shall be used for the floor frame and stacking frame. Weld beads on the upper surfaces shall be made level.

1.9.2 - Stacking frame, round wire lattice

Under the stacking frame, the horizontal round wire of the latticework must be arc welded.

All ends of latticework wires shall be either arc welded or resistance (spot) welded to the frame.

The minimum shear strength of the wire/frame welded connections shall be 30 Nm (torque), measured in accordance with the provisions of Appendix D - [page 22](#) and [page 23](#).

1.9.3 - Flap frame

The frame reinforcement (part 21 - see Appendix A) shall be arc welded or resistance (spot) welded to the upper flap frame.

1.10 - Painting

1.10.1 - Surfaces

All surfaces to be painted shall be free of all weld residues, oxidation, grease and solvents.

1.10.2 - Paint

All steel parts of the box-pallet shall be covered with an anti-corrosive grey paint compliant to RAL 7030 (stone grey) or identical in colour. **Water based paints are acceptable.**

Composition in percentage by weight:

- at least 4 % of zinc phosphate,
- 30 % to 35 % of binder,
- maximum 40 % of solvent.

The minimum dry film thickness shall be 35 μm .

1.11 - Instructions for lifting with a crane

As only vertical forces may be applied to the upright side members,  box-pallets shall be lifted by means of a suitable lifting spreader bar. Manufacturers are advised to affix a pictogram (see Appendix B.1 - page 17) confirming that the palettes may be lifted by crane using such a spreader bar.

1.12 - Quality assurance

The approving RU (see Glossary - page 31) shall check the quality of the  box-pallets at the manufacturer's (see Glossary - page 31) works at least by means of a random sampling plan in accordance with Appendix C - page 19 to page 21 (Quality Assurance). The necessary measuring equipment shall be provided by the manufacturer.

Furthermore, the manufacturer shall be assessed before approval (see Glossary - page 31), on commencement of production, on changing the manufacturing methods, and, if it is necessary, because of production problems.

If the manufacturer has a recognised inspection system, the effectiveness of which is at least as good as the sampling plan of this leaflet, the approving RU shall check that it is properly applied. In addition, it shall periodically check at least by sampling (as specified in Appendix C) that the building instructions and marking requirements are observed.

In any case, the manufacturer shall be able to supply the original documentation on the quality of the raw materials and the records of his own checks.

Imported pallets

The RU, in whose area imported  box-pallets are first put into service, is entitled to check these according to the sampling system specified in Appendix C. If the results are unsatisfactory, the markings (see Glossary - page 31) shall be removed. The approving RU shall be advised and shall take appropriate action.

1.13 - Marking

The  box-pallet shall carry two metal plates on the front as specified in Appendix B.1 - page 17 and B.2 - page 18.

1.13.1 - Address plate

A black address plate shall be affixed on the right side of the upper flap (Appendix A - page 9, Part 38) for chalked addresses and/or attaching labels.

1.13.2 - Inscription plate

An inscription plate shall be affixed on the left side of the lower flap (Appendix A - page 9, Part 39) with the following permanent inscriptions:

- the (EUR) registered mark as specified in Appendix G.1 - page 28,
- the registered mark of the approving RU/pallet organisation as specified in Appendix G.2 - page 29; minimum character height: 25 mm,
- the characteristic letter "Y" and the registration number,
- the tare weight ~ 70 kg,
- the maximum payload 1 500 kg,
- the maximum additional stacking load 6 000 kg,
- the capacity ~ 0,75 m³,
- the EPAL symbol as specified in Appendix G.3 - page 30.
- the name and company address of the manufacturer and the year of manufacture, or the code number and year of manufacture.

The text and markings shall be applied by stamping. The Y registration number must be put on with stencils and black paint.

For the details of the manufacturer and the year of manufacture, a factory plate (Appendix A - page 9, Part 40) can be used if desired, which shall be permanently riveted in the field specified in Appendix B.2 - page 18,

- either the stamped licensed manufacturer's code number with the year of manufacture,
- or the stamped licensed manufacturer's name with the year of manufacture.

1.13.3 - Illegal use of marks

The approving RU shall take legal action against illegal use of marks, especially the illegal use and copying of the registered mark (EUR) as well as the registered marks of the RU/pallet organisation specified in Appendix F - page 27. The approving RU shall take steps to obtain the necessary conditions for prosecution.

If an RU does not meet its obligations regarding this leaflet, the authority to issue the (EUR) registered mark shall be withdrawn.

The enforcement of possible damages and other claims remains unaffected.

1.13.4 - Removal of marks

If the marking is illegally used or if the quality assurance as specified in point 1.12 - page 5 shows that the pallets do not meet the requirements of this leaflet, the pallets may not be used in service as  box-pallets. The markings shall be removed and the box-pallets shall be re-painted, with no possibility of misidentification, in a colour other than grey.

1.13.5 - Additional markings

Additional markings may only be applied as documentary evidence that the quality assurance has been carried out in accordance with the requirements of this leaflet, and these markings have been approved by the RU.

2 - Approval of EUR pallet manufacturers

2.1 - Approving RU

In principle, every RU member of UIC is entitled to approve a manufacturer to produce (EUR) box-pallets within its area. They can also approve manufacturers outside their area provided they follow the arrangements in Appendix E - page 24.

2.2 - Approval of the manufacturer

Approval shall only be given when:

- the technical production arrangements are met,
- the requested welding capability is present,
- the manufacturer has agreed in writing to comply with the building requirements and the provisions regarding testing and quality assurance (see Glossary - page 31),
- the inspection of a test batch of 20 (EUR) box-pallets confirms that the provisions of the Leaflet have been met.

Approval takes place by the express authorisation and obligation to use the trademark (EUR) as specified in Appendix G.1 - page 28, the mark of the approving RU/pallet organisation as specified in Appendix F - page 27 and by the allocation of the required registration numbers.

2.3 - Withdrawal of approval

Approval shall be withdrawn if the manufacturer:

- does not comply with the requirements of this Leaflet,
- illegally uses the trademark (EUR) in the oval (as specified in Appendix G.1) or of another RU/pallet organisation as specified in Appendix F,
- ceases production, or
- files for insolvency, or
- when the company ceases to exist, or
- at the request of the registered trademark owner.

The termination of the approval results in the prohibition to use the marking. The markings applied with stencils or stamps shall be permanently removed.