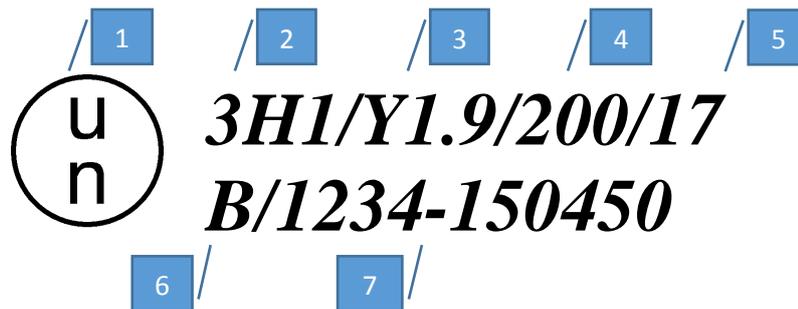


DOSSIER: UN mark on packaging

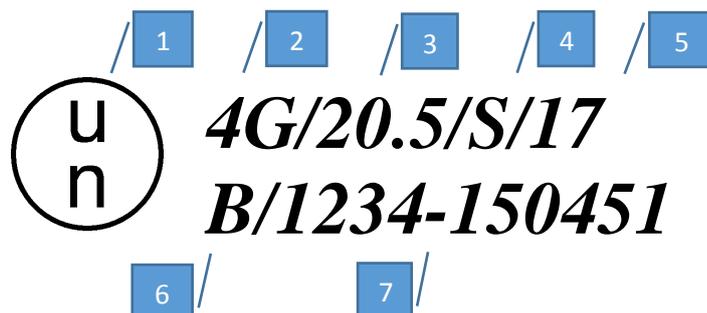
Much too often, we see UN marks on packaging of which the accuracy look far away, hence it is time to dedicate an article to this item.

All packaging approved for use during the transport of dangerous goods must be foreseen of a UN mark. These marks are released by the competent authority of the country that approved the test report. Packaging used in combination with dangerous goods must always be fitted with such a UN mark!

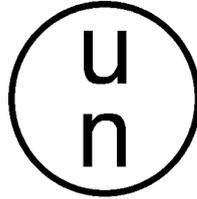
What is the exact structure of a UN mark or even better how can it be read?



or:



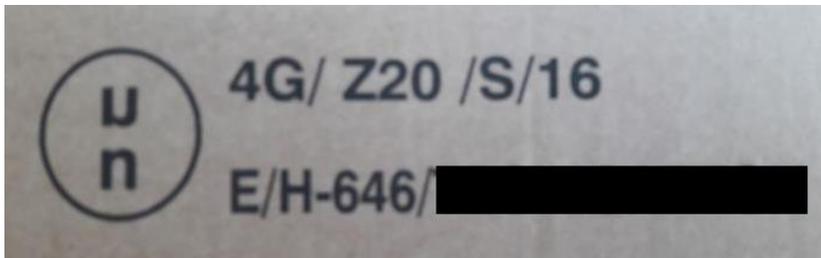
1) The official UN symbol



This is the internationally recognized symbol of the United Nations, suggesting that this is a packaging that successfully has been tested according to the test procedures prescribed by the applicable regulations (ADR/RID/ADN/IMDG/ICAO).

Points of attention for this symbol are:

- the use of the correct letters: a small letter **u** with beneath it a small letter **n**, variations are not allowed.
- the circle: this must at least be a circle and in no case to be an oval or whatever else



This is an example of a faulty application of the UN symbol; the letter "u" is reversed.

Note: Only for metal packaging that are marked by embossing, the capital letters "UN" may be used instead of the symbol.

2) The code that indicates the type of packaging

This code depends on the type of packaging and therefore indicates what it is about. This can be a steel or plastic drum, a plastic jerrican, a fibreboard metal or plastic box, etc.

The code always consists of a number and one or two (in the case of composite packaging) letters. The figure refers to the shape of the packaging (drums, jerricans, boxes, bags composite packaging). The letter should always be a capital and covers the material from which the packaging was manufactured. Figure and letter can possibly be followed by a figure which clarified the specific nature of the packaging: open

top or not, box in co-extruded plastic or hard plastic. ... For example: 3H1 stands for a plastic jerrican, 4H for a plastic box and 4G for a fibreboard box. (The complete list can be found in the ADR under Chapter 6.1.2.7.)

In some cases the code can be followed by the letter "T", "V" or "W". The letter "T" indicates that the packaging was tested successfully as a salvage packaging and thus may be used as a kind of overpack in case of a leaking container. The letter "V" signifies a special packaging that meet a number of additional requirements which allows it to be used in combination with any type of inner packaging even though it wasn't tested with it. The letter "W" indicates that the packaging, although of the same type as the one that is indicated by the code, was manufactured according to a specification different from those included in the regulations, but that is regarded as equivalent. This kind of packaging are then manufactured according to a different process or have slightly different shapes.

3) The code that indicates the packing group and the status of the content (solid/liquid)

This code consists of two parts. The first part is a letter. It concerns always the letter X, Y or Z which indicates the danger level of the goods for which the construction type of the packaging has passed the tests successfully:

X = stands for packing group I, II and III

Y = stands for packing group II and III

Z = stands for packing group III

in which the packaging groups respectively stand for:

Packing group I : Substances presenting high danger;

Packing group II : Substances presenting medium danger;

Packing group III: Substances presenting low danger.

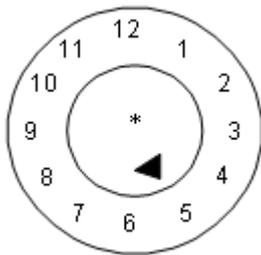
This letter is followed by a figure that is either a gross weight (in kg) or a density. The gross weight is indicated when it comes to packaging that can contain a solid or to combination packaging such as a fibreboard box filled with jerricans containing liquids (the jerricans with liquids are considered as a solid in the outer packaging). When it concerns packaging without inner packaging to contain liquids, the density is indicated. Both the gross weight and density are always the maximum permitted values for which the packaging has endured the tests with success. In the case of a decimal digit, the digit can be indicated with a point or a comma. (f.i. 1.9 or 1,9). Preference goes to the use of a point.

4) The letter "S" or a number which indicates the hydraulic test pressure

For packaging intended for the carriage of solids or for inner packaging the letter "S" is used. When the packaging is intended to contain liquids the hydraulic test pressure that the packaging has successfully endured, is indicated (in kPa).

5) The 2 last digits of the construction year of the packaging

In addition to the last two digits of the year of manufacture it is also mandatory for packaging of the types 1H (plastic drum) and 3H (plastic jerrican) to indicate the month of manufacture. This may, however, be indicated on the packaging in a different place than in the UN mark itself, and it is proposed to use a month clock. In this clock it is also possible to indicate the year. Any other method that indicates on a durable, readable and visible way the required minimum of information is also acceptable.



Example of a month clock: production month = May

Today this clock is not a part of the UN mark so this means that it has to be placed somewhere away from the UN mark and certainly not on the location provided for the construction year!



*Top right: an example of a year-month clock embedded in the plastic
Top left: the international symbol for the identification of the material
Bottom middle: an extra clock that can contain supplementary information about this packaging
(here one can f.i. give information about the production lot or also on the material used).*

6) The name of the Member State that approved the allocation of the UN mark

The name of the Member State is indicated by means of the character(s) used for the vehicles in international road traffic. In our case this is the letter "B" for all packaging approved by IBE-BVI or "NL" for packaging approved by our sister company T&C PI.

7) The name of the manufacturer or another identification mark (B/NL completes this with a unique serial number)

The name or identification mark is specified by the competent authority in consultation with the producer of the packaging. In B/NL the producer is referred to by either its name, a logo, or a numeric code followed by a dash and a unique serial number that also is granted by the competent authority.

Some examples of the UN mark:



Here the UN mark is completely correct, but unfortunately the UN symbol is covered by the strap, what makes it invalid.

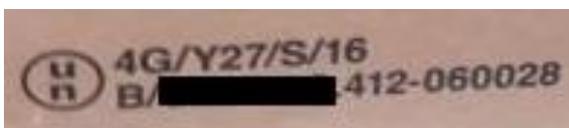


From this mark we can deduce that this packaging was tested for different weights in function of the packing groups. However this has got to be indicated otherwise, namely:



4D/X75/S/16
NL/XXXX-3197

X75=Y90=Z90



A correct example without any error!

Up to here the discussions regarding the structure of a UN mark. In addition, there is also something to tell about the position and the dimensions of the marks on the packaging.

On a packaging with a gross mass of more than 30 kg or 30 l the mark – or a reproduction of it – must be placed on the top or on one of the sides of the packaging. The letters, numbers and symbols must be at least 12 mm high. On a packaging of less than 30 kg or 30 l a letter height of 6 mm is sufficient and in the case of packaging less than 5 kg or 5 l they need to have appropriate dimensions (meaning that the height must be in proportion with the dimensions of the packaging).

When errors (wrong UN symbol, letters too small, or in general an incorrect construction of the mark) are determined, the packaging is not in accordance with the regulations and as a result it may not be used for the transport of dangerous goods. So during a road check it can be decided that the law was violated, the load can be blocked and thus everything will need to be repacked ... And we all know that this leads to enormous costs and a significant loss of time from which almost certainly damage claims will result.

So if you are a manufacturer, you have all interest to avoid this and to take a closer look at the UN mark on your packaging because the UN mark is a part of a packaging approved for the transport of dangerous goods.

The same applies, of course, to the safety advisers and purchasers of UN certified packaging. They best check in advance the accuracy of the UN mark before they pack and ship the goods!

Good luck!



Information and test requests: visit our [website](#)

Contact: [Dimitri De Valck](#)