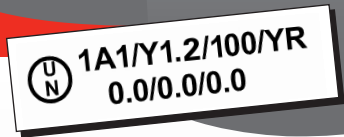
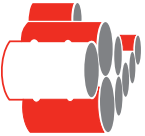


Certifiable UN Marks *for* Steel Drums and Pails



Since the inception of performance-based packaging standards, first introduced and incorporated into Title 49 of the *Code of Federal Regulations* (49 CFR) in the early '90s, there has been much confusion regarding container markings. The Steel Shipping Container Institute (SSCI) has developed this brochure in an effort to clear up the confusion and aid customers in container selection by providing clear, concise, and accurate information so that informed decisions can be made regarding the markings required for the products you package. The SSCI's intent is to also encourage customers to use markings that are reasonable and that more accurately reflect the properties of the products such drums or pails will contain.

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Established in 1944, the Steel Shipping Container Institute (SSCI) is an association of steel drum and pail manufacturers as well as their raw materials and component suppliers. This brochure was prepared by the SSCI under the auspices of its Technical Projects Committee.

There is a general misconception that the higher the mark, the better the container. While there may be some drums and pails that are specially designed and constructed for products with extreme characteristics, most are not. In fact, the SSCI estimates that over 98% of all products packaged in steel drums and pails are covered under the Y marking. Yet, a much higher percentage of those same containers are manufactured to specifications stipulating an X mark.

Generally speaking, steel container manufacturers employ the same manufacturing techniques for drums and pails with a marking of Y1.2 as they do for ones that carry a mark of X1.2. Specifying a mark that is significantly higher than what is actually required by a filler's product characteristics means only that the container has been tested to a higher level – a level of performance that the container most likely will not be able to maintain throughout its entire life cycle.

The following example can be considered a reasonable UN performance mark for most tight head steel containers. These markings, of course, may change depending on the container thickness specified.

Sample Marking – Tighthhead

UN 1A1/Y1.2/100/YR
0.0/0.0/0.0

(For embossed metal drums, the letters "UN" may be applied in place of the United Nations symbol. Letter height must be a minimum of 12 mm)

To specify UN marked packaging, purchasers of steel drums and pails must supply the following information to their container manufacturer found in the Hazardous Material Table (§172.101)

• **Packing Group §172.101**

Packing Group	Marking
Packing Group I	X
Packing Group II	Y
Packing Group III	Z

• **Specific Gravity (Liquids Only) §178.503 (a)(4)(i)**

Relative density of the material, rounded down to the first decimal.

• **Net Mass (Solids Only) §178.503 (a)(4)(ii)**

The total weight, in kilograms, of the material placed in the container. Container must be marked with the maximum gross mass.

• **Hydrostatic Pressure Test (Liquids Only) §178.503(a)(5)(i)**

The pressure in kiloPascals (kPa) that the packaging must be capable of withstanding, which relates to the vapor pressure of the lading at a specific temperature (50° or 55° C).

The responsibility for proper container selection rests with the entity offering the filled package for shipment. Part 173.22 (a)(2) of Title 49 CFR stipulates that the person offering the filled package for shipment shall determine that the packaging or container is an authorized packaging, including part 173 requirements, and that it has been manufactured, assembled, and marked in accordance with 173.22(a)(2)(i), (i) Section 173.7(a) and parts 173, 178, or 179 of this subchapter.

Your container manufacturer can assist you in selecting the proper container, with the correct markings, for the products you package.