How to Read UN Packaging Markings

The complete key to UN specification marks on drums, jerricans, boxes, bags and composite packagings: what every character means, for solids and for liquids.



Example mark on a combination package. Read it as: a fiberboard box, tested for Packing Group II and III, up to 25 kg gross, for solids or inner packagings, made in 2026, certified in the USA by registrant M1234.

READING THE MARK, FIELD BY FIELD

	FIELD	EXAMPLE	WHAT IT MEANS
1	**UN packaging symbol**	`u/n`	Certifies that the packaging design passed UN performance tests (drop, stacking, and for liquids, leakproofness and hydrostatic pressure). Embossed metal may show “UN” instead.
2	**Packaging type**	`4`	A number for the kind of packaging: **1** drum · **3** jerrican · **4** box · **5** bag · **6** composite. (**2** is reserved; it was once used for wooden barrels.)
3	**Material**	`G`	A letter for the material: **G** = fiberboard. Drums, jerricans and bags add a number for the category, e.g. `1A1` tight-head or `1A2` open-head steel drum.
4	**Packing group rating**	`Y`	**X** = PG I, II and III · **Y** = PG II and III · **Z** = PG III only. The letter is a ceiling, not a match.
5	**Gross mass or specific gravity**	`25`	For solids and inner packagings: the maximum gross mass in kg. For single packagings of liquids, this position holds the maximum specific gravity instead, e.g. `1.4`.
6	**Solids, or test pressure**	`S`	`S` = solids or inner packagings. On a liquids mark this position holds the hydrostatic test pressure in kPa, e.g. `150`.
7	**Year of manufacture**	`26`	Last two digits of the year. Plastic drums and jerricans also show the month, often as a clock-style dial.
8	**Authorizing country**	`USA`	The country (state) that authorized the mark, by its vehicle registration code. This can differ from where the packaging was made.
9	**Manufacturer / certifier**	`M1234`	The name or registered symbol of the manufacturer or the approval agency. In the U.S., symbols are registered with PHMSA.

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MATERIAL LETTERS

LETTER	MATERIAL
A	Steel (all types and surface treatments)
B	Aluminum
C	Natural wood
D	Plywood
F	Reconstituted wood
G	Fiberboard
H	Plastic
L	Textile
M	Paper, multiwall
N	Metal other than steel or aluminum
P	Glass, porcelain or stoneware

SUFFIX LETTERS

LETTER	MEANING
V	Special packaging tested with a range of inner packagings, e.g. **4GV**
W	Equivalent packaging approved by the competent authority
T	Salvage packaging, for damaged or leaking packages

SOLIDS VS. LIQUIDS FORMATS

SOLIDS **4G/Y25/S/26/…**
max gross mass (kg) + “S”

LIQUIDS **3H1/Y1.4/150/26/…**
max specific gravity + test pressure (kPa)

COMMON CODES

CODE	PACKAGING
1A1 / 1A2	Steel drum, tight head / open head
1H1 / 1H2	Plastic drum, tight head / open head
3H1	Plastic jerrican, tight head
4G	Fiberboard box
4H2	Solid plastic box
5H4	Plastic film bag
6HA1	Plastic receptacle in a steel drum
31HA1	Composite IBC tote (see TL-003)

RULES THAT TRIP PEOPLE UP

- **Combination packages** carry the mark on the outer packaging; the mass is for the whole package. Inner packagings are usually unmarked.
- **Pack it as tested.** Same inner packagings, cushioning and closures, closed per the maker’s closure instructions (49 CFR 178.2).
- **Legible size.** Characters at least **12 mm** tall on packagings over 30 L or 30 kg, and at least **6 mm** on those of 5 to 30 L.

Sourcing UN-rated packaging?
Find suppliers of UN boxes, drums, jerricans, bags and IBCs in the Packaura directory, or send one RFQ to vetted manufacturers and distributors.

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