

STEEL DRUMS 101: FREQUENTLY ASKED QUESTIONS

Below you'll find answers to questions we're frequently asked during our Steel Drums 101 webinars.

1. Is there a manufacturing standard for steel drums?

Yes, ANSI MH2-2018, American National Standard for Materials Handling – Steel Drums and Pails. A copy can be purchased [here](#).

2. Is there a manufacturing standard for reconditioned steel drums?

There are various recommended practices for reconditioning offered by the Reusable Industrial Packaging Association (RIPA), but there is not a manufacturing standard other than the drums have to meet the regulatory requirements in the Code of Federal Regulations Title 49, § 173.28 and §§178.600-608, 178.500-504, 173.24, 173.24a, 178.2, 178.3

3. If increasing thickness prevents denting of steel drums and rolling hoops aid in vacuum resistance, what feature can prevent distortion due to internal pressure build-up?

Steel thickness can help, but if the internal pressure is so high that it leads to drum distortion a vent should be considered as long as the venting does not create a hazardous environment in the transportation. The same vendors that manufacture steel and fusible plugs can provide vented plugs (see below).

4. Is it acceptable for steel drums to be embossed with the year of manufacture 2019 but the side marking label to indicate 2020?

The embossment of an incomplete UN mark on the bottom of a new steel drum is based on a UN requirement in 6.1.3.2 (see also the same paragraph in the International Maritime Dangerous Goods (IMDG) Code). The Code of Federal Regulations Title 49 §178.503(a)(10) states: This marking is intended as an aid for reconditioning and remanufacturing. The embossed mark is not intended as the drum's UN certification mark, which is required to be on the side in the case of a packaging with a mass of more than 30kg/L.

The complete mark is normally placed on the side after full assembly and leak testing or after reconditioning or remanufacture. In most circumstances, new drums are manufactured and marked noting the same year in both marking locations as drums are generally made to order. In some cases, the drum's bottom may be cut and embossed

prior to final assembly or completion of manufacture of the packaging. In that case, the year embossed on the bottom and side may differ. This is acceptable since the complete mark indicating final assembly is located on the side of the drum is the mark that is the manufacturer's certification mark (see 178.2(b)). So, if the drum bottom was manufactured and embossed in 2019 but not assembled into a new drum and leak tested until 2020, then the markings could conflict. Reconditioned or remanufactured drums normally have conflicting marks as the person who reconditions the drum must apply a new complete mark.

5. Does a steel drum need to be recertified for UN/DOT Compliance when steel plugs are replaced with fusible plugs?

Yes. This is considered a change in closure and subject to the testing requirements of Variation 5 in the Code of Federal Regulations, Title 49, §178.601 (g) (v).

6. Where can I purchase fusible plugs that are recommended for use when packaging ignitable liquids in steel drums?

Three members of the Industrial Steel Drum Institute manufacture and distribute fusible plugs as follows:

- i. [Contech International](#)
- ii. [Rieke Packaging Systems](#)
- iii. [Tri-Sure® North America](#)

7. Where can I obtain more information about fusible plugs?

The Industrial Steel Drum Institute has published several resources regarding fusible plugs as follows:

- i. [Fusible Plug Fact Sheet](#)
- ii. [The Basics of Steel Drums and Fusible Plugs Short Video](#)
- iii. [Why Use Fusible Plugs? Short Video](#)

8. Can you advise how many fusible plugs are required for 55-gallon steel drums to be considered "relieving style"?

Paragraph 16.5.1.7 in NFPA 30 states "When relieving-style containers are used, both 3/4 in. (20 mm) and 2 in. (50 mm) listed and labeled pressure-relieving mechanisms are required on containers greater than 6 gal. (23 L) capacity."

Furthermore, when fusible (plastic) plugs are used with 55 gal. steel drums, they "shall be listed and labeled in accordance with FM Global Approval Standard for Plastic Plugs for Steel Drums, Class Number 6083, or equivalent," per paragraph 16.3.6 in NFPA 30.

9. Where can I obtain a copy of NFPA Code 30?

NFPA30 may be accessed for free at www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=30. You will be asked to create a free profile to access the document in read-only format. To do so, visit www.nfpa.org/Login.

10. What requirements apply to do steel drums that are returned for reconditioning?

There should be less than 1 inch or 3% residue (40CFR§261.7) of the lading after emptying. Steel drums that contained EPA P listed chemicals should be triple rinsed prior to return of the drum to the reconditioning facility. Some states require rinsing and drip drying.

Check with your reconditioning facility for additional requirements. When returning steel drums, no special placarding or transportation requirements (for example, HAZMAT endorsements) apply to steel drums. See [ISDI Alert 15-02](#) Clarify PHMSA's Return Shipping Exception for Steel Drums.

11. Are there any requirements for load securing empty and filled steel drums?

Both empty and filled drums should be secured for transport. Empty drums should be secured to prevent damage to the drums, but more importantly to prevent injury to the unloading personnel. You can reference ISDI Fact Sheet, [Safely Unloading Empty Steel Drums](#).

Filled drums must be secured from movement in every direction—up/down, side/side, nose/tail. Please reference [ISDI Technical Webinar](#) on steel drums for more information. Load securing products can be found at:

- i. <https://www.cordstrap.com/en/>
- ii. <https://ty-gard.com/>
- iii. And most industrial suppliers that provide packaging supplies.

12. Are there any interior lining recommendations?

The choice of the proper interior lining is best handled between you, your drum supplier and their lining vendors as the vendors can offer additional compatibility advice. The following are industry rule of thumb guidelines only:

- i. Phenolic linings for stronger solvents and lower pH
- ii. Epoxy-phenolic for aqueous materials and higher pH



13. Can steel drums be used for food products?

Steel drums can be used for food products. Be sure to talk to your supplier concerning your specific requirements so that an appropriate lining material can be selected.

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