Drum Ordering Specifications (1 of 3)

Ordering New Steel Stums – minimum thickness requirements

DOT prescribes specific minimum thicknesses for steel drums that are reused for transporting hazardous materials. Steel 55-gallon drums must be at least 0.92 millimeters thick throughout, or have a shell and head thickness of 0.82 mm and 1.11 mm, respectively. Steel drums that do not meet these minimum thickness requirements may not be reused to transport DOT regulated materials. To promote reuse and prevent empty drum disposition problems, RIPA recommends that users order 55-gallon steel drums which meet or exceed the DOT minimum thickness requirements.

If you order the old 20/18 style drum, to ensure your containers meet the minimum thickness requirements, they must be marked "1.2/0.9/1.2". Containers that are marked in other ways may not meet the DOT minimum thickness requirements. To maximize the value of your drum see the table below that outlines drum desirability.

Drum Desirability

	Usually Preferred	Usually Less Preferred
Manufacturing Performance Specs	UN-marked and tested to Packing Group I or II	UN-marked and tested to Packing Group III and non-UN
Thickness	Nominal 1.0 mm or 1.2/0.9/1.2 mm	Less than Nominal 1.0 mm or 1.2/0.9/1.2 mm
Lining	Unlined	Lined
Fittings	Standard 2" x 3/4" in Top Head	Non-standard Fittings; Side Fittings

Sample New Steel Drum Specification Form

Purchasing Company _____ Date _____

Address _____

Contact _____ Email _____

Phone _____ Fax _____

Drum Description _____ Open Head _____ Tight Head

Steel Type _____ Carbon _____ Stainless _____ Other

General Description

55 gal. capacity/size _____ Instructions _____

30 gal. capacity/size _____ Instructions _____

other capacity/size _____ Instructions _____

ANSI MH2 - 1997 _____ Instructions _____

Other _____ Instructions _____

Construction Characteristics

Minimum Steel Thickness

Top Head (mm) _____

Body (mm) _____

Bottom Head (mm) _____

RIPA Recommendation

The steel thickness of your drum should meet or exceed the minimum thickness requirements authorized by the U.S. DOT. To ensure your drums meet these requirements, the drum should be at least 0.92 mm throughout, or have 1.11 mm heads and 0.82 mm body. Drum which do not meet these minimums may not be reused for hazardous materials transportation after reconditioning. (49 CFR 173.28)

Drum Ordering Specifications (2 of 3)

Drum Markings

Required UN Mark _____

RIPA Recommendation

Be sure to ask your supplier for drums bearing "Preferred Marks." A "Preferred Mark" is the highest level to which the drum is capable of performing on a consistent basis. Nominal drum marks that correspond to the DOT minimum thickness requirements are 1.0, or 1.2/0.9/1.2.

Fittings, Plugs, Flanges

Flanges _____

Plug Location(s) _____

Plug Material _____

Gaskets _____

Cover Gasket (open head) _____

Gauge & Style of Cover Ring _____

Size & Type of Ring Bolt _____

Cap Seals _____

RIPA Recommendation

Plugs, flanges and other closure components should, when feasible, comply with ANSI specifications. Plugs on the drum body, agitators, etc. reduce the reuse value of an empty drum and, therefore, should only be ordered when necessary.

Paint and Linings

Lining Type _____

Lining Coats _____

Lining FDA _____

Labels _____

Paint Color/ID# _____

Paint Special Instructions _____

Paint Silk Screen _____

RIPA Recommendation

Drum linings can be difficult to remove during the reconditioning process, adding processing costs to an empty drum. Unless required to ensure product integrity, use of linings should be avoided.

Instructions

Loading _____

Delivery _____

Special _____

RIPA Recommendation

DOT requires drum manufacturers and reconditioners to provide closure instructions to drum purchasers. Be sure that you obtain these instructions and they are followed carefully.

Stocking Drums

If you ship many different products that require different UN markings, it is a good idea to examine the possibility of stocking drums bearing only 1 or 2 different markings. Since most steel drums appear the same, except for the marking, they can be easily confused. To minimize the chance of an accidental mix-up, it is often best to stock fewer variations of drum markings. If a product is shipped in a container that is "under-marked" or marked below the required performance level it is a violation of DOT rules. However, it is legal to ship hazardous materials in a container marked to higher performance level than required. RIPA, therefore, suggests shippers consider "grouping" products and purchase drums at levels high enough to carry many lower hazard products.

Drum Ordering Specifications (3 of 3)

Ordering Reconditioned Drums – determining markings

To determine the minimum drum marking for the product you are shipping you must, at a minimum, know the following information about the hazardous material. First, determine the Packing Group of the material. Hazardous materials are categorized in Packing Groups ranging from I - III, with I being the most hazardous. For solids, drums are authorized to carry a specific gross mass in kilograms (Kg), so you must know the mass (i.e., the weight of the material) you will be shipping. To ship liquids you must know the vapor pressure at either 50 or 55 degrees Celsius and the specific gravity. The worksheet below may assist you in determining the marking you require.

UN or NA Number (49 CFR 172.101) _____
Packing Group (49 CFR 172.101) _____

<u>For Solid Products:</u>
Max gross mass (container + product weight) ____Kg

<u>For Liquid Products:</u>
Vapor Pressure 50 (C [173.24a (b)(4)] _____kiloPascals (OR) Vapor Pressure 55 (C [173.24a (b) (4)] ____kiloPascals

Specific Gravity [173.24a (b)] _____

UN Markings

Shippers of hazardous materials that use non-bulk or intermediate bulk packaging are required to use UN marked packaging.

Reconditioners use a durable mark (e.g., stenciling) to indicate the UN standard the drum meets. The full durable mark (minus thickness) from the reconditioner is generally found on the side of a drum. If your non-bulk container has been or "remanufactured" (e.g., converted from a closed head to an open head drum), the remanufacturer permanently marks (e.g., embosses) the side of the drum. If a tight head drum has been remanufactured, a UN durable mark may be placed on the side.