U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

AUG 27 2002

Mr. Scott Rosenberger
Spartanburg Stainless Products, Inc.
P. O. Box 3488
Spartanburg, SC 29304

Reference No.: 02-0164

Dear Mr. Rosenberger:

This is in response to your letter concerning marking UN specification drums under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Your company manufactures 1A1 steel drums from two drawn shells. You state that during the manufacturing process, when the flat blank is drawn and stretched into a shell, the steel will thin in certain areas and thicken in others. You reference the "Die Makers Handbook" which states that thinning may be as much as 38% in the knuckle radius area. In your opinion, the tolerances found in ISO standard 3574 (see § 178.503(a)(9)) are too tight and do not appear to apply to drawn shells. Specifically, you ask if a greater tolerance is allowed how that should be reflected in the nominal thickness stamp.

The HMR do not recognize the "Die Makers Handbook" you reference in your letter. Section 178.503(a)(9)(i) states that metal drums must be marked with the nominal thickness of the metal used in the body when the tolerance conforms to ISO Standard 3574. ISO 3574 dimensions define the nominal thicknesses and corresponding minimum thickness for steel sheets prior to subjecting the steel to any manufacturing processes, in your case drawing and stretching the sheets into shells used to form drums. The minimum thickness and nominal dimensions indicated in ISO 3574 are not applicable for steel sheets after forming operations, such as drawing and stretching the steel sheet into shells, are completed. The purpose of marking the drum with the ISO nominal thickness is to ensure safety in transportation by identifying the minimum permitted thickness of the drum, thereby indicating whether the drum is or is not suitable for reuse or reconditioning. Due to the unusual nature of your fabrication process, the drum should either be marked with the actual minimum thickness measured at the thinnest part of the drum or the ISO 3574 nominal thickness that corresponds to the measured minimum thickness.

I hope you find this information helpful. If you have further question, please do not hesitate to contact this office.

Sincerely,

for Edward T. Mazzullo
Director, Office of Hazardous
Materials Standards

020164

178.503(a)(9)

Spartanburg
STAINLESS PRODUCTS INC.

Corbin
§178.503(9)(i)
Marking
02-0164

May 30, 2002

Associate Administrator for Hazardous Material Safety
Research and Special Programs Administration
US Department of Transportation
400 7th Street, SW, Washington, DC 20590-0001
Attention: Standards DHM10

Dear Associate Administrator:

I am writing to request a letter of interpretation on CFR 49 Section 178.503 (9) (i). (c)

We manufacture 1A1 drums. Our vessel sub-assembly consists of two drawn shells. For a 15 Gallon drum, the shells would be approximately 15.5" Diameter by 10.5" draw depth. We start with several thicknesses of material, depending on the design: 0.052", 0.059", and 0.079". As we all know, a flat blank, which is drawn and stretched into a shell, will thin in certain areas and thicken in others. In the "Die Makers Handbook" by Jerry Arnold, it states that thinning can be as much as 38% in what we call the knuckle radius. The knuckle radius would be the transition between the top of the shell and the side.

178.503 (9)(i) discusses a tolerance, for the metal used in the body, found in ISO standard 3574. This section does not seem to apply to drawn shells. The tolerances found in the ISO Standard 3574 are far too tight for drawn shells. If a greater tolerance is allowed than that of a flat blank, how should this be reflected in our nominal thickness stamp?

Sincerely,

-38% 0.0322 inch

Scott Rosenberger

Scott Rosenberger
Mech. Engr. Tech.

ISO Std 173.28

60L max — — — 1.0 mm

nominal

minimum
0.92 mm
0.036 inch

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