



U.S. Department
of Transportation

**Research and
Special Programs
Administration**

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

AUG 27 1998

Mr. Gordon Rousseau
International Fibre Drum Institute
1850 K Street, N.W., Suite 200
Washington, DC 20006-3511

Ref. No. 98-0213

Dear Mr. Rousseau:

This is in response to your letter dated July 24, 1998, regarding the gross mass marking on packagings that are shorter than their original design type. Specifically, you ask if it is proper to mark a packaging that is shorter than its original design type with the gross mass of the tested design type under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180).

Section 178.601(c)(4) provides that packagings "which differ from the design type only in their lesser design height" are not, by definition, different packagings. Section 178.503(a)(4) states that a packaging must be marked with a "designation of the specific gravity or mass for which the packaging design type has been tested..." There is no requirement in the HMR to reduce the gross mass marking on shorter packagings because of a reduction in design height. Therefore, it is proper to mark shorter packagings with the gross mass marking of the tested design type.

I hope this satisfies your request.

Sincerely,

for *Thomas G. Allen*
Edward T. Mazzullo

Director, Office of Hazardous
Materials Standards

178.601



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Gale
§ 178.601

Friday, July 24, 1998

Mr. Edward T. Mazzullo
Director
Office of Hazardous Materials Standards
Research & Special Programs Admn.
Department of Transportation
Washington, DC 20590

98-0213

Dear Mr. Mazzullo:

Some purchasers of fiber drums for shipment of hazardous solids request shorter drums than those tested as the original design types. All other components of the drums remain unchanged, that is, diameter, material thickness, gasket type, closing ring style and size, location and number of closures, etc. The only variation from the tested type is the reduction in the height of the drum.

Given the provisions of 49 CFR § 178.503(a)(4) which requires the performance marking to be that of the packaging design type tested
and
given § 178.601(c)(4)(v) which states that reductions in the height of the packaging do not constitute a "different" packaging,

we conclude that it is proper to mark the shorter packaging with the full performance marking being that of the tested design type.

As background to the issue, and because of questions that have arisen, I attach a "white paper" that provides our analysis of these DOT requirements.

Sincerely,

Gordon Rousseau
Technical Advisor

Enclosure

cc: D. Core, SSCI
P. Rankin, ACR
C. Garrison, PDI

Marking of shorter drums for solids which are of the same design type

A. Problem

Recently, IFDI has received several inquiries which we have discussed with other drum industry representatives. The regulation in question, 49 CFR § 178.601(c)(1) and (4), states that “[p]ackagings which differ from the design type only in their lesser design height” are not considered to be a “different packaging”, when determining the application of “design qualification testing” as required for “each new or *different* packaging, at the start of production of that packaging”. Inasmuch as these drums do not constitute “different packaging”, the industry often chooses to apply the same markings to packaging qualifying under § 178.601(c).

An inspector has noted to a member that a manufacturer must mark a lesser quantity on a shorter drum, e.g., 52 kilos for a taller unit tested to 75 kilos. I understand from a member that at least one DOT inspector is informally advising a company that drums differing only from tested drums by a lesser height, must be re-marked to reflect a lower gross mass. I am told that this is being based on the language in a different, non-related section, § 178.601(g)(3). (*It is important to note that this latter regulation has nothing to do with establishing the identicalness of packaging from the design type test perspective.*) My initial reaction is that the inspector is stating something that is in contradiction to the regulations. Furthermore, I agree with some commenters that this clearly could be seen by a customer as indicative of a different packaging, i.e., one that it is less capable under the regulations than is indicated by the original design type test report purported to cover it.

B. Background

DOT has stated in correspondence that, without testing, shorter packaging must not be qualified for any higher packing group or capability such as might be inferred by greater gross mass markings than as noted in the design type test reports. On the other hand, manufacturer's have been advised by DOT representatives in the past that a packaging *may* be marked to a lesser packing group, specific gravity or gross mass than that at which tested, but this reduction in marking has always been at the discretion of the manufacturer. We are not aware, however, that *reductions* in volume have *required* changes in markings on shorter packaging when the design type remains unchanged.

I further understand that reconditioners, for example, may change specification markings to account for usage when the design type report that originally covered drums cited a higher capability (§§ 178.503(c)(2) and 173.28(c)(4)). But DOT has not required a reduced mark of them unless it has been shown that a shorter packaging does not meet the applicable performance requirements. The original design test report is the manufacturer's averment that the shorter packaging is covered by and meets the design type test report. This DOT action is consistent.

C. Explanation of the regulation, § 178.601(c)

1. *Intent of the regulation.* The nature of § 178.601(c) is to indicate that DOT believes that this packaging, i.e., reduced only in its height, has the same capacity for passing the required tests as the originally tested container. Under the UN Recommendations, Chapter 6.1, the same provision is stated in 6.1.5.1.2. From the perspective of its ability to pass the various design tests (drop, leakproofness, hydrostatic, stacking), the shorter packaging is considered to be identical. It follows that DOT would not be expected to state that a taller drum, tested to e.g., at 75 kilos, may not be marked as meeting a 75 kilo test at the same packing group level in its shortened configuration. Otherwise, one would have to conclude that while accepting a performance test report supporting the container's capability at a given capacity, the agency would simultaneously be finding the manufacturer of the identically performing shorter container in violation for ***not marking it differently*** than what appears in the report. This would not be logical.

2. *The specific requirement of the regulation.* Further, a careful reading of the regulations supports the above fact that the gross mass marking on drums for solids is intended to reflect the actual tested weight for the design type. See § 178.503(a)(4) which in part reads as follows:

(a) * * * A packaging conforming to a UN standard ***must be marked*** as follows:

(1) * * * * *

(2) * * * * *

(3) * * * * *

(4) A designation of the specific gravity or mass ***for which the packaging design type has been tested***, as follows:

(i) For packagings without inner packagings intended to contain liquids, the designation shall be the specific gravity rounded down to the first decimal but may be omitted when the specific gravity does not exceed 1.2; and

(ii) For packagings intended to contain solids or inner packagings, ***the designation shall be*** the maximum gross mass in kilograms; (Emphasis mine.)

Thus, it is clear that without the DOT's authorization to reduce the marking from the design type test, there is actually a requirement to mark ***the maximum gross mass found in the applicable design type test report***.

D. Applicability and relationship of the regulation § 178.601(g)

Paragraph § 178.601(g) is written to recognize some "minor" but potentially consequential variations from the tested design type so DOT has required "selective testing" of a previously tested design type. The degree of change is controlled by the variation percentage limitation. Thus, it follows that such packaging having more than just a lesser height variation, would need to be marked to reflect this reduction presumably because it is considered potentially less strong. The only means to avoid this would be to put it through a complete new design test cycle at the original gross mass. In other words, this type of packaging is not included under § 178.601(c) where packaging is considered to be identical. If the only variation is a lesser height, then § 178.601(c) would apply and testing is not required.

E. Conclusion

Variation 3 is a conditional, permissive regulation because it recognizes that although there have been minor changes, full-scope design type testing need not be applied. Thus, the *selective testing* concept is applied, in contrast to § 178.601(c) where no additional testing applies. This is because in making other changes than lessening the height alone which is permitted by § 178.601(g), the capability of the packaging has possibly been changed. It is consistent then to find that selective testing is conditioned on the fact that a reduced mark must be applied.

In contrast, the packaging under §178.601(c)(4)(v) is regarded as capable of passing the original design type tests without further verification, and hence it is not considered by DOT to be a different packaging by virtue of a reduction in height alone.

F. Summary

In summary, as noted above, the goal of § 178.601(c) is to identify under the regulations packagings which are considered identical. This obviously is based on their capability under the UN performance tests. Thus, § 178.601(c) is to recognize that these packagings are not of a different capability and that the design type test report may be accepted as evidence of that fact.

It is clear that a shorter drum of the same design type that was tested to the mass in the design report, when filled to this weight, has been deemed capable of passing the same drop test. This is the very essence or concept of the "lesser height" regulation, § 178.601(c)(4)(v). The marked gross mass cannot indicate a greater allowable mass for the filled unit than that tested but the rule does not require that a lesser mark must be applied.

IFDI
Washington, DC
July 23, 1998