



U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety
Administration

1200 New Jersey Avenue, SE
Washington, DC 20590

DEC 22 2016

Mr. Brian Storms
Corporate Packaging Engineer
Jamestown Container Corporation
14 Deming Drive
P.O. Box 49
Falconer, NY 14733

Reference No. 16-0095

Dear Mr. Storms:

This letter is in response to your June 1, 2016, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to the standards for United Nations (UN) 4G fiberboard boxes. Specifically, you describe a scenario in which a customer has challenged your stance on the construction of the corrugated components in a UN performance-oriented tested package. We have paraphrased and answered your questions as follows:

- Q1. You ask for confirmation of your understanding that according to UN 4G packaging requirements, both the outer and inner corrugated components must be manufactured with liners and mediums that vary by not more than plus or minus 5% from the basis weights reported in the valid hazmat test report issued by a competent test lab or agency.
- A1. Your understanding is correct. As provided in § 178.516(b)(7), you have “[a]uthorization to manufacture, mark, and sell UN 4G combination packagings with outer fiberboard boxes and inner fiberboard components that have individual containerboard or paper wall basis weights that vary by not more than plus or minus 5% from the nominal basis weight reported in the initial design qualification test report.”^{a,b}

^a The HM-233C final rule, published March 18, 2014, amended § 178.516 by adding paragraph (b)(7). This action by PHMSA converted numerous competent authority approvals in to the HMR, which reduced paperwork burdens and facilitates commerce while maintaining an acceptable level of safety. (See 79 FR 15033; 15034) <https://www.gpo.gov/fdsys/pkg/FR-2014-03-18/pdf/2014-05630.pdf>

^b CA2005120010 - Authorization to manufacture, mark, and sell UN4G combination packagings with outer fiberboard boxes and with inner fiberboard components that have basis weights that vary by not more than plus or minus 5% from the measured basis weight in the initial design qualification test report.
CA2006060006 - Authorization to manufacture, mark, and sell UN4G combination packagings with outer fiberboard components that have individual containerboard basis weights that vary by plus or minus 5% from the nominal basis weight reported in the initial design.

Q2. You ask for confirmation of your understanding that only the outer liner of the outer carton of a UN 4G fiberboard box must be able to pass the Cobb water absorption test in § 178.516.

A2. Your understanding is incorrect. As specified in § 178.516(b)(1):

Strong, solid or double-faced corrugated fiberboard (single or multi-wall) must be used, appropriate to the capacity and intended use of the box. The water resistance of the outer surface must be such that the increase in mass, as determined in a test carried out over a period of 30 minutes by the Cobb method of determining water absorption, is not greater than 155 grams per square meter (0.0316 pounds per square foot)—see ISO 535 (IBR, see § 171.7 of the HMR).

As such, the outer surface of all fiberboard used in the construction of UN 4G fiberboard boxes must meet the water resistance requirements as determined by the Cobb method of determining water absorption. The Cobb test must be performed at a frequency sufficient to ensure that all fiberboard used in the boxes meets the water resistance standard.

The water resistance test is a manufacturing requirement, not a mechanical performance test requirement. The UN 4G fiberboard boxes must also meet the mechanical performance test requirements located in Subpart M of Part 178.

I hope this information is helpful. Please contact us if we can be of further assistance.

Sincerely,



T. Glenn Foster
Chief, Regulatory Review and Reinvention Branch
Standards and Rulemaking Division

Nickels
178.516
Standards for fiberboard
16-0095 boxes

Goodall, Shante CTR (PHMSA)

From: Rivera, Jordan CTR (PHMSA)
Sent: Wednesday, June 01, 2016 3:44 PM
To: Hazmat Interps
Subject: FW: Request for letter of interpretation regarding CFR 49, §178.516 Standards for fiberboard boxes

Hi Shante/Alice,

Please submit this for a letter of interpretation. Mr. Storms spoke with Eamonn in the Info Center.

Please let me know if you have any questions.

Thanks,
Jordan

From: Storms, Brian [<mailto:Brian.Storms@JamestownContainer.com>]
Sent: Wednesday, June 01, 2016 3:09 PM
To: INFOCNTR (PHMSA)
Subject: Request for letter of interpretation regarding CFR 49, §178.516 Standards for fiberboard boxes

To whom it may concern,

We are a corrugated box manufacturer. Our question is in regards to the inner and outer corrugated components used for the shipment of hazardous materials as stated in CFR 49, §178.516 Standards for fiberboard boxes. A customer has challenged our stance on the construction of the corrugated components in a UN performance-oriented tested package.

Our stance is that **both** the outer and inner corrugated components must be manufactured with liners and mediums that vary by not more than plus or minus 5% from the basis weights reported in the valid (not expired) HazMat test report issued by a competent test lab or agency. We would also like confirmation that only the outer liner, of the outer carton, needs to be able to pass the cobb water absorption test.

We would appreciate an official letter of interpretation clarifying these two points.

Thank you,
Brian Storms
Corporate Packaging Engineer
Jamestown Container Corporation
www.jamestowncontainer.com
716.665.4623 x118



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Thank you,
Jamestown Container Companies