



U.S. Department of Transportation  
**Pipeline and Hazardous Materials  
Safety Administration**

1200 New Jersey Ave, SE  
Washington, D.C. 20590

MAR 23 2010

Mr. Kevin Bevis  
Containers Engineer  
Entegris, Inc.  
101 Peavey Road  
Chaska, MN 55318

Ref. No. 10-0016

Dear Mr. Bevis:

This responds to your January 19, 2010 letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) as they apply to design qualification packaging tests. Specifically, you ask if you may use the same three test samples to perform all of the required tests in §§ 178.601, 178.603, and 178.603-178.607.

According to your letter, you want to test a PFA inner, fiberglass+epoxy winding outer composite container (6HH1) using the same three samples for all test types, due to the robustness of the container and the cost of the parts. You ask if it is acceptable to use the same three samples to perform these tests on this packaging.

In accordance with § 178.601(k), several tests may be performed on a single sample with the approval of the Associate Administrator for Hazardous Materials Safety and provided the validity of the test results is not affected. You may apply for approval to perform several tests on a single sample under the procedures specified in 49 CFR § 107.705.

I hope this answers your inquiry. If you need additional assistance, contact this Office at 202-366-8553.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles E. Betts".

Charles E. Betts  
Chief, Standards Development  
Office of Hazardous Materials Standards



Boothe  
§ 178.601  
§ 178.603-607  
§ 173.24(c)(1)  
Testing  
10-0016

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January 19, 2010

Mr. Edward T. Mazzullo  
Director, Office of Hazardous Materials Standards  
U.S. DOT / PHMSA (PHH-10)  
1200 New Jersey Avenue, SE East Building, 2<sup>nd</sup> floor  
Washington, DC 20590

Dear Mr. Mazzullo,

After reading through PHMSA letters of interpretation, published on-line, for sections 178.601, and 178.603 thru 607, we are writing to request clarification of the allowable number of test types which can be performed on each sample, as defined in CFR 49, sections 178.601, and 178.603 thru 178-607.

It is clear that (with the exception of stainless and other high-cost nickel alloys) three tests (with three different samples) must be performed for each test type (stacking, hydrostatic pressure, diagonal drop, other drop, etc). It is clearly stated within each test type detail (for example 178.603(b) and 178.604(b)(2), etc. quoted below) that requests for exceptions should be directed to the Associate Administrator.

Is there any prohibition in CFR 49, section 178, of using samples for more than one type of test (for example, using the same three samples for the Leakproofness test and also for the Hydrostatic pressure test and also for the Stacking test)? Is there any reason the three required samples for any test type can not be used for all required test types? It seems this would be the most rigorous of all possible ways to test a design type.

178.601(a) **“Each packaging must be manufactured and assembled so as to be capable of successfully passing the prescribed tests and of conforming to the requirements of section 173.24 of this subchapter at all times while in transportation ”** 173.24 (c)(1) requires conformance with section 178.

*This does not say each packaging must be able to pass one, or another, of the prescribed tests.*

178.601(f) **“The manufacturer shall conduct the...tests...using...samples...in the number specified in the appropriate test section.”**

178.601(k) **“Provided the validity of the test results is not affected, and with the approval of the Associate Administrator, several tests may be performed on one sample.”**

*If we desire to do all six drop tests with one sample, we would need the approval of the Associate Administrator.*

178.603 Drop test. First row of the chart, for plastic drums, under the heading **“No. of tests (samples)”** lists **“six – (three for each drop)”**.

(b) **“Exceptions to the number of...samples used in conducting the drop test are subject to the approval of the Associate Administrator.”**

Packaging	No. of tests (samples)	Drop orientation of samples
Steel drums, Aluminum drums, Metal drums (other than steel or aluminum), Steel Jerricans, Plywood drums, Wooden barrels, Fiber drums, Plastic drums and Jerricans, Composite packagings which are in the shape of a drum	Six—(three for each drop)	First drop (using three samples): The package must strike the target diagonally on the chime or, if the packaging has no chime, on a circumferential seam or an edge. Second drop (using the other three samples): The package must strike the target on the weakest part not tested by the first drop, for example a closure or, for some 7 cylindrical drums, the welded longitudinal seam of the drum body.

178.604 Leakproofness test.

(b) Number of packagings to be tested.

(2) Design qualification and periodic testing. "Three samples of each different packaging must be tested and must pass the leakproofness test. Exceptions to the number of samples used in conducting the leakproofness test are subject to the approval of the Associate Administrator."

178.605 Hydrostatic pressure test.

(b) Number of test samples. "Three test samples are required for each different packaging. Exceptions for the number of...sample packagings used in conducting the hydrostatic pressure test are subject to the approval of the Associate Administrator."

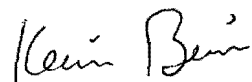
178.606 Stacking test.

(b) Number of test samples. "Three test samples are required for each different packaging... Exceptions for the number of...sample packagings used in conducting the stacking test are subject to the approval of the Associate Administrator."

We would like to test a PFA inner, fiberglass+epoxy winding outer composite container (6HH1) using the same three samples for all test types, due to the robustness of the container and the cost of the parts, but feel it prudent to request your interpretation of the code at this time.

Thank you for your assistance in this matter and for your service at the DOT, promoting our safety and welfare.

Sincerely,



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 Containers Engineer  
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