



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

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

OCT 23 2013

Mr. Alexander Skolnik
Process Improvement Coordinator
Skolnik Industries
4900 S. Kilbourn Avenue
Chicago, IL 60632

Ref. No.: 13-0141

Dear Mr. Skolnik:

This responds to your July 12, 2013 letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to alternative leakproofness test methods. In your letter, you propose to perform the “solution over seams” leakproofness test (as authorized in paragraph (3) of Appendix B to Part 178) in two separate stages.

As summarized in your letter, you propose that the first stage would be a weld leakproofness test that would be conducted on the welded drum shell prior to the seaming operations and that the top and bottom of the shell would be mechanically sealed and a minimum of 4 psi of air pressure would be applied to the inside of the shell. The surface of the entire weld would then be thoroughly coated with a soap-water solution to detect leakage from the shell. You then propose that the second stage of the test would be conducted after the seaming operation is completed, and, for an open-head drum, the bottom sheet metal disc would be mechanically seamed onto the shell. The top of the drum would then be mechanically sealed and a minimum 4 psi of air pressure would be applied to the inside of the drum, and the entire seam would then be coated with a soap-water solution to detect leakage from the drum.

You state that the two-stage process would allow Skolnik to ensure leakproofness at the flange by testing the weld and seam areas in two independent procedures, as part of your specialized quality control system. Specifically, you ask whether this two-stage process is authorized for the “solution over seams” alternative leakproofness test in paragraph (3) of Appendix B to Part 178.

The answer is no. As defined in § 171.8, a *Packaging* means a receptacle and any other components or materials necessary for the receptacle to perform its containment function in conformance with the minimum packing requirements of this subchapter. As provided in paragraph (3) of Appendix B to Part 178:

The packaging must be restrained while an internal air pressure is applied; the method of restraint may not affect the results of the test. The exterior surface of all seams and welds must be coated with a solution of soap suds or a water and oil mixture. The test must be conducted for a period of time sufficient to pressurize the interior of the packaging to the specified air pressure and to determine if there is leakage of air from the packaging. A packaging passes the test if there is no leakage of air from the packaging.

It is the opinion of this Office that your proposed two-stage process does not meet the requirements of the HMR, as the alternative leakproofness test should be performed on the completed packaging. However, you may consider applying for regulatory relief that authorizes your two-stage process as an alternative leakproofness test under the terms and conditions of an approval (see § 178.601(h)). Approvals are granted on a case-by-case basis and the application procedures are set forth in 49 CFR 107.705. The Pipeline and Hazardous Materials Safety Administration's Approvals and Permits Division may be reached at (202) 366-4535.

I hope this satisfies your inquiry. Please contact us if we can be of further assistance.

Sincerely,

A handwritten signature in black ink, reading "T. Glenn Foster". The signature is written in a cursive style with a long horizontal flourish extending to the right.

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

July 12, 2013

Mr. Charles Betts, Director
Standards and Rulemaking
U.S. Department of Transportation
Office of Hazardous Materials Safety
East Building, PHH-10
1200 New Jersey Ave., SE
Washington, DC 20590

Nickels
8/78 Subpart B
Testing
13-0141

Sent via e-mail to: charles.betts@dot.gov

Dear Mr. Betts,

Skolnik Industries, Inc. is seeking authorization from PHMSA to perform the leakproofness test outlined in 49 CFR Appendix B – Test Method (3); solution over seams, in two stages. The two stage process would allow Skolnik to ensure leakproofness at the flange by testing the weld and seam areas in two independent procedures. This process was developed by Skolnik as part of our specialized quality control system, which itself was developed to meet the demands of our DOD and NRC businesses. It is our position that the proposed two-stage process meets the technical requirements of the protocol and fully satisfies the spirit of the rule, which is to ensure the completed container is leakproof when shipped with contents.

49 CFR Appendix B to Part 178 – Alternative Leakproofness Test Methods (3) Solution Over Seams states:

...The exterior surface of all seams and welds must be coated with a solution of soap suds or a water and oil mixture. The test must be conducted for a period of time sufficient to pressurize the interior of the packaging to the specified air pressure and to determine if there is leakage of air from the packaging.

As noted above, Skolnik proposes to perform the leakproofness test on each drum in two separate stages. The first stage is a weld leakproofness test that would be conducted on the welded drum shell prior to the seaming operations. In this phase of the two-stage test, the top and bottom of the shell would be mechanically sealed and a minimum of 4 psi of air pressure would be applied to the inside of the shell. The surface of the entire weld would be thoroughly coated with a soap-water solution to detect leakage from the shell.

The second stage of the test would be conducted after the seaming operation. In the case of an open-head drum, the bottom sheet metal disc would be mechanically seamed onto the shell. The top of the drum would then be mechanically sealed and a minimum of 4 psi of air pressure would be applied to the inside of the drum. The surface of the entire seam would be coated with a soap-water solution to determine if there is leaking from the drum.



skolnik.com · skolnikwine.com

Skolnik respectfully seeks authorization from PHMSA to use the leakproofness testing procedures described above as an acceptable technique for carrying out Alternative Leakproofness Test Method 3, solution over seams.

Please call me if you have any questions about the leakproofness testing methodology described above.

Sincerely,

Alexander Skolnik
Process Improvement Coordinator

T: (773) 884-1532
C: (773) 294-4697
F: (773) 735-7257
Sasha@Skolnik.com

¹ Seaming is the process by which a sheet metal disc is attached to the bottom or bottom and top of the cylinder body by a mechanical curling process. For an *open-head* drum, the sheet metal disc is attached to the bottom of the cylinder body. For a *tight-head* drum, the sheet metal discs are attached to both the top and bottom of the cylinder body.