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Subject 125

333 Pfingsten Road
 Northbrook, IL 60062-2096
 March 4, 1994

TO: Fire Council of Underwriters Laboratories Inc.,
 Subscribers to UL's Standards Service for Valves for
 Anhydrous Ammonia and LP-Gas (Other Than Safety Relief);
 and
 Others Interested

SUBJECT: Request for Comments on Proposed Revisions of the
 Standard for Valves for Anhydrous Ammonia and LP-Gas
 (Other Than Safety Relief) - UL 125; PROPOSED EFFECTIVE
 DATE

SUMMARY OF TOPICS

This bulletin proposes to replace the mercurous nitrate test
 (Section 24) with a moist ammonia air stress cracking test.

COMMENTS ON THIS PROPOSAL DUE: April 4, 1994.

Attached for your review and comments are proposed requirements for
 UL 125.

Please note that proposed requirements are of a tentative and early
 nature and are for review and comment only. Current requirements
 are to be used to judge a product until these requirements are
 published in final form.

PROPOSED EFFECTIVE DATE

As the proposed requirements specified in Section 24A will not
 necessitate a review of currently Listed and Recognized products,
 UL proposes that the new requirements become effective upon
 publication.

REQUEST FOR COMMENTS ON PROPOSAL

Please provide the following:

1. Your comments concerning the proposed requirements;
 and

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2. Your comments concerning the proposed effective date, should the proposals be adopted.

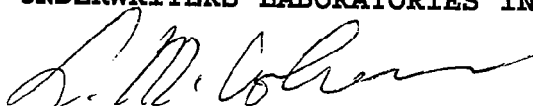
Written comments should be sent to the attention of Linda Phinney-George at UL's Santa Clara office, 1655 Scott Blvd., Santa Clara, CA 95050-4169. Please reference all correspondence to Subject 125.

All comments should be sent by April 4, 1994.

Unless specifically requested to do otherwise, UL will not acknowledge comments indicating concurrence with this proposal.

Questions regarding interpretation of requirements should be directed to the responsible UL staff. Please see Appendix B to this bulletin regarding designated responsibility for the subject product category.

UNDERWRITERS LABORATORIES INC.



L. M. COHEN (Ext. 42692)
Standards Engineer
Standards Department

REVIEWED BY:



M. MAGERA (Ext. 42552)
Associate Managing Engineer
Engineering Services 416A

SR:JTM
125BUL.V01:

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February, 1994

PROPOSED REQUIREMENTS ARE
OF A TENTATIVE AND EARLY
NATURE AND ARE FOR REVIEW
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REQUIREMENTS ARE TO BE USED
TO JUDGE A PRODUCT UNTIL
THESE REQUIREMENTS ARE
PUBLISHED IN FINAL FORM.

A P P E N D I X A

PROPOSED REQUIREMENTS AND PROPOSED EFFECTIVE DATE FOR THE
FIFTH EDITION OF THE STANDARD FOR
VALVES FOR ANHYDROUS AMMONIA AND LP-GAS
(OTHER THAN SAFETY RELIEF)

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For your convenience in review, proposed additions to existing requirements are shown underlined and proposed deletions are shown ~~lined out~~. In the case of extensively revised paragraphs, the original text is identified by (CURRENT) and is followed by the proposed text identified by (PROPOSED).

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RATIONALE

Parts made of brass alloys containing more than 15 percent zinc, are subjected to applied and residual stresses during forming that may result in cracking or delamination of the part in end-use applications. This cracking or delamination can occur at room temperature and in other common environments. To determine that such parts can be considered acceptable for end-use applications, they are subjected to a mercurous nitrate immersion test. During this test, parts are immersed in a solution containing mercury, water, and nitric acid for 30 minutes.

The disposal of the mercurous nitrate waste material (coated parts and solution) in an environmentally sound manner has become increasingly difficult. Also, there are potential health risks involved if the test is not conducted according to specific procedures.

After consideration of these difficulties, UL has decided to discontinue use of the mercurous nitrate immersion test. In searching for an acceptable alternate test, UL obtained information from ASTM and conducted evaluation tests to find a test that would provide results comparable to those obtained using the existing mercurous nitrate immersion test. As a result of these efforts, UL has determined that a 10-day moist ammonia air stress cracking test would be a suitable replacement. Accordingly, UL proposes to eliminate the mercurous nitrate immersion test and replace it with a 10-Day Moist Ammonia Air Stress Cracking Test, as noted in Appendix A.

IMPACT

This proposal, if adopted, will not require a review, retest, or modification of presently Listed equipment.

PROPOSAL

5.13 A part made of drawn brass or machined from brass rod shall be capable of withstanding, without cracking, the mercurous-nitrate test for copper and copper alloys. See ~~Mercurous-Nitrate Immersion~~ 10-Day Moist Ammonia Air Stress Cracking Test, Section ~~24~~ 24A.

Revised paragraph 5.13 effective (date of publication)

(CURRENT)

24 Mercurous Nitrate Immersion Test

~~24.1 Brass parts, as described in 5.13, made of copper alloy containing more than 15 percent zinc shall withstand total immersion, for 30 minutes without cracking, in an aqueous mercurous nitrate solution containing 10 grams of mercurous~~

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~~nitrate and 10 milliliters of nitric acid (specific gravity 1.42) per liter of solution.~~

~~24.2 Instructions for the preparation of solutions and procedures for replenishment, descriptions for cleaning and degreasing of samples, and safe practices in use and disposal are covered in the Mercurous Nitrate Test for Copper and Copper Alloys, ASTM B154-89.~~

~~24.3 A test sample shall be subjected to the physical stresses normally imposed on or within a part as the result of assembly with other components of the valve, or with tubing or piping. Such stresses shall be applied to the sample prior to and be effective during the test.~~

~~24.4 Female pipe threaded ends are to be engaged with extra strong brass pipe assembled as specified in 14.2. Other threaded parts are to be tightened to the degree normally found acceptable to produce a leaktight assembly.~~

~~24.5 CAUTION Testing with mercury is a definite health hazard, and it is recommended that equipment for the removal of mercury vapor produced in volatilization be provided. Rubber gloves should be used during testing.~~

(PROPOSED)

24A 10-Day Moist Ammonia Air Stress Cracking Test

Section 24A added (date of publication)

24A.1 After being tested as described in 24A.2 -- 24A.4, a brass part, as described in 6.9, containing more than 15 percent zinc shall show no evidence of cracking or delamination when examined using 25x magnification.

24A.2 Each test sample is to be subjected to the physical stresses normally imposed on or within a part as the result of assembly with other components. Such stresses are to be applied to the sample prior to and be effective during the test.

24A.3 Three samples are to be degreased and then continuously exposed in a set position for ten days to a moist ammonia-air mixture maintained in a glass chamber approximately 12 by 12 by 12 inches (305 by 305 by 305 mm) having a glass cover.

24A.4 Approximately 600 ml of aqueous ammonia having a specific gravity of 0.90 is to be maintained at the bottom of the glass chamber below the samples. The samples are to be positioned 1-1/2 inches (38.1 mm) above the aqueous ammonia solution and supported in an inert tray. The moist ammonia-air mixture is to be maintained at atmospheric pressure with the temperature constant at approximately 93°F (34°C).

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A P P E N D I X B

Designated Responsibility for UL 125
Valves for Anhydrous Ammonia and LP-Gas
(Other Than Safety Relief)
Check Valves - Component (YFKR2)
Anhydrous-Ammonia Check Valves (YFXZ)
LP-Gas Check Valves (YHNT)
LP-Gas Check Valves - Component (YHNT2)
Anhydrous-Ammonia Shut-Off Valve (YQAR)
LP-Gas Shut-Off Valves (YSdT)
LP-Gas Shut-Off Valves - Component (YSdT2)

The individuals shown on the back side of this sheet are involved with the investigation of products covered under the subject categories. The Primary Designated Engineer (shown in UPPERCASE letters) coordinates the establishment and uniform interpretation of UL requirements applicable to the product category. The Designated Engineers (shown in lowercase letters) work with the Primary Designated Engineer to interpret requirements and maintain standards.

Should you have any questions regarding the interpretation of the requirements proposed in this bulletin or any adopted requirements that affect your product, you are encouraged to contact the individual at the office to which you normally submit your products.

The Responsible Department Manager for the subject category is John Hawley at UL's Northbrook Office. The Responsible Department Manager oversees the significant interpretations made by the Primary Designated Engineer and arbitrates any differences regarding interpretation of UL requirements.

125bab.V01

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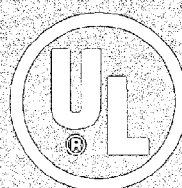
Designated Responsibility				
CCN	Northbrook	Melville	Santa Clara	RTP
YFKR2	M. ISSEN (Ext 43146)			E. Henderson (Ext 1661)
YFXZ	M. ISSEN			R. Zemonek (Ext 1562)
YHNT YHNT2	M. ISSEN		L. Bergen (Ext 2932)	R. Zemonek
YQAR	M. ISSEN	C. Driscoll (Ext 974)		E. Henderson
YSDT YSDT2	M. ISSEN		L. Bergen	E. Henderson

Standard for Safety

UL 125

ISBN 1-55989-389-3

Valves for Anhydrous Ammonia and LP-Gas (Other than Safety Relief)



Underwriters Laboratories Inc.®

Standard



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UL Standards for Safety are developed under a procedure which provides for participation and comment from the affected public as well as industry. The procedure takes into consideration a survey of known existing standards and the needs and opinions of a wide variety of interests concerned with the subject matter of the standard. Thus manufacturers, consumers, individuals associated with consumer-oriented organizations, academicians, government officials, industrial and commercial users, inspection authorities, insurance interests and others provide input to UL in the formulating of UL Standards for Safety, to keep them consonant with social and technological advances.

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