

**Association of American Railroads
Manual of Standards and Recommended Practices
Specifications for Tank Cars**

APPLICATION FOR APPROVAL OF VALVES AND FITTINGS

Applicant JAMESBURY CORP. AAR Application No. E879100
 Description of Device 2" 5RA3 Standard Port Top AAR Docket No. _____
Loading and Unloading Angle Ball Valves AAR Service Trial No. _____
 Applicant No. _____ Device Ident. No. 2" 5RA3 Date April 6, 1987

1. Manufacturer JAMESBURY CORP.
 Address 640 Lincoln Street City Worcester State MA Zip 01605
 2. Test Facility same Address _____
 3. Test Date See Attached 4. Observer C. S. Anderson
 TEST PROCEDURE: 5. Weight or mass of Device 12 lb. (_____ kg.)

6. Description of Prototype Testing: See Attached
Approximately 1200 units have been manufactured to date and are in
successful service today.
 7. Description of Production Testing: 100% Frequency testing. Porosity test @ 100 psig - gas.
Approximately 1200 units tested.

8. Cycles	Min. Temp.	@ Pressure	Cycles	Max. Temp.	@ Pressure	Test Medium	Remarks
<u>SEE</u>	<u>F</u>	<u>psi</u>		<u>F</u>	<u>psi</u>		
<u>ATTACHED</u>	<u>°C</u>	<u>kPa</u>		<u>°C</u>	<u>kPa</u>		

Cycles	Min. Temp.	@ Pressure	Cycles	Max. Temp.	@ Pressure	Test Medium	Remarks
	<u>F</u>	<u>psi</u>		<u>F</u>	<u>psi</u>		
	<u>°C</u>	<u>kPa</u>		<u>°C</u>	<u>kPa</u>		

9. Cycles	Min. Pressure	@ Temp.	Cycles	Max. Pressure	@ Temp.	Test Medium	Remarks
<u>SEE</u>	<u>psi</u>	<u>-F</u>		<u>psi</u>	<u>F</u>		
<u>ATTACHED</u>	<u>kPa</u>	<u>°C</u>		<u>kPa</u>	<u>°C</u>		

Cycles	Min. Pressure	@ Temp.	Cycles	Max. Pressure	@ Temp.	Test Medium	Remarks
	<u>psi</u>	<u>F</u>		<u>psi</u>	<u>F</u>		
	<u>kPa</u>	<u>°C</u>		<u>kPa</u>	<u>°C</u>		

10. Initial Commodity or Commodity Type SEE ATTACHED 11. Flow Rate (If Applicable) _____ gpm (_____ L/min)
 Cv = 68

Applicable Drawings	Material	Drawing Number Latest Revision	Precedent	
			Drawing Number	Application Number
12. Device Application				
13. Device Assembly		D 4477 B	D-4105	E779059
14. Device Details				

15. Quality Control Statement: Jamesbury maintains a rigid quality assurance program
to ensure all test and manufacturing specifications are met.

REVISIONS: D-4105 Model A
D-4838 Model B (Incorporates 2 stem nuts and longer stem)

CERTIFICATION: The above data is correct and conforms with AAR Specifications for Tank Cars, Appendix A. The devices tested conform with drawings listed above.

By David A. Johnson Title Industry Manager, Transportation Products
 APPROVAL AAR Tank Car Committee: [Signature]
 Date Approved 10/2/87 P. J. Pague, Secretary
 (Signature) on behalf of Tank Car Committee

3. TEST DATE:

Initial component testing began 1/1/77 and has been a continuing program

6. PROTOTYPE TESTING:

Destructive testing per ASME Code to determine pressure rating.

Thermal excursion testing under extremes of pressure to determine repeatability of seat sealing.

8, 9, and 10

Valve Life Testing is a controversial subject in our industry. There are a number of factors that enter into the effective life of a valve. We believe that these include:

1. Pressure
2. Temperature
3. Degree of pressure fluctuation
4. Degree of temperature fluctuation
5. Nature of media flowing through the valve
6. Velocity of the media through the valve
7. Speed of valve operation
8. Cycle rate
9. Valve size

In addition, there are probably other minor variables which we are not able to clearly define. The interaction of these nine variables is so complex that a simple test is impossible. We therefore prefer to do comparison testing against existing products that have show acceptable performance in various services. We consider the major portion of this testing to be only useful to us for internal comparisons. Further, we believe that dissemination of this data without detailed interpretation might lead the observer to draw inappropriate conclusions.

Our life testing generally exceeds 50,000 cycles at a minimum pressure of 100 psi AIR.

In order that our data and methods do not create an incorrect conclusion, we would appreciate receiving more specific questions on Life Testing.

10/2/87 *B. J. Payne*, Secretary