

## **API Standard 622 Test Report**

“Type Testing of Process Valve  
Packing for Fugitive Emissions”  
Second Edition, 2011

*Performed for*

Empak Spirotallic Mexicana S.A. de C.V.

[www.empak.com.mx](http://www.empak.com.mx)



Empak EC 7022 IME

Project Number: 218162  
Test Start Date: April 30, 2018



*Performed by*

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**YARMOUTH RESEARCH AND TECHNOLOGY, LLC**

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**Yarmouth Research and Technology, LLC**

**API 622 PROJECT SUMMARY**

**Customer:** Empak Spirotallic Mexicana S.A. de C.V.

**Project Number:** 218162

**Start Date:** 30-Apr-18

*Packing Information*

**Packing Description:** Empak EC 7022 IME

Square, Solid, Braided, Pre-Formed Packing Rings

**Source of Sample:** Customer

**Packing Cross Section:** 1/4 inch nominal

**Packing Free Height:** 1.321 inches

*Test Conditions*

**Specification:** API 622, 2nd Edition, 2011

**Test Media:** 99% Methane      **Test Pressure:** 600 psig

**Recommended Packing Nut Torque:** 40 ft-lb

**Maximum Allowable Leakage:** 100 PPMv

**Cycling Rate:** 60 seconds per cycle

*Dimensions (inches)*

**Stem Diameter:** 1.000      **Bore Diameter:** 1.500

**Follower Height:** 1.054      **Bore Depth:** 1.328

**Gland Ht at Start:** 0.817      **% Compression:** 17%

**Gland Ht at End:** 0.804      **% Compression:** 18%

**Gland Bolt Diameter:** 5/8

*Results*

**Average Test Pressure:** 600 psig

**Number of Mechanical Cycles Completed:** 1510

**Number of Thermal Cycles Completed:** 5

**Number of Packing Adjustments Required:** 0

**Cycle Number(s) of Packing Adjustments:** N/A

**Average Leakage Throughout Test:** 5 PPMv

**Maximum Leakage Throughout Test:** 27 PPMv

*Certified By*



Matthew J Wasielewski, PE  
President and Manager  
Yarmouth Research and Technology, LLC



## Yarmouth Research and Technology, LLC

**Customer:** Empak Spirotallic Mexicana S.A. de C.V.    **Start Date:** 30-Apr-18

**Project #:** 218162

**Packing Description:** Empak EC 7022 IME

<i>Cycle Number</i>	<i>Inside Temp (F)</i>	<i>Bonnet Temp - (F)</i>	<i>Pressure (psig)</i>	<i>Stem Seal Leakage</i>		<i>Packing</i>
				<i>(PPMv)</i>		<i>Retorque</i>
				<i>Avg.</i>	<i>Max.</i>	<i>See Note</i>
0	78	79	600	1	2	
50	91	88	600	2	3	
100	95	91	600	1	1	
150	96	92	600	1	1	
151	505	502	600	2	3	
200	503	506	600	2	2	
250	498	501	600	2	2	
300	504	509	600	3	5	
301	83	84	600	1	3	
350	87	85	600	5	7	
400	89	87	600	10	11	
450	89	87	600	11	11	
451	505	500	600	4	4	
500	503	506	600	3	3	
550	498	508	600	2	2	
600	505	499	600	3	3	
601	84	84	600	14	17	
650	87	85	600	11	16	
700	85	84	600	8	9	
750	85	84	600	11	16	
751	504	505	600	4	4	
800	505	500	600	4	4	
850	505	503	600	4	4	
900	505	504	600	4	4	
901	85	84	600	20	27	
950	87	85	600	4	5	
1000	86	85	600	4	5	
1050	87	85	600	2	3	
1051	503	500	600	5	7	
1100	505	501	600	5	6	
1150	498	504	600	6	7	
1200	501	509	600	6	7	
1201	84	84	600	8	11	
1250	85	84	600	10	11	
1300	85	84	600	4	5	

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1350	84	83	600	4	5	
1351	505	505	600	4	5	
1400	495	504	600	4	4	
1450	505	500	600	4	5	
1500	505	500	600	5	6	
1500	78	78	600	5	7	
1510	78	78	600	5	6	
<b>Averages -&gt;</b>			<b>600</b>	<b>5</b>	<b>6</b>	
<b>Maximums -&gt;</b>			<b>600</b>	<b>20</b>	<b>27</b>	

***Packing Retorque Notes:***

	<i>Before Adjustment</i>		<i>After Adjustment</i>		
	<i>Cycle Number</i>	<i>Nut Torque (ft-lb)</i>	<i>Nut Torque (ft-lb)</i>	<i>Number of Flats</i>	<i>Gland Height (in)</i>

<b>Nut Torque at End of Test: (ft-lb)</b>	15	<i>Top</i>	13	<i>Bottom</i>
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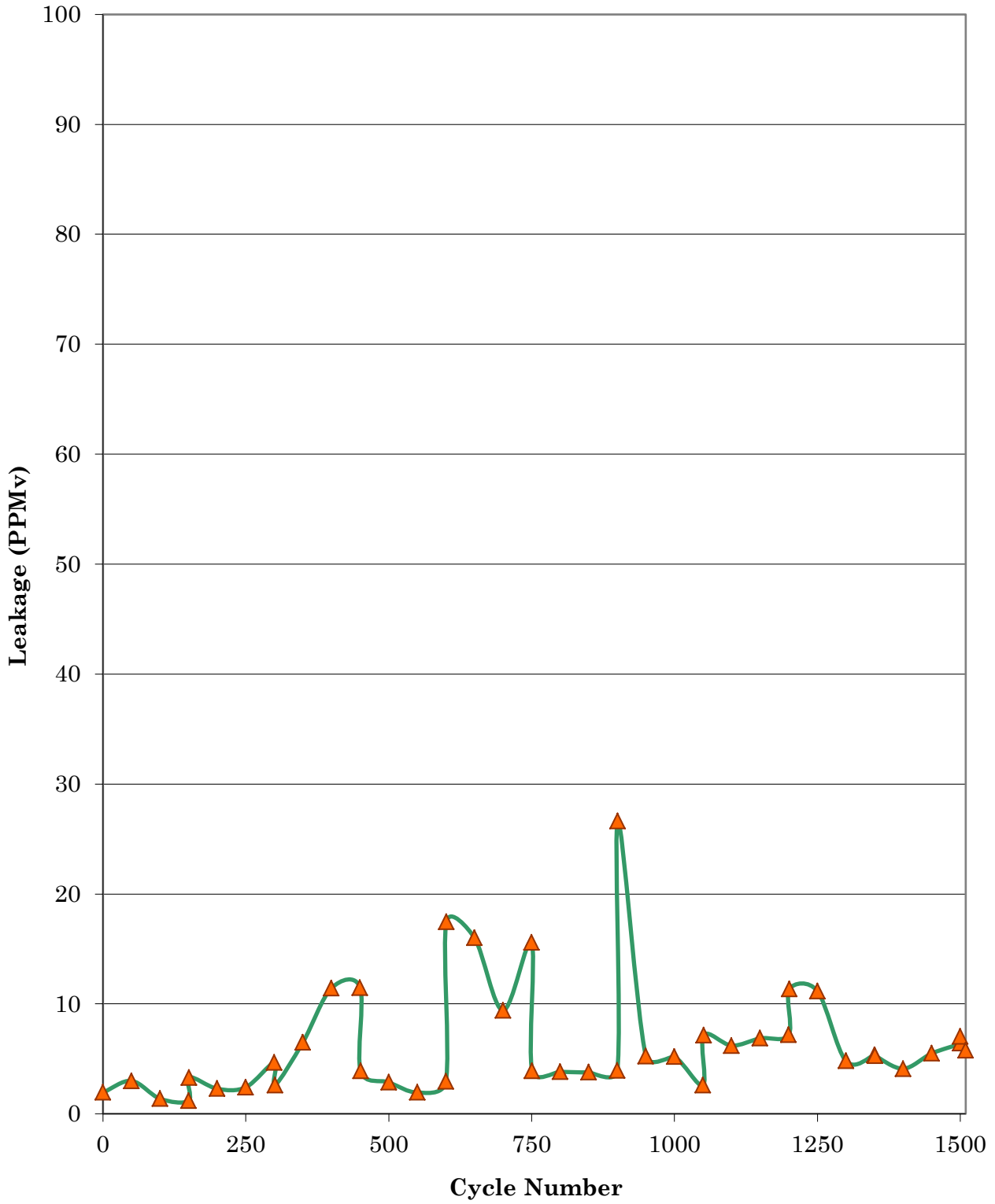
***Test Notes:***

The packing completed 5 thermal cycles and 1510 mechanical cycles with no packing adjustments and therefore passed the test requirements.

**Test Results:** The average and maximum leakage results shown below were calculated from 60 readings measured during a minute duration.  
*See data sheets for more detailed information.*

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**Static Leakage Chart**  
**Maximum Reading**



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Packing Label Information



Pre-Test Packing Sample