



TRINITY INDUSTRIES, INC.
BUSINESS UNIT # 296

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Revised By: Howard Abell

Approved By: Howard Abell

DOCUMENT TYPE: Controlled Form List

TITLE: Piping Test Report

PIPING TEST REPORT

Customer / Contract E SQUARED / 96288
 Vessel Name E2MS 103
 Hull Number 5369
 Official Number 1287341
 KEEL Date / COI Year 8/3/2018 / 2018

TESTING INFO

System	Method of Test	PSI or OK	Date	Witness By
Cargo Pipe	HYDRO	200	8/22/2018	GB
Pump Well	AIR	17	8/22/2018	GB
Fuel Oil Piping	AIR	90	8/22/2018	GB
Hot Oil Piping				
Steam Piping				
Air Piping				
Stripping Piping				
Hydraulic Piping				
Cargo Piping Relief Valve	HYDRO	125	8/22/2018	GB
Vapor Piping Relief Valve	AIR	2.5	8/22/2018	GB
Steam Piping Relief Valve				
Air Piping Relief Valve				
Fuel Tank	HYDRO	5	8/22/2018	GB
Slop Tank				
Cargo Pressure Gauge	AIR	120	8/22/2018	GB
Vapor Pressure Gauge	AIR	3	8/22/2018	GB
Air Pressure Gauge				
Hydraulic Pressure Gauge				
Emergency Shutdown	OPERATIONAL	OK	8/22/2018	GB
Pump Operational Test	OPERATIONAL	OK	8/22/2018	GB
Heater Operational Test				
Stripping Operational Test				
Hydraulic Operational Test				

If a system is not applicable, leave that line blank

	Initial	Print	Signature
QA WITNESS	<u>GB</u>	<u>GERALD BROWN</u>	<u><i>Gerald Brown</i></u>
QA WITNESS	<u> </u>	<u> </u>	<u> </u>



TRINITY INDUSTRIES, INC.
BUSINESS UNIT # 296

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DOCUMENT TYPE: Controlled Form List
TITLE: Vapor Tightness Test Report

VAPOR TIGHTNESS TEST REPORT

Note: Test Results are Valid for (1) One Year from Date of Test!

Vessel Name:	<u>E2MS 103</u>	Test Date:	<u>8/22/2018</u>
Testing Location:	<u>Ashland City, TN #296</u>	Maximum Load Rate: (BPH)	<u>3500</u>
Tanks Tested:	<u>All Cargo Tanks</u>	Pressure Indicator	<u>MANOMETER</u>

TEST RESULTS

Test Duration: 30 Minutes	Beginning Pressure	<u>71"</u>	Inches H2O
	Ending Pressure	<u>71"</u>	Inches H2O
	Total Pressure Loss	<u>0</u>	Inches H2O
	Allowable Pressure Loss	<u>4.7434</u>	Inches H2O

Barge is Vapor Tight if "Total Pressure Loss" is LESS than "Allowable Pressure Loss"

- | | |
|---|--------------------------------------|
| (P1) - Beginning Pressure | (P2) - Ending Pressure |
| (Delta P) - Total Pressure Loss | (Delta PM) - Allowable Pressure Loss |
| (TP) - 14.7 plus Barge Test Pressure in PSI | (L) - Maximum Load Rate in BPH |
| (V) - Volumn of Tank (s) | (Delta T) = Test Duration |
| .861 - PIA @ (P1) | |

$$.861 \times \frac{17.2}{(TP)} \times \frac{3500}{(L)} / \frac{10,927.20}{(V)} = \frac{4.7434}{(Delta PM)}$$

This vessel has been tested in accordance with Section 61.304F and has been found to be vapor tight.

Aumar Malik 8/22/18
Signature of Trinity Marine Tester DATE

Gerard Brown 8/22/18
Signature of Trinity Marine Witness DATE

PRINT Name of Trinity Marine Tester
Aumar Malik

Gerard Brown
PRINT Name of Trinity Marine Witness