

APPLICATION FOR APPROVAL AND CERTIFICATE OF CONSTRUCTION

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1 APPROVAL REQUESTED OF: ☐ PRECEDENT ☒ NON-PRECEDENT

2 TYPE: ☒ CONSTRUCTION ☐ WELDED REPAIRS ☐ ALTERATION ☐ OTHER ☐ CONVERSION

3 AAR NO. L986049A

4 DATE: JUNE 9, 1998

5 APPLICANT'S NO. 97155

6 APPLICANT: TRINITY INDUSTRIES, INC.
P.O. BOX 568887 DALLAS, TEXAS 75356-8887

7 TANK SPECIFICATION: DOT 111A100W1

8 STENCILED SPEC.: AAR 211A100W1

9 REPORTING MARKS & CAR NUMBERS EUSX 448013 thru EUSX 448030

10 NUMBER OF CARS 18

11 Initial commodity	SEE NOTES	12 Density, lb. per gallon	7.2
13 Full water capacity, gal. 23,568 TOTAL --- SEE PAGE 2		14 Dome capacity or outage, gal.	SEE PAGE 2
15 Material type & grade - heads ASTM A516 GR. 70		16 Material type & grade - shell	ASTM A516 GR. 70
17 Material thickness - heads, in. 7/16		18 Material thickness - shell, in.	7/16
19 Lining type DEVCHEM 253		20 Inside diameter - center, in.	99
21 Inside diameter - end rings, in. 99		22 Head radius, main, in. (if not 2:1)	2:1 ELLIPSOIDAL
23 Test pressure, psi 165		24 Insulation type	GLASSWOOL BLANKET
25 Insulation thickness, in. 4		26 Thermal conductivity, Btu-in/hr-ft ² -°F	0.29
27 Type and no. of safety relief devices SEE NOTES		28 Safety device start-to-discharge, psi	75
29 Safety device flow capy., cfm reqd. 140- LARGEST COMP'NT		30 Safety device flow capacity, cfm, actual	1109
31 Tank surface area, sq. ft. 576--LARGEST COMPARTMENT		32 Underframe or stub sill type	STUB SILL---TRN 023
33 Center of gravity, loaded, in. 81.35		34 Est. light weight, lb.	94,600
35 AAR clearance diagram C		36 Rail load limit, lb.	263,000
37 Truck capacity, tons 100		38 Head shields	NONE

NOTES:

PETROLEUM PRODUCTS (LUBRICATING OIL) AND NON-REGULATED
COMMODITIES COMPATIBLE WITH THIS CLASS OF CAR.

ONE SAFETY RELIEF VALVE PER COMPARTMENT.

Orig. Cert.

Builder

Date

Former lading

The Following Drawings Apply	Drawing Number	The following prior approvals apply:	
		Drawing Number	Application/Certificate No.
39 General Arrangement	D-40957B		
40 Arrangement, Tank	D-42968 SH. 1E		
41 Reinforced Openings	D-42968 SH. 2A,3,4A,5A,6		
42 Bolster & Draft Sill Arrgt.	D-440402 SH. 1 & 2		L986075 Pending
43 Fittings Arrangement	D-45205B		
44 Manway Assembly	D-440077		
45 Protective Housing	D-45205B		
46 Venting, Loading and Discharge Valves	MIDLAND A-217-W		A916001
47 Safety Relief Devices	MIDLAND A-1075		A921007
48 Heater Systems (Int. <input type="checkbox"/> Ext. <input checked="" type="checkbox"/>)	SEE PAGE 2		
49 Gaging Device	D-42968 SH. 2A		
50 Bottom Outlet Valve	JAMESBURY 4" AZFRC-22HBMT		E979037A
51 Jacket Anchor	B-23650		L966027A
52 Manway cover	D-243649B		A946104A
53 Calculations	D-444045 SH. 1 & 2		

REVISIONS:

JUNE 15, 1998-REV. A: REVISE CALCULATIONS FOR UNLOADING
NOZZLE--DWG. D-444045 REPLACES D-143971.

APPLICATION BY:

WILLIAM R. BITTING

I certify that the foregoing conforms to all applicable DOT and AAR requirements
including Specifications, Regulations, Rules of Interchange, and the DOT Railroad
Safety Appliance Standards.

SIGNATURE

William R. Bitting

TITLE

DESIGN ENGINEER - RAILCAR DIVISION

APPROVAL - AAR Tank Car Committee

Date Approved

JUL 11 1998

Signature on behalf of Tank Car Committee

CERTIFICATION: The cars enumerated below conform to the above approved description and to all applicable DOT and AAR requirements
including Specifications, Regulations, Rules of Interchange and the DOT Railroad Safety Appliance Standards. Copy of this Certificate of
Construction will be furnished to the owner and others as required by 49 CFR Part 179.5 before these cars are placed in service.

Initials and Car Numbers:

EUSX 448013 - 448030

Name

Lee Verkey

Date 7/31/98

Title

Director Quality Assurance
Tank Car

AAR Number L986049A
Applicant's No 97155
Date June 9, 1998

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THE FOLLOWING DRAWINGS APPLY

DRAWING NUMBER

PRECEDENT APPLICATION NUMBER

54. MANWAY COVER INSTALLATION	D-443618D
55. 14" MULTI-HOUSING NOZZLE ASSEMBLY	D-440110A
56. 14" MULTI-HOUSING NOZZLE COVER FLANGE	D-440133
57. BOTTOM OUTLET ARRANGEMENT	D-45802A
58. 3" SAFETY VALVE NOZZLE ASSEMBLY	B-27514H
59. SAFETY VALVE ARRANGEMENT	D-45507A

L986056

LINE 48---HEATER SYSTEMS

EXTERIOR COIL ARRANGEMENT (COMPARTMENTS 1 & 4) ----- D-140753 SH. 1 & 2
EXTERIOR COIL ARRANGEMENT (COMPARTMENTS 2 & 3) ----- D-140754 SH. 1 & 2

LINES 13 & 14--FULL WATER CAPACITY AND OUTAGE

LINE 13 ---FULL WATER CAPACITY:

COMPARTMENT NO. 1 -----	7586 GALLONS
COMPARTMENT NO. 2 -----	4198 GALLONS
COMPARTMENT NO. 3 -----	4198 GALLONS
COMPARTMENT NO. 4 -----	7586 GALLONS
TOTAL -----	23,568 GALLONS

LINE 14 ---OUTAGE---2%

COMPARTMENT NO. 1 -----	152 GALLONS
COMPARTMENT NO. 2 -----	84 GALLONS
COMPARTMENT NO. 3 -----	84 GALLONS
COMPARTMENT NO. 4 -----	152 GALLONS
TOTAL -----	472 GALLONS

THE TANK CARS OF THIS APPLICATION ARE DESIGNED IN ACCORDANCE WITH AAR STANDARD S-259 FOR FREIGHT CARS FOR POTENTIAL SERVICE AT 286,000 LB. GROSS RAIL LOAD.

APPLICATION BY William R. Bitting

I certify that the foregoing conforms to all applicable DOT and AAR requirements, including Specifications, Regulations, Rules of Interchange and the DOT Railroad Safety Appliance Standards.

SIGNATURE William R. Bitting

TITLE Design Engineer - Railcar Division

APPROVAL AAR Tank Car Committee

Date Approval JUL 17 1998

B. J. Payne, Secretary
(Signature) on behalf of Tank Car Committee