

# APPLICATION FOR APPROVAL AND CERTIFICATE OF CONSTRUCTION

Page 1 of 2

1 APPROVAL REQUESTED OF: ☐ PRECEDENT ☒ NON-PRECEDENT

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

3 AAR NO. L996036

4 DATE: SEPTEMBER 16, 1999

5 APPLICANT'S NO. 9848

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 448031 thru EUSX 448042

10 NUMBER OF CARS 12

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	RCB 175 (epoxy)	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, psig	165	24 Insulation type	GLASSWOOL BLANKET
25 Insulation thickness, in.	4	26 Thermal conductivity, Btu-in/hr-ft <sup>2</sup> -°F	0.29
27 Type and number of safety relief devices	SEE NOTES	28 Safety device start-to-discharge, psig	75
29 Safety device flow cap'y., scfm req'd.	140-Largest Comp'nt.	30 Safety device flow capacity, scfm, 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 products authorized in DOT Part 173 for which there are no special commodity requirements and nonregulated commodities compatible with this class of car.

One safety relief valve per compartment --- safety valve required flow rate calculated using default equation per paragraph A8.01.1.1.

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-41272A		
40 Arrangement, Tank	D-43394 SH. 1A		
41 Reinforced Openings	D-43394 SH. 2A,3,4B,5A,6A		
42 Bolster & Draft Sill Arrgt.	D-440434 SH. 1 & 2		L996014A
43 Fittings Arrangement	D-45372		
44 Manway Assembly	D-440077A		
45 Protective Housing	D-45372		
46 Venting, Loading and Discharge Valves	MIDLAND A-217-A		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 (VISUAL SCALE)	D-43394 SH. 2A		
50 Bottom Outlet Valve	JAMESBURY 4" AZFRC-22HBMT		E979037A
51 Bottom Outlet Arrangement	D-45802B		
52 Manway cover	D-243649D		L996028A
53 Calculations	D-643942 SH. 1 & 2		

REVISIONS:

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

**OCT 01 1999**

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 448031-448042

Name

Date

Title

Director Quality Assurance  
Tank Car

## APPLICATION FOR APPROVAL AND CERTIFICATE OF CONSTRUCTION

<u>THE FOLLOWING DRAWINGS APPLY</u>	<u>DRAWING NUMBER</u>	<u>PRECEDENT APPLICATION NO.</u>
54. MANWAY COVER INSTALLATION	D-543667A	
55. 15" FLUED NOZZLE	D-440083	L976018
56. 15" MULTI-HOUSING NOZZLE ASSEMBLY	D-440146B	L986056
57. 15" MULTI-HOUSING NOZZLE COVER FLANGE	D-540179	
58. 3" SAFETY VALVE NOZZLE ASSEMBLY	B-27514H	L986056
59. SAFETY VALVE ARRANGEMENT	D-45507A	
60. JACKET ANCHOR	B-23650	L966027A

### LINE 48 --- HEATER SYSTEMS

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

### 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 AND WILL BE BUILT IN ACCORDANCE WITH  
AAR S-259 AND M-1002 PARAGRAPH 1.3.16 FOR 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

**OCT 01 1999**

(Signature) on behalf of Tank Car Committee