

APPLICATION FOR APPROVAL AND CERTIFICATE OF CONSTRUCTION

1 APPROVAL REQUESTED OF: PRECEDENT 2 TYPE: CONSTRUCTION WELDED REPAIRS 3 AAR NO. A951007A
 TANK CAR COMMITTEE ALTERATION OTHER 4 DATE: 5-11-95
 CONVERSION 5 APPLICANT'S NO. 18-12404
6 APPLICANT: ACF Industries, Inc. 7 TANK SPECIFICATION DOT 114A340W
3301 Rider Trail South, Earth City, MO 63045-1393 8 STENCILED SPEC.: DOT 114S340W*
9 REPORTING MARKS & CAR NUMBERS FMLX 14001 - 14070 10 NUMBER OF CARS 70

11	Initial commodity	See Notes	12	Density, lb. per gallon	14.38
13	Full water capacity, gal.	13,170	14	Dome capacity or outage, gal.	2% = 263
15	Material type & grade - heads	AAR TC 128 Gr. B (Norm)	16	Material type & grade - shell	AAR TC 128 Gr. B (Norm)
17	Material thickness - heads, in.	9/16	18	Material thickness - shell, in.	9/16
19	Lining type	----	20	Inside diameter - center, in.	95
21	Inside diameter - end rings, in.	95	22	Head radius, main, in. (if not 2:1)	-----
23	Test pressure, psi	340	24	Insulation type	1 lb. Density Fiberglass
25	Insulation thickness, in.	4	26	Thermal conductivity, Btu-in/hr -ft ² -F	0.27
27	Type and number of safety relief devices	Valve (1)	28	Safety device start-to-discharge, psi	255
29	Safety device flow capy., cfm reqd.	202	30	Safety device flow capacity, cfm, actual	3933
31	Tank surface area, sq. ft.	984	32	Underframe type	Stub Sill
33	Center of gravity, loaded, in.	81	34	Est. light weight, lb.	77,200
35	AAR clearance diagram	B	36	Rail load limit, lb.	263,000
37	Truck capacity, tons	100	38	Head sheilds	Full

NOTES: * Per exemption Dot-E 11473.
 Elemental Phosphorus and products authorized in DOT Part 173 for which there are no special commodity requirements and non regulated commodities compatible with this class of car. STENCIL: Phosphorus in 4" letters and DOT-E 11473 in 4" letters & numbers.

Orig. Cert. _____
 Builder _____
 Date _____
 Former Lading _____

The Following Drawings Apply:	Drawing Number	The following prior approvals apply:	
		Drawing Number	Application/Certificate No.
3 General Arrangement.....	5-U-7865-A		
40 Arrangement, Tank.....	5-U-7353-C		
41 Reinforced Openings, Including Calculations..	5-U-7835-A		
42 Anchorage, Including Calculations.....	5-U-7741-A		A951006 (Pending)
43 Fittings Arrangement.....	5-U-7790-A		
44 Manway Assembly.....	5-U-7654-A		
45 Protective Housing.....	See Item 43		
46 Venting, Loading and Discharge Valves.....	See Page 2		
47 Safety Relief Devices.....Midland.....	A-17255-P		
48 Heater Systems (Int. ___/Ext. X ___)	5-U-7680-A1		
49 Gaging Devices.....	3" Flg'd. Pipe		
50 Bottom Outlet Valve.....	None		
51 Repairs.....			
52 Manway cover.....	4-U-7603-A/3-U-3345-A		
53 Calculations.....			

REVISIONS: "A" dated 8-10-95, added DOT exemption number and corrected reporting marks and car numbers.

Date of Order: 11-20-94

APPLICATION BY: C. E. Pierson

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 C. E. Pierson
 TITLE Product Engineer

APPROVAL - AAR Tank Car Committee

OCT 27 1995
 Date Approved P. J. Payne, Secretary
Secretary on behalf of Tank Car Committee

TIFICATION: 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:

SEE ATTACHED PAGE

Name Mark S. [Signature] Date 11/8/95
 Title Manager, Technical Services

AAR NO A951007A

Applicant's No. 18-12404

Date 5-11-95

The following items and item numbers refer to like item numbers on Page 1.

46. Venting, Loading and Discharge Valves:

Top Unloading Arrangement 5-U-7629-A
Water Outlet Arrangement 5-U-7612-A

APPLICATION BY C. E. Pierson

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 C. E. Pierson

TITLE Product Engineer

APPROVAL AAR Tank Car Committee Date Approved OCT 27 1995

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

Certificate of Construction
Certificate No. A951007A
Lot No. 18-12404

November 8, 1995
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<u>FMLX</u>	<u>Cap'y</u>	<u>Light- weight</u>	<u>FMLX</u>	<u>Cap'y</u>	<u>Light- weight</u>
14001	13243	75600	14036	13254	75700
14002	13250	75600	14037	13257	75400
14003	13242	75700	14038	13258	75900
14004	13238	75700	14039	13246	75800
14005	13243	75700	14040	13246	75700
14006	13255	75600	14041	13258	75700
14007	13249	75300	14042	13253	75700
14008	13262	75800	14043	13257	75500
14009	13258	75300	14044	13248	75600
14010	13257	75400	14045	13258	75800
14011	13254	75500	14046	13252	75700
14012	13279	75300	14047	13259	75400
14013	13241	75300	14048	13260	75800
14014	13253	75400	14049	13264	75400
14015	13260	75500	14050	13265	75700
14016	13260	75700	14051	13266	75400
14017	13251	75700	14052	13257	75500
14018	13258	75600	14053	13263	75500
14019	13261	76300	14054	13261	75700
14020	13253	75600	14055	13265	75700
14021	13261	76100	14056	13266	75900
14022	13256	75500	14057	13252	75700
14023	13254	75600	14058	13252	75700
14024	13262	75600	14059	13266	75800
14025	13256	75200	14060	13266	75600
14026	13262	75600	14061	13259	75600
14027	13249	75800	14062	13258	75800
14028	13256	75700	14063	13262	75700
14029	13255	75700	14064	13265	75600
14030	13249	75600	14065	13252	75700
14031	13254	75900	14066	13257	75700
14032	13264	75900	14067	13262	75400
14033	13260	75600	14068	13272	75600
14034	13259	75700	14069	13263	75300
14035	13260	75700	14070	13267	75600



U.S. Department
of Transportation
Research and
Special Programs
Administration

JUL 25 1985

400 Seventh Street, S.W.
Washington, D.C. 20590

DOT-E 11473

EXPIRATION DATE: July 31, 1987

(FOR RENEWAL, SEE 49 CFR SECTION 107.105.)

1. **GRANTEE:** FMC Corporation
Philadelphia, Pennsylvania
2. **PURPOSE AND LIMITATION:** This exemption authorizes the transportation in commerce of a Division 4.2 material in DOT Specification 114A340W tank cars equipped with skid protection in place of a protective housing and equipped with a safety relief device having a start-to-discharge pressure of 82.5 percent of the tank test pressure. This exemption provides no relief from any regulations other than as specifically stated.
3. **REGULATORY SYSTEM AFFECTED:** 49 CFR Parts 106, 107 and 171-180.
4. **REGULATIONS FROM WHICH EXEMPTED:** 49 CFR 173.31(a); 179.100-1; 179.103-3; and 179.103-4.
5. **BASIS:** This exemption is based on FMC Corporation's application of May 19, 1985, submitted in accordance with 49 CFR 107.103, and the public proceeding thereon.
6. **HAZARDOUS MATERIALS (49 CFR 172.101):**

Hazardous materials description/proper shipping name	Hazard Class/Division	Identification number	Packing Group
Phosphorus, white, or yellow dry or under water or in solution	4.2	UN 1381	I

7. **PACKAGING(S) and SAFETY CONTROL MEASURES:**
 - a. Packaging prescribed are DOT Specification 114A340W tank cars equipped with a safety relief device having a set-to-discharge pressure of 44.1 percent of the rated tank test pressure and equipped with skids as per the applicant's drawing SK5-U-7253 in place of the protective housing.

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- b. The total valve discharge capacity must be sufficient to prevent build-up of pressure in the tank in excess of 90 percent of the rated tank test pressure.
- c. Each tank car operating under the terms of this exemption must be marked "DOT-E 11473" in four inch letters and numerals on a contrasting background above the DOT specification number.
- d. Each tank car operating under the terms of this exemption must be stenciled with the safety relief valve setting in accordance with Appendix C of the Association of American Railroad's Specification for Tank Cars.
- e. The safety relief valves for tank cars operating under the terms of this exemption shall be tested to operate with a start-to-discharge pressure rating of 150 p.s.i. and a vapor tight rating of 120 p.s.i.
8. SPECIAL PROVISIONS. Persons who receive packages covered by this exemption may reoffer them for transportation provided no modifications or changes are made to the packages, all terms of this exemption are complied with, and a current copy of this exemption is maintained at each facility from which such reoffering occurs.
9. MODES OF TRANSPORTATION AUTHORIZED. Rail freight.
10. MODAL REQUIREMENTS:
- a. The Federal Railroad Administration is to be notified if any unusual incident occurs, such as derailment or exterior tank car damage, during the movement by contacting the:

Federal Railroad Administration
Office of Safety Enforcement, RRS-12
Hazardous Materials Division
400 Seventh Street, S.W.
Washington, D.C. 20590
(202) 366-9178 or 366-0549

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11. **COMPLIANCE.** Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by Federal hazardous materials transportation law, 49 U.S.C. Section 5101 et seq.:


- o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- o Registration required by 49 CFR 107.601 et seq., when applicable.

No person may use or apply this exemption, including display of its number, when the exemption has expired or is otherwise no longer in effect unless a regulation has been amended making the exemption no longer necessary.

12. **REPORTING REQUIREMENTS.**

a. The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (49 CFR 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder of this exemption must inform the AAHMS, in writing, of any incidents involving the package and shipments made under the terms of this exemption.

Issued at Washington, D.C.:


Alan I. Roberts
Associate Administrator
for Hazardous Materials Safety

JUL 25 1995

(DATE)

Address all inquiries to: Associate Administrator for Hazardous Materials Safety,
Research and Special Programs Administration, Department of Transportation,
Washington, D.C. 20590; Attention: DHM-31.

The original of this exemption is on file at the above office. Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

Dist: FRA