



U.S. Department
of Transportation

**Research and
Special Programs
Administration**

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

**ADVISORY: ALUMINUM CYLINDERS
MADE OF ALUMINUM ALLOY 6351-T6**

Aluminum cylinders are widely and safely used in industrial, medical, underwater diving, and emergency response services. However, cylinders made of aluminum alloy 6351-T6 are susceptible to sustained load cracking in the neck and shoulder area of the cylinder. For this reason, a final rule published under Docket No. RSPA-01-10373 (HM-220D) on August 8, 2002, prohibits the manufacture of DOT specification cylinders using aluminum alloy 6351-T6. In addition, the HM-220D final rule prohibits the use of existing cylinders made of aluminum alloy 6351-T6 for transportation of materials that are poisonous by inhalation in Hazard Zone A or gases with pyrophoric properties. Further, the HM-220D final rule requires existing cylinders made of aluminum alloy 6351-T6 to be inspected for evidence of sustained load cracking in the neck and shoulder areas in accordance with the cylinder manufacturer's written recommendation. Refer to §§ 173.40, 173.301 and 180.205, as adopted.

If you are aware of the rupture of any DOT-3AL cylinder or any cylinder manufactured of aluminum alloy 6351-T6, whether the incident was domestic or foreign, you should contact RSPA as soon as possible.

For additional information, visit the [DOT Specification 3AL Cylinders](http://hazmat.dot.gov/3al_cyls_info.htm) web page at "http://hazmat.dot.gov/3al_cyls_info.htm".

Potentially Affected Cylinders

1. Cylinders marked "DOT-3AL" and manufactured before 1990.
2. Seamless aluminum cylinders marked "DOT-3AL" above or near one of the following exemption or special permit numbers:

6498
7042
8107
8364
8422

3. Aluminum-lined composite cylinders with hoop-wrapped, reinforced plastic manufactured before 1984 and marked with one of the following exemption or special permit numbers (these cylinders have a 15-year authorized service life:

7235 (manufactured until 1990)

8023

8115

Manufacturers

1. Unless determined otherwise, you should assume that a DOT-3AL or DOT-E 7235 cylinder manufactured by the following U.S. companies is constructed of aluminum alloy 6351-T6:
 - a. Luxfer USA (see table below for applicable dates of manufacture).
 - b. Cliff-Impact Division of Parker Hannifin Corporation if manufactured before July 1990.
 - c. Walter Kidde Company if manufactured before February 1990.
 - d. Any other U.S. cylinder manufacturer, except Catalina, a division of Aluminum Precision Products, Inc., if manufactured before February 1990. (Cylinders manufactured by Catalina are not affected.)
2. Unless determined otherwise, you should assume that a DOT 3AL or DOT-E 7235 cylinder manufactured outside the United States is constructed of aluminum alloy 6351-T6.

Table - Affected Cylinders Manufactured by Luxfer USA

DOT	Service and Type Cylinder		Part No.	Date Mfd. Before	
Spec. 3AL	Carbon Dioxide	1.2 and 1.5 lb.	C1.2, C1.5	01-89	
		2.18 lb.	C2-18	11-88	
		10 lb.	C10	08-88	
		5 lb.	C5	06-88	
		15 lb.	C15	11-87	
		20 and 35 lb.	C20, C35	04-88	
		50 lb.	C50	02-88	
	SCBA	7, 8 and 13 cu. ft.	L7, L8, L13	09-87	
		13.3 cu. ft.	L13-30	05-88	
		15 cu. ft.	L15	01-89	
		26 cu. ft.	L26	02-88	
		45 cu. ft.	L45	11-87	
	SCUBA	30 and 63 cu. ft.	S30, S63	05-88	
		40 cu. ft.	S40	06-88	
		50 and 92 cu. ft.	S50, S92	04-88	
		72 and 100 cu. ft.	S72, S100	08-87	
		80 cu. ft.	S80	01-88	
		80.8 cu. ft.	S80.8	05-87	
	Medical Oxygen	C	M9	01-88	
		D and E	MD, ME	12-87	
	Industrial	22 and 150 cu. ft.	N22, N150	05-88	
		33 cu. ft.	N33	11-88	
		60 and 122 cu. ft.	N60, N122	12-87	
		88 cu. ft.	N88	12-88	
	DOT-E 7235 (Note 3)	Service Pressures 2016 and 3000 psig			08-89
		Service Pressure 4500 psig (cylinders must be fitted with a neckring)			