



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue SE
Washington, DC 20590

JUL 29 2015

Ms. Andrea Kornbluth
Regional Counsel, North America
Mihama Corporation
200 Bellevue Pkwy Ste 180
Wilmington, DE 19809

Reference No. 15-0022

Dear Ms. Kornbluth:

This is response to your December 30, 2014 e-mail requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to Department of Transportation (DOT) specification 39 (DOT-39) cylinders. In your letter, you reference a Worthington Cylinder Corporation petition (P-1622) that requested changes to the HMR related to the size limit for DOT-39 cylinders containing liquefied flammable gases. You state that you are unable to purchase standard size DOT-39 cylinders for use with refrigerant gases such as R-32. However, you are aware of cylinders currently being imported into the Japanese market from China on the basis of approval from the Authorized Testing Inc.'s Chinese offices. You state these cylinders are being certified without reference to the type of gas they will contain. You ask if it is an acceptable practice under the HMR to use these DOT-39 specification cylinders with a 793 cubic inch capacity certified in this way to ship UN 3252, refrigerant gas R32, classified as a 2.1 flammable gas.

Generally, R-32 refrigerant gases are classified as Liquefied Division 2.1 gases. The Pipeline and Hazardous Materials Safety Administration (PHMSA) does not believe it is a safe practice to ship 2.1 liquefied flammable gases in a DOT-39 cylinder exceeding 75 cubic inches.

Prior to 2002, § 173.304(a)(3), Note 9 appeared in the HMR and limited liquefied flammable gases in DOT-39 cylinders to a size of 75 cubic inches. In an October 20, 1998 (HM-220D) [63 FR 58460] Notice of Proposed Rulemaking (NPRM), PHMSA proposed to limit all liquefied flammable gases in DOT-39 cylinders to 75 cubic inches. This NPRM proposed to remove Note 9 from §173.304(a)(3) and apply the 75 cubic inch size limit on DOT-39 cylinders to all liquefied compressed gases (not just flammable) in 173.304(a)(3). PHMSA received several comments in opposition to extending the 75 cubic inch limit on DOT-39 cylinders to all liquefied compressed gases. PHMSA then published a Final Rule on August 8, 2002 (HM-220D) [67 FR 51625] and, based on comments received from the regulated community, decided not to expand the 75 cubic inch limit on DOT-39 cylinders containing

liquefied compressed gases. However, in the process of publishing the Final Rule, PHMSA inadvertently deleted Note 9 in § 173.304a that limited liquefied flammable gases in DOT-39 cylinders to 75 cubic inches. It was never the intention of PHMSA to remove the 75 cubic inch limit for liquefied flammable gases in DOT-39 specification cylinders. PHMSA did receive and accept a petition (P-1622) from Worthington Cylinders to address this error in a future rulemaking.

I hope this satisfies your request.

Sincerely,

A handwritten signature in cursive script that reads "T. Glenn Foster". The signature is written in black ink and has a long, sweeping horizontal line extending to the right.

T. Glenn Foster
Chief, Regulatory Review and Reinvention Branch
Standards and Rulemaking Division

Goodall, Shante CTR (PHMSA)

Andrews
178.45
Specification 39
non reusable cylinders
15-0022

From: Nickels, Matthew (PHMSA)
Sent: Wednesday, January 28, 2015 6:02 PM
To: Hazmat Interps
Subject: FW: DOT-39 Cylinder Question
Attachments: 140929Material Control.pdf; ComplianceCert.pdf; Cylinder filling certificateR32.pdf

Hey Shante/Alice,

Please submit this for a formal letter of interpretation. It involves DOT Petition P-1622 (Mr. Andrews might know), and potentially a previous international harmonization rulemaking (PHH-13 person).

Thanks,
Matt

-----Original Message-----

From: Andrea Kornbluth [mailto:akornbluth@mihama.com]
Sent: Friday, January 16, 2015 11:11 AM
To: Foster, Glenn (PHMSA)
Subject: DOT-39 Cylinder Question

Dear Mr. Foster,

My company is a supplier of U.S.-made DOT-39 NRCs in Japan. We understand from documents such as DOT Petition P-1622, etc. that the DOT is reviewing its rules on the use of NRCs for newer refrigerants with lower flammability limits, and that there are safety concerns with the rules as they are currently written. As a result, we are unable to purchase standard-size NRCs for use with gases such as R-32 at the moment.

However, these products are currently being imported into the Japanese market from China, on the basis of approval from Authorized Testing Inc.'s Chinese offices. (Please see the attached documents.) Authorized Testing is certifying cylinders without reference to the type of gas that they will contain. We were told that they don't look at what might be silkscreened onto the cylinder, either.

We would like to know if this is an acceptable practice, and if cylinders certified in this way can be considered safe for use with R-32.

Your input would be very much appreciated.

Thank you,

Andrea Kornbluth
Regional Counsel, North America
Mihama Corporation
646-524-7686
akornbluth@mihama.com

AUTHORIZED TESTING, INC.
RIVERSIDE, CA

**CERTIFICATE OF COMPLIANCE
SPECIFICATION DOT-39 CYLINDERS**

Date: January 25, 2013

Manufactured for: Wuyi Xilinde Import And Export Department
Located at: Baihuashan Industrial Zone,Wuyi, 321200, Zhejiang, China.

Manufactured by: Wuyi Xilinde Machinery Manufacture Co.,Ltd
Located at: Baihuashan Industrial Zone,Wuyi, 321200, Zhejiang, China.

DOT Specification: DOT-39 (49CFR§178.65)

DOT Registration 'M' Number is M 0708.

Size: 9.57 inches outside diameter by 16.54 inches long. **Minimum wall thickness:** 0.0472 inches.

Calculated Wall Stress: 43,085 psi

Quantity: 24000

Design Test Pressure: 500 psi **Marked Service Pressure:** 400 psi

Internal Volume: 793 cubic inches (nominal).

Model Number: RC13-3.45

Production Code: XLD1302

These containers were made by process of joining two press drawn domes by a circumferential furnace brazing with all permissible attachments were furnace brazed to the vessel body.

The metal used was identified by heat or analysis number as shown on the "Record of Chemical Analysis of Material for Cylinders" attached hereto.

All materials and each cylinder were inspected. All accepted material was found free from seams, cracks, laminations, and other defects, which might prove injurious to the strength of the cylinder. The processes of manufacture and heat treatment (if any) were observed and found acceptable.

Where applicable, all tests prescribed in the following specification(s) were made in the presence of the inspector.

I hereby certify that I have determined that cylinders described on this report comply with the requirements of U.S. Department of Transportation Specification DOT-39.

My record of tests and inspection for each lot covered by this report is attached hereto.

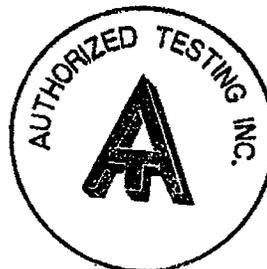
Inspectors Name (print) LI DE QING

Date: January 25, 2013

Inspectors Signature

Li De Qing

Authorized Testing, Inc.



AUTHORIZED TESTING, INC.
RIVERSIDE, CA

RECORD OF CHEMICAL ANALYSIS OF MATERIAL FOR DOT-39 CYLINDERS

Date: January 25, 2013

Manufactured for: Wuyi Xilinde Import And Export Department

Manufactured by: Wuyi Xilinde Machinery Manufacture Co.,Ltd

Material: DC04 (ST14), (DQSK)

Mill Heat Number	Type Analysis	XLD Cast Code	Manufacturing (Shift) Lots	C	P	S	Mn
537412	LADLE	ZCC13005	ZC130120-1,3,5,7,9,11 ZC130121-1,3,5,7,9,11 ZC130122-1,3,5,7,9,11 ZC130123-1,3,5,7,9,11,13	0.02	0.012	0.006	0.18
	CHECK	ZCC13005	ZC130120-1,3,5,7,9,11 ZC130121-1,3,5,7,9,11 ZC130122-1,3,5,7,9,11 ZC130123-1,3,5,7,9,11,13	0.023	0.014	0.012	0.256

Material Manufacturer and mill analysis by: Baoshan Iron & Steel Co.,Ltd

No.885 Fujin Road,Baoshan District 201900 Shanghai.P.R.China

Check Chemical Analysis by: Zhejiang Sifang Group Co. Ltd.

The above analyses have been verified to comply with material authorized by the specification.
The originals of the certified mill analysis are in the files of the manufacturers.

Inspectors Name (print): LI DE QING

Date: January 25, 2013

Inspectors Signature:

Li De Qing

Authorized Testing, Inc.



AUTHORIZED TESTING, INC.
RIVERSIDE, CA
RECORD OF PHYSICAL TESTS FOR COMPLETED DOT-39 CYLINDERS

Date: January 25, 2013

Manufactured for: Wuyi Xilinde Import And Export Department

Manufactured by: Wuyi Xilinde Machinery Manufacture Co.,Ltd

Material: DC04(ST14), (DQSK)

Lot Number	Lot Quantity	Lot Test		All Cylinders	
		Burst Pressure (psi)	Flattening Test @ 6t	Pressure Test	Visual Inspection
ZC130120-1	998	1008	PASSED	PASSED	PASSED
ZC130120-3	999	1018		PASSED	PASSED
ZC130120-5	998	1015		PASSED	PASSED
ZC130120-7	999	1034		PASSED	PASSED
ZC130120-9	999	1019		PASSED	PASSED
ZC130120-11	999	1013		PASSED	PASSED
ZC130121-1	997	1018	PASSED	PASSED	PASSED
ZC130121-3	999	1015		PASSED	PASSED
ZC130121-5	998	1016		PASSED	PASSED
ZC130121-7	998	1010		PASSED	PASSED
ZC130121-9	999	1039		PASSED	PASSED
ZC130121-11	999	1026		PASSED	PASSED
ZC130122-1	998	1016	PASSED	PASSED	PASSED
ZC130122-3	999	1032		PASSED	PASSED
ZC130122-5	999	1022		PASSED	PASSED
ZC130122-7	999	1013		PASSED	PASSED
ZC130122-9	998	1022		PASSED	PASSED
ZC130122-11	998	1031		PASSED	PASSED
ZC130123-1	998	1039	PASSED	PASSED	PASSED
ZC130123-3	999	1010		PASSED	PASSED
ZC130123-5	999	1035		PASSED	PASSED
ZC130123-7	998	1013		PASSED	PASSED
ZC130123-9	999	1064		PASSED	PASSED
ZC130123-11	998	1016		PASSED	PASSED
ZC130123-13	36	1018		PASSED	PASSED

Inspectors Name (print) LI DE QING

Date: January 25, 2013

Inspectors Signature

Li De Qing

Authorized Testing, Inc.



AUTHORIZED TESTING, INC.

MATERIAL CONTROL LOG
DOT-39

Steel Mill	Mill Heat No.	Coil No.	Steel Mill Cert. No.	Date Received	Date Released	Date/Shift Manufactured	Quantity Manufactured	XILINDE Steel Lot No.	Comments
BG STEEL	537412	461035301	BGSAL1209250085700	2013-1-15	2013-1-20	2013-1-20	12.410T/2606	ZCC13005	
BG STEEL	537412	461035302	BGSAL1209250085700	2013-1-15	2013-1-20	2013-1-20	12.250T/2572	ZCC13005	
BG STEEL	537412	461035401	BGSAL1209250085700	2013-1-15	2013-1-20	2013-1-20	12.400T/2604	ZCC13005	
BG STEEL	537412	461035402	BGSAL1209250085700	2013-1-15	2013-1-20	2013-1-20	12.730T/2673	ZCC13005	
BG STEEL	537412	461035501	BGSAL1209250085700	2013-1-15	2013-1-20	2013-1-21	12.510T/2627	ZCC13005	
BG STEEL	537412	461035502	BGSAL1209250085700	2013-1-15	2013-1-21	2013-1-21	12.280T/2578	ZCC13005	
BG STEEL	537412	461035601	BGSAL1209250085700	2013-1-15	2013-1-21	2013-1-21	12.250T/2572	ZCC13005	
BG STEEL	537412	461035602	BGSAL1209250085700	2013-1-15	2013-1-21	2013-1-21	12.700T/2667	ZCC13005	
BG STEEL	537412	461035701	BGSAL1209250085700	2013-1-15	2013-1-21	2013-1-22	12.730T/2673	ZCC13005	
BG STEEL	537412	461035702	BGSAL1209250085700	2013-1-15	2013-1-22	2013-1-22	2.215T/465	ZCC13005	

浙江永和制冷股份有限公司
ZHEJIANG YONGHE REFRIGERANT CO., LTD.
ADDRESS: NO. E-025 DONG GANG INDUSTRIAL DISTRICT QUZHOU, ZHEJIANG, CHINA

CYLINDER FILLING CERTIFICATE

DATE:

INVOICE No.:

B/L No.:

VESSEL/VOY.:

COMPANY NAME: ZHEJIANG YONGHE REFRIGERANT CO.,LTD.

PRPDUCTION: REFRIGERANT GAS R-32

QUANTITY: 280CYLINDERS (N.W.): 1960KGS

PRESSURE: 1.7MPA AT25°C

TEMPERATURE:25°C

CYLINDER:DOT CYLINDERS:7.0KG

QUANTITY: 280CYLINDERS

CYLINDER DOT No: 280CYL ZC130122-1

浙江永和制冷股份有限公司
ZHEJIANG YONGHE REFRIGERANT CO.,LTD

ZHEJIANG YONGHE REFRIGERANT CO., LTD.

俞申司