

CYLINDER**140034.11**

1 AJ 045511

2 AJ 045439

3 AJ 045472

4 AJ 045505

5 AJ 045507

6 AJ 045497

7 AJ 045566

8 AJ 045548

9 AJ 045517

10 AJ 045542

11 AJ 045556

12 AJ 045529

13 AJ 045544

14 AJ 045481

15 AJ 045494

16 AJ 045528

17 AJ 045569

18 AJ 045514

19 AJ 045561

20 AJ 045524

21 AJ

22 AJ

23 AJ

24 AJ

(59659)

MTE Report No: 59659
Part#: 140034
WO#:

Certificate of compliance and test report – welded or brazed cylinders
Manufactured under Dept. of Transportation regulations

Manufacturer: MANCHESTER TANK & EQUIP.

Location: 3630 Manchester Drive, ELKHART, IN 46514 USA

CYLINDER DESCRIPTION AND DESIGN CRITERIA:

DOT spec. 4BW Service Pressure: 400 psi
Nominal size: 10.000in. O.D.x 47.375in. Long Test Pressure: 800 psi
Nominal volumetric capacity: 123.0 lb Minimum wall: 0.109 in.
Tare weight range: 51.00 - 53.00 lb Calculated stress @ T.P.: 34685 psi
Joint Efficiency: Spot X-Ray for 90% Joint Efficiency.

MANUFACTURING PROCESS:

Construction: (Welded, brazed, type seams, etc) These Cylinders were made by process of electric arc welding semi-elliptical heads to a rolled shell. The Longitudinal butt seam was butt welded, per 178.61-(d)(3)(i). The circumferential seams were Joggle butt welded, per 178.61(d)(2).

MATERIAL AND HEAT TREATMENT:

Material was type 3 authorized in Table 1 of Appendix A of Part 178.

The material was identified by Heat Numbers: 227105,228300

REPORT DETAILS:

Quantity: 207 Test date: 10/2018
Serial# Range: AJ045386 – AJ045592 Heat no. or code: 72B,71V
Identifying symbol: M4499 Lot numbers: 1 - 2
MARKINGS: _____ Inspector's mark: JS

MANUFACTURED FOR: Stock

CONSIGNED TO: _____

I hereby certify that I have determined that cylinders described on this report comply with the requirements of Dept. of Transportation specification Title 49 CFR, Part 178.61

Remarks: _____

Signed: 
JIM SOMMER

Location: ELKHART, IN

Date: 10-12-18

Record of chemical analysis of material for cylinders

Serial no range: AJ045386 to AJ045592 inclusiveCylinder size: 10.000in. O.D. x 47.375in. longCylinder Manufacturer: MANCHESTER TANK & EQUIP.

Heat and Code number.	Type of Analysis (ladle/check	Chemical Analysis									
		C Ni	Mn Cu	P Cr	S Mo	Si Ti	Al Mg	Cb Zn	V Fe	Other 1 Name – Sym Other 2 Name - Sym	
72B - 227105 MANUF BY: NORTH STAR TESTED BY: NORTH STAR	Ladle	0.040 0.040	0.840 0.100	0.011 0.070	0.003 0.010	0.020 0.001	0.030 0.000	0.033 0.000	0.001 0.000	- -	
71V - 228300 MANUF BY: NORTHSTAR TESTED BY: NORTHSTAR	Ladle	0.040 0.040	0.840 0.100	0.012 0.050	0.003 0.010	0.020 0.001	0.020 0.000	0.033 0.000	0.002 0.000	- -	

Material manufacturer: Manufacturers listed in above data.

The above analyses have been verified to comply with material authorized by the specification. Chemical Analyses were made by Companies listed in above data.

Location: ELKHART, INDate: 10-12-18

Record of physical test of material for cylinders

Serial no range: AJ045386 to AJ045592 inclusiveCylinder size: 10.000 in. O.D. x 47.375 in. longCylinder Manufacturer: MANCHESTER TANK & EQUIP.Type of heat treatment: Cylinders were heat treated in excess of 1100F, in accordance with the 4BW Cylinder Spec.

First Serial# Last Serial# Min Wall Thick Wall Stress	Lot number	Heat Code	Yield strength Psi	Tensile strength Psi	Yield/ tensile ratio*	Elongation % in Inches** Length %	Red in area %	Weld test * tensile bend	Flat test *	Burst test *	Cycle test *
AJ045386 AJ045585 0.115 in 32877 psi	1-HT 1-HB 1-S 1-W	72B 72B 71V	79132 77638	83525 80106 79438	% %	3.096 23.9 2.760 27.4	42.4 42.5	SAT SAT		PASS	
AJ045586 AJ045592 0.115 in 32877 psi	2-HT 2-HB 2-S 2-W	72B 72B 71V	77637 75692	82089 79396 76789	% %	3.096 22.4 2.760 24.5	47.4 35.4	SAT SAT			

HT – Head Top HB – Head Bottom S – Side Wall W – Weld PM – Parent Material SAT - Satisfactory

* Where applicable

** Insert gage length of specimen

Location: ELKHART, INDate: 10-12-18

Test pressure: 800 psi

[illegible]

The above results represent sample cylinders selected from each lot. All other cylinders in the lot were subjected To a proof pressure of 800 psi and showed no defects.

Location: ELKHART, IN

Date: 10-12-18