



2669 MARTIN LUTHER KING BLVD
YOUNGSTOWN, OH 44510

V&M STAR LP.
Seamless Tubular Products

Certified Test Report
06/28/2010

CUSTOMER:

SLN: Z60307 ✓ GRADE: API 5L X52 X42 PSL 2 Rev. October 1, 2008
OD: 8.625 WALL: 0.500 LBS/FT: 43.43

DESC: SEAMLESS HOT ROLLED

CUSTOMER ORDER NUMBER: S933

COMMENT: Melted and Manufactured in the U.S.A.
V&M Star's QA program meets the requirements of DIN EN 10204-2004 Type 3.1
No repair welding has been conducted. Material is free from Mercury.

PES DRL LP

ORDER LINE #: Y-90628-001

W/O NO:

LOT NUMBER:

MECHANICAL PROPERTIES: LONGITUDINAL

TT-POS	SPECIMEN CROSS SECTION			STRENGTH KSI		ELONGATION			%RA
	WIDTH(IN)	THICK(IN)	AREA(SQIN)	YIELD	TENSILE	GAGE LENGTH	%ELONG		
1)	1.513	0.488	0.7427	55.6	79.5	2	32.2	0.0	
2)	0.000	0.000	0.0000	0.0	0.0	0	0.0	0.0	
3)	0.000	0.000	0.0000	0.0	0.0	0	0.0	0.0	
4)	0.000	0.000	0.0000	0.0	0.0	0	0.0	0.0	
5)	0.000	0.000	0.0000	0.0	0.0	0	0.0	0.0	

SUPPLEMENTAL REQUIREMENT

HARDNESS: 84 HRBW AVG
FLATTENING: PASSED
FACE TEST: ISO 15156-2 Clause A.2.1.1
GRAIN SIZE:
OTHER:
COLLAPSE:
MIN:
AS QUENCHED:

INSPECTION:

HYDROSTATIC TEST (psi): 4250 for a 5 second minimum

MAX INTERNAL YIELD (psi): 5641

CHEMICAL ANALYSIS: 69A Electromagnetic Inspected. Reference Standard was a test joint with 10% ID and OD Longitudinal and Transverse notches.

	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	Nb	V	Al	Ca	S	Ti	N	CE
HEAT	0.20	0.97	0.011	0.003	0.27	0.15	0.06	0.09	0.02	0.009	0.001	0.022	0.031	0.0019	0.0001	0.001	0.0077	0.40
PRODUCT 1)	0.19	0.95	0.010	0.004	0.27	0.15	0.06	0.09	0.02	0.007	0.001	0.021	0.032	0.0024	0.0003	0.001	0.0072	0.39
PRODUCT 2)	0.20	0.96	0.010	0.003	0.27	0.15	0.06	0.09	0.02	0.007	0.001	0.021	0.031	0.0021	0.0003	0.001	0.0065	0.39
PRODUCT 3)	0.00	0.00	0.000	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.00
PRODUCT 4)	0.00	0.00	0.000	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000	0.000	0.0000	0.0000	0.000	0.0000	0.00

CHARPY IMPACT TESTING NOTCH: V

	DIRECTION	SIZE	TEMP(Deg.F)	FTLBS 1	FTLBS 2	FTLBS 3	AVG	SHEAR 1	SHEAR 2	SHEAR 3	AVG
TEST #1	TRANS	FULL	32	54	56	60	57.00	20	20	20	20
TEST #2				0	0	0	0.00	0	0	0	0
TEST #3				0	0	0	0.00	0	0	0	0

This material has been produced and tested in accordance with the requirements of applicable specifications unless otherwise listed below. We hereby certify that the above test results are representative of those contained in the records of the company. Any modification to this certification as provided by V & M TUBES, without the expressed written consent of V & M TUBES negates the validity of the test report. V & M TUBES is not responsible for the inability of the material to meet specific applications.

SIGNED:

J.E. Doll

NAME: JOE DOLAK
DATE APPROVED: 06/28/2010

TITLE: PRODUCT METALLURGIST

6/29/2010 3:40:37 PM

Ln#: 3

SC#: S215021

Heat#: Z60307

To: AMERICAS DISPATCH
Qty: 0

Date: 7/20/2010
Part: 8625500X52S

From: American Piping
PO#: 8573