



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: Seamless Carbon Steel Pipe
Production Method: Hot Expansion

Product Heat Number: BSM-2299
Product Heat Treatment: As-rolled

Production Date: Mar 16, 2015
Certificate No.: MTR- 001639

Product Standards: ASME B36.10-2004, API 5L-45th Ed. Grade B PSL1, ASTM/ASME A/SA333-2013 Grade 6 LT(M45C) A106-2014/SA106-2013 Grade B/C NDE, A53-2012/SA53-2013 Grade B Type 5, NACE MR0175-2009 MR0103-2012

Product Markings



<API & L/C No > API SPEC 5L NPS 30 XS 0.500 INCHWT GR B PSL1 SMLS 2015/03 NDE 800PSI
HEAT BSM-2299 (PIPE # LENGTH MASS) 157.5lb/ft ASTM/ASME A/SA333 GR 6 LT(M45C) A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

Product: Details						Non-Destructive Testing								
Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Geliger μR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM	HydroTest 800PSI/ 5 s	End Condition
BSM-2299	Heat	NPS 30 XS 0.500in. WT	4	DRL	157.5	<5	<10	Pass	Pass	Pass	Pass	Pass	Pass	32.5° Bevel

Steelmaking Method		Chemical Analysis (wt%)												
Heat	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B
BSM-2299	Blast Furnace: EAF; Ladle Refining: Vacuum Degass; Fully Killed	Heat	0.18	1.24	0.020	0.007	0.28	0.06	0.01	0.01	0.04	0.060	0.001	0.0005
		Product	0.16	1.28	0.015	0.009	0.32	0.05	0.01	0.01	0.04	0.069	0.002	0.0004

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 50mm GL	Yield (Rt0.5) psi	Tensile (Rm) psi	V/T (Rt0.5/Rm)	Elongation (A) %
BSM-2299	Heat	Ferrite & Pearlite	82 HRBW	Pass	Longitudinal; 38.1 mm x WT	53,500	76,500	0.70	45

Heat	Test	Impact Test Sample Details	Temp °C	Impact Energy J				% Shear			Lateral Expansion mm			
BSM-2299	Standard ASTM A333	CVN Long 10 x 10 mm	-45	J	J	J	AVG	%	%	%	mm	mm	mm	AVG
				108.0	111.0	104.5	107.8	25	25	20	23	1.78	1.70	1.50

Additional Details:

✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing Inc. in accordance with API 5L-45th Ed., ASTM/ASME A/SA333-2013 Grade 6 LT(M45C) A106-2014/SA106-2013 Grade B/C A53-2012/SA53-2013, and the purchase order requirements, and that the results meet the corresponding requirements. Bri-Steel Manufacturing is registered and certified to ISO 9001:2008 and API Q1.

✓ This pipe product meets the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service-2009 NACE MR0103-2012 Section 2.1

✓ No weld repairs have been performed on this product.

✓ This product has not come into contact with mercury during the Bri-Steel Manufacturing processes.

✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:

Tonya Lam, C.E.T.
Assistant QA Manager

Tonya Lam March 18/2015

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BSM-2299

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