



Mill Test Certificate

Bri-Steel Manufacturing Inc.
2125-64 Avenue, Edmonton, AB Canada T6P 1Z4
Tel: 001 (780) 469-6603
Fax: 001 (780) 469-6986
www.bri-steel.com

Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-2298 Production Date: Mar 13, 2015
Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR- 001638

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, AS3-2012/SA53-2013 Grade B Type S, 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-2298 (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	Geiger µR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM	HydroTest 800 PSI/ 5 s	End Condition
BSM-2298	Heat	NPS 30 XS 0.500in. WT	5	DRL	157.5	<5	<10	Pass	Pass	Pass	Pass	Pass	Pass	32.5° Bevel

Chemical Analysis (wt%)																	
Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(CSA)
			Heat	0.18	1.24	0.020	0.007	0.28	0.06	0.01	0.01	0.04	0.060	0.001	0.001	0.0005	-
		Product	0.16	1.27	0.016	0.007	0.31	0.05	0.01	0.01	0.04	0.069	0.002	0.001	0.0005	0.40	0.40
BSM-2298	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed																

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-2298	Heat	Ferrite & Pearlite	82 HRBW	Pass	Longitudinal; 38.1 mm x WT	53,500	75,000	0.71	46

Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy					% Shear			Lateral Expansion			
				J	J	J	AVG	%	%	%	AVG	mm	mm	mm	AVG
BSM-2298	ASTM A333	CVN Long 10 x 10 mm	-45	102.0	122.0	115.0	113.0	20	25	20	22	1.64	1.86	1.77	1.76

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

Product: Seamless Carbon Steel Pipe

Product Heat Number:

BSM-2298

Product Size: 30XS

Production Date:

Mar 13, 2015