



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-2237 Product Size: 30XS Production Date: Feb 10, 2015
Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR- 001576
Product Standards: ASME B36.10-2004, ASTM/ASME A106-2014/SA106-2013 Grade B/C NDE, A53-2012/SA53-2013 Grade B Type S, NACE MR0175-2009 MR0103-2012

Product Markings



NPS 30 XS 0.500 INCHWT SMLS 2015/02 NDE 800PSI
HEAT BSM-2237 (PIPE # LENGTH MASS) 157.5lb/ft ASTM/ASME 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	Geiger	Res. Mag.	Visual	OD	UT	UT	ET	HydroTest	End
					lb/ft	μR/hr	Gauss	Insp.		WT	ASTM E213	ASTM	800 PSI/ 5 s	Condition
BSM-2237	Heat	NPS 30 XS 0.500in. WT	13	DRL	157.5	<5	<10	Pass	Pass	Pass	Pass	Pass	Pass	Plain End

Chemical Analysis (wt%)															
Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B
BSM-2237	Blast Furnace: EAF, Ladle Refining, Vacuum Degass, Fully Killed	Heat	0.20	0.86	0.011	0.007	0.24	0.03	0.07	0.01	0.03	0.001	0.001	0.001	0.0004
		Product	0.20	0.86	0.015	0.012	0.21	0.03	0.08	0.01	0.03	0.004	0.001	0.001	0.0002

Mechanical Properties															
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 50mm GL			Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %				
BSM-2237	Heat	Ferrite & Pearlite	77 HRBW	Pass	Longitudinal; 38.1 mm x WT			48,500	70,500	0.69	45				
Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy				% Shear			Lateral Expansion				
				J	J	J	AVG	%	%	%	AVG	mm	mm	mm	AVG
BSM-2237	ASTM A333	CVN Long 10 x 10 mm	-45	10.0	30.0	10.0	16.7	0	5	0	2	0.14	0.67	0.27	0.36

Additional Details:

✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing Inc. in accordance with ASTM/ASME 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.

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

Tonya Lam Feb 17/2015

Mill Test Certificate approved by: