



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-2213 Product Size: 20STD Production Date: Jan 08, 2015
Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR- 001561
Product Standards: ASME B36.10-2004, Type S, NACE MR0175-2009 MR0103-2012

Product Markings



NPS 20 STD 0.375 INCHWT SMLS 2015/01 NDE
HEAT BSM-2213 (PIPE # LENGTH MASS) 78.6lb/ft 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-2213	Heat	NPS 20 STD 0.375in. WT	1	DRL	78.6	<5	11	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
			0.17	0.29	0.014	0.003	0.06	-	-	-	-	0.002	0.001	-	-
BSM-2213	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.16	0.29	0.011	0.003	0.08	0.02	0.01	0.01	0.01	0.002	0.002	0.001	0.0001
		Product													

Mechanical Properties										Impact Energy					Lateral Expansion		
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) %	Impact Energy					Lateral Expansion		
										Temp °C	J	J	J	AVG	%	mm	mm
BSM-2213	Heat	Ferrite & Pearlite	64 HRBW	Pass	Longitudinal; 25.4 mm x WT	41,800	57,000	0.73	47	-	-	-	-	-	-	-	-
BSM-2213	Test Standard	Impact Test Sample Details															

Additional Details:

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

Mill Test Certificate approved by:

✓ 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.

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

ILam
Feb 103/2015