



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: Seamless Carbon Steel Pipe

Product Heat Number: BSM-1974

Product Size: 20STD

Product Heat Treatment: As-rolled

Production Date: Aug 07, 2014

Production Method: Hot Expansion

Product Heat Treatment: As-rolled

Product Size: 20STD

Product Heat Treatment: As-rolled

Certificate No.: MTR- 001286

Product Standards: ASME B36.10-2004, ASTM/ASME A/SA106-2013 Grade B NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009 MR0103-2010

Product Markings



NPS 20 STD 0.375 INCHWT SMLS 2014/08 NDE 800PSI

HEAT BSM-1974 (PIPE # LENGTH MASS) 78.6lb/ft ASTM/ASME A/SA106 GR B 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	Gelger μ R/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM	HydroTest 800 PSI/ 5 s	End Condition
BSM-1974	Heat	NPS 20 STD 0.375in. WT	20	DRL	78.6	<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	0.19	0.85	0.018	0.006	0.20	0.07	0.02	0.01	0.01	0.003	0.010	0.001	0.0005	-	-
		Product	0.23	0.91	0.015	0.007	0.25	0.05	0.02	0.01	0.01	0.003	0.020	0.001	0.0005	0.39	0.39
BSM-1974			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	Y/T (Rt0.5/Rm)	Elongation (A) %
BSM-1974	Heat	Ferrite & Pearlite	77 HRBW	Pass	Longitudinal; 38.1 mm x WT	47,100	72,000	0.65	30

Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy J				% Shear				Lateral Expansion mm			
BSM-1974	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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 A/SA106-2013 Grade B A/SA53-2012, and the purchase order requirements, and that the results meet the corresponding requirements.

✓ This pipe product meets the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service-2009 NACE MR0103-2010 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

T. Lam
August 12, 2014