



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-1462 Production Date: Dec 05, 2013
 Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR- 000665

Product Standards: ASME B36.10-2004, API 5L-45th Ed. Grade B PSL1, ASTM/ASME A/SA106-2011 Grade B/C NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009 MR0103-2010

Product Markings



<API> 5L-0898 API SPEC 5L NPS 28 STD 0.375 INCHWT GR B PSL1 SMLS 2013/12 NDE 650PSI
 HEAT BSM-1462 (PIPE # LENGTH MASS) 110 6lb/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	
BSM-1462	Heat	NPS 28 STD 0.375in. WT	7	DRL	110.6	<5	<10	Pass	Pass	Pass	Pass	Pass	Pass	32.5° Bevel	

Heat	Steelmaking Method	Test Type	C	Mn	P	Chemical Analysis (wt%)											
						S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(CSA)
BSM-1462	EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.19	0.89	0.012	0.005	0.24	0.03	0.08	0.01	0.04				0.0004	-	
		Product	0.19	0.88	0.013	0.006	0.24	0.04	0.09	0.01	0.05	0.003	0.001	0.001	0.0002	0.35	0.35

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test	Yield (Rt0.5)	Tensile (Rm)	Y/T	Elongation (A)
BSM-1462	Heat	Ferrite & Pearlite	76 HRBW	Pass	Longitudinal; 38.1 mm x WT	47,100 psi	70,000 psi	0.67	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-1462	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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/SA106-2011 Grade B/C 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:

Paul Sowden
 2013 DEC 12

Paul Sowden, T.T.
 Assistant QA Manager