



Mill Test Certificate

Bri-Steel Manufacturing
 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-1310 Product Size: NPS 18 STD Production Date: Oct 09, 2013
 Production Method: Hot Expansion Product Heat Treatment: ThermoMechanical Formed Certificate No.: MTR- 001843
 Product Standards: ASME B36.10-2004, API 5L-45th Ed. GradeB PSL1, 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: <API & L/C No.> API SPEC 5L NPS 18 STD 0.375 INCHWT GRB PSL1 SMLS 2013/10 NDE 1000PSI
 HEAT BSM-1310 (PIPE # LENGTH MASS) 70.59lb/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 lb/ft	Geiger μR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT	UT	ET	HydroTest	End Condition	
BSM-1310	Heat	NPS 18 STD 0.375in. WT	12	DRL	70.59	<5	<10	Pass	Pass	Pass	Pass	Pass	Pass	34° Bevel	

Heat	Test Type	Steelmaking Method	Chemical Analysis (wt%)														
			C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(CSA)
BSM-1310	Heat	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	0.19	0.85	0.015	0.008	0.24	0.06	0.01	0.01	0.04	0.005	0.001	0.001	0.0001	-	-
			0.23	0.98	0.030	0.015	0.25	0.09	0.01	0.01	0.04	0.006	0.002	0.001	0.0001	0.42	0.43

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 2 in. GL	Yield (Rt0.5) psi	Tensile (Rm) psi	V/T (Rt0.5/Rm)	Elongation (A) %
BSM-1310	Heat	Ferrite & Pearlite	77 HRBW	Pass	Longitudinal; 1.5 in. x WT	47,800	76,000	0.63	40

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

Additional Details:
 ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing in accordance with API 5L-45th Ed., ASTM/ASME A106-2014/SA106-2013, 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, and 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:

 2015 June 23.

Kenton Dechant, P.Eng.
 Manager of Quality and R&D



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Product: Details				Non-Destructive Testing										
Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Gelger μR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM E309	HydroTest 1000 PSI/ 5 s	End Condition
BSM-1310	Heat	NPS 18 STD 0.375in. WT	12	DRL	70.59	<5	<10	Pass	Pass	Pass	-	Pass	Pass	34° Bevel

Heat	Steelmaking Method	Test Type	Chemical Analysis (wt%)														
			C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(CSA)
BSM-1310	Blast Furnace; EAF; ladle Refining; Vacuum Degas; Fully Killed	Heat	0.19	0.85	0.015	0.008	0.24	0.06	0.01	0.01	0.01	0.04	0.005	0.001	0.001	0.0001	-
			Product	0.23	0.98	0.030	0.015	0.25	0.09	0.01	0.01	0.04	0.006	0.002	0.001	0.0001	0.42

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