




Mill Test Certificate

Bri-Steel Manufacturing Inc.
 2125-64 Avenue, Edmonton, AB Canada T6P 1Z4
 Tel: 001 (780) 469-6603
 Fax: 001 (780) 469-6986
 www.brichemsteel.com

Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-1219 Product Size: 14 STD Production Date: Sep 09, 2013
 Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR- 000045

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 14 STD 0.375 INCHWT GR B PSL1 SMLS 2013/09 NDE 1140PSI
 HEAT BSM-1219 (PIPE # LENGTH MASS) 54.57lb/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 WT	UT ASTM E213	ET ASTM	HydroTest 1140 PSI/ 5 s	End Condition
BSM-1219	Heat	NPS 14 STD 0.375in. WT	3	DRL	54.57	<5	<5	Pass	Pass	Pass	Pass	Pass	Pass	34° Bevel

Chemical Analysis (wt%)																
Heat	Steelmaking Method	Test Type	C	Min	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	CE(IIW)	CE(CSA)
BSM-1219	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.19	0.88	0.007	0.004	0.23	0.05	0.06	0.04	0.03				0.0004	-
		Product	0.21	0.88	0.009	0.007	0.24	0.06	0.07	0.04	0.03	0.002	0.002	0.001	0.0004	0.38

Mechanical Properties						
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 50mm GL	Elongation (A) %
BSM-1219	Heat	Ferrite & Pearlite	76 HRBW	Pass	Yield (Rt0.5) psi 44,400 Tensile (Rm) psi 71,500	Y/T (Rt0.5/Rm) 0.62 41

Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy			Lateral Expansion					
				J	J	J	%	mm	mm	mm		
BSM-1219	-	-	-	-	-	-	-	-	-	-	-	-

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:


 Tonya Lam, C.E.T.