

Mill Test Certificate

2125-64 Avenue, Edmonton, AB Canada T6P 1Z4 Bri-Steel Manufacturing Inc.

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Product: Seamless Carbon Steel Pipe

Production Method:

Product Heat Number:

BSM-1251

Product Size: 20 XS

Production Date: Sep 17, 2013

Certificate No.: MTR- 000461

Hot Expansion Product Heat Treatment: As-rolled

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 | CAPI-STEEL | CAPI- 5L-0898 API SPEC 5L NPS 20 XS 0.500 INCHWT GR B PSL1 SMLS 2013/09 NDE 1200PSI HEAT BSM-1251 (PIPE # LENGTH MASS) 104.1lb/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

Heat Test Type Product Size Pieces Length Mass Geiger Res. Mag. Visual OD UT UT ET HydroTest End lb/ft μR/hr Gauss Insp. WT ASTM E213 ASTM 1200 PSI/ 5 s Condition BSM-1251 Heat NPS 20 XS 0.500in. WT 2 DRL 104.1 ok <5 Pass Pass Pass Pass Pass Pass 34° Bevel Chemical Analysis (wt%)				_	-	,	_
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st End 5 s Condition 34° Bevel		HydroTe	1200 PSI/	Pass			
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		End	ondition	4° Bevel			

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неат				BSM-1251	Heat
lest lype	1		Degas, runy mice	Blast Furnace; EAF; L	Steelma
Microstructure				Blast Furnace; EAF; Ladle Refining; Vacuum	Steelmaking Method
Haro			Product 0.23	Heat	Test Type
Hardness			0.23	0.20	С
Flatten			0.91	0.86	Mn
Flattening Test			0.91 0.024 0.011 0.24	0.025 0.006 0.24	Р
	Mechanic		0.011	0.006	S
Ten: 50	Mechanical Properties		0.24	0.24	Si
50mm GL	ties		0.07	0.06	Cr
			0.01	0.01	Cu
Yiel			0.01		Mo
Yield (Rt0.5) psi			0.04	0.04	Ni
Tensile (Rm) psi			0.003 0.008 0.001 0.0001 0.40 0.40		٧
e (Rm)			0.008		Ti
Y/T (Rt0.5/Rm			0.001		Nb
Rm)			0.0001		В
Elongation (A) %			0.40	-	CE(IIW) CE(CSA)
on (A)			0.40		CE(CSA)

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	BSM-1251		Heat
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CONTRACTOR OF THE PARTY OF THE	1	mm	Lateral Ex
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	,	AVG	

Additional Details:

BSM-1251

Heat

Ferrite & Pearlite

77 HRBW

Pass

Longitudinal; 38.1 mm x WT

41,500

72,000

0.58

44

- ✓ 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.
- \checkmark This product has not come into contact with mercury during the Bri-Steel Manufacturing processes
- \checkmark This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:

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Assistant QA Manager Paul Sowden, T.T.