



**Bri-Steel Manufacturing Inc.**  
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## Mill Test Certificate

Product: **Seamless Carbon Steel Pipe**

Product Heat Number:

**BSM-0067**

Product Size:

**NPS 20 STD**

Production Date:

**2011 Oct 21**

Production Method: **Hot Expansion**

Product Heat Treatment:

**As-rolled**

Product Standards: **ASTM/ASME A/SA106-2010 Grade B, A/SA53-2010 Grade B Type S, NACE MR0175-2009**

Product Markings: **.BRI-STEEL MFG NPS 20 STD ASTM/ASME A/SA106 GR B A/SA53 GR B HEAT BSM-0067 (PIPE # LENGTH MASS) NDE 800PSI NACE MR0175 2011/10 MADE IN CANADA.**

Product Details							Non-Destructive Testing								
Heat	Test Type	NPS	SCH	Pieces	Length	Mass	Geiger µR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM E309	HydroTest 800 psi/5s	End Condition
BSM-0067	Heat	20	STD	1	DRL	2987 LB	<5	<20	Pass	Pass	Pass	---	Pass	Pass	37.5° Bevel

Chemical Analysis (wt%)																		
		Steelmaking Method		C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE (IIW)	CE (CSA)
		Blast Furnace; EAF; Ladle	Refining; Vacuum Degass															
Heat	Test Type			0.21	0.87	0.016	0.008	0.23	0.03	0.11	0.02	0.03	0.003	0.001	0.001	0.0002	0.38	0.39
BSM-0067	Heat																	

Mechanical Properties							
			Hardness	Flattening Test	Tension Test		Elongation (A)
					Transverse; 50mm GL; 38mm x WT		
Heat	Test Type	Microstructure	HRBW		Yield (Rt0.5)	Yield (Rp0.2)	
BSM-0067	Heat	Ferrite & Pearlite	77	Pass	psi	psi	%
					49,300	49,300	42
						76,500	

### Additional Details:

- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected in accordance with ASTM/ASME A/SA106-2010, A/SA53-2010 and the purchase order requirements, and that the results meet the corresponding requirements.
- ✓ This pipe product meet the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service, and NACE MR0103-2010 Section 2.1.

Mill Test Certificate approved by:

  
2011 NOV 9

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

- ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.