



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-1005** Product Size: **NPS 36 STD** Production Date: **June 18, 2013**

Production Method: **Hot Expansion** Product Heat Treatment: **As-rolled**

Product Standards: **ASME B36.10-2004, ASTM/ASME A/SA106-2011 Grade B NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009, MR0103-2010**

Product Markings: **BRI-STEEL MFG ASTM/ASME A/SA106 GR B A/SA53 GR B NPS 36 STD 0.375 inchWT HEAT BSM-1005 (PIPE # LENGTH MASS) 142.7lb/ft NDE SMLS NACE MR0175 2013/06 MADE IN CANADA.**

Product Details				Non-Destructive Testing									
Heat	Test Type	Product Size	Pieces	Length	Mass	Geliger	Res. Mag.	Visual	UT	UT	ET	HydroTest	End
BSM-1005	Heat	NPS 36 STD 0.375 in.WT	1	DRL	lb/ft	µR/hr	Gauss	Insp.	OD	WT	ASTM E213	ASTM E309	Condition
					142.70	<5	<20	Pass	Pass	Pass	Pass	Pass	Plain End

Chemical Analysis (wt%)																	
Heat	Steelmaking Method	Analysis	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE	CE
BSM-1005	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.18	0.91	0.008	0.010	0.22	0.03	0.06	0.01	0.04	-	-	-	0.0003	-	-
	Product	Product	0.21	0.88	0.015	0.014	0.24	0.03	0.08	0.02	0.04	0.003	0.001	0.001	0.0003	0.37	0.38

Mechanical Properties										
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rt0.5)	Tensile (Rm)	Y/T	Elongation (A)
					HRBW	Pass				
BSM-1005	Heat	Ferrite & Pearlite	74	Pass	Longitudinal; 38.1mm x WT	43,000	68,500	0.63	42	
Heat	Test Standard	Impact Test	Temp	Impact Energy		% Shear	Lateral Expansion			
				9C	J		J	AVG	%	mm
BSM-1005	-	-	-	-	-	-	-	-	-	

Additional Details:

- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing Inc. in accordance with ASTM/ASME A/SA106-2011, 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, and 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 OCT 11
 Paul Sowden, T.T.
 Assistant QA Manager