



# Mill Test Certificate

Bri-Steel Manufacturing  
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Product: Seamless Carbon Steel Pipe      Product Heat Number: BSM-3163      Product Size: NPS 36 XS      Production Date: Jun 12, 2017  
 Production Method: Hot Expansion      Product Heat Treatment: Normalizing Forming      Certificate No.: MTR- 003378

Product Standards: ASME B36.10M-2015, ASTM/ASME A106-2014/SA106-2015 Grade B NDE, A53-2012/SA53-2015 Grade B Type S, NACE MR0175/ISO 15156-2:2015 MR0103/ISO 17495:2015

Product Markings  
 NPS 36 XS 0.500 INCHWT SMLS 2017/06 NDE 600PSI  
 HEAT BSM-3163 (PIPE # LENGTH MASS) 189.75lb/ft ASTM/ASME A/SA106 GR B 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	Gelger	Res. Mag.	Visual Insp.	OD	UT (WT)	UT	ET	HydroTest	End Condition	
BSM-3163	Heat	NPS 36 XS 0.500in. WT	11	DRL	189.75	<5	<10	Pass	Pass	Pass	N12.5 Pass	-	Pass	Plain End	

Heat	Steelmaking Method	Test Type	Chemical Analysis (wt%)															
			C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(IIW)Max	CE(CSA)
			Heat	0.21	0.90	0.009	0.002	0.24	0.04	0.06	0.03	0.03	0.001	0.001	0.001	0.001	0.001	0.0003
Product	0.20	0.89	0.008	0.003	0.25	0.04	0.06	0.03	0.03	0.003	0.001	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)	V/T	Elongation (A)
BSM-3163	Heat	Ferrite & Pearlite	81 HRBW	Pass	Longitudinal; 1.5 in. x WT	48 500 psi	74 000 psi	0.66	47 %

Heat	Test	Test Type	Result	Impact Test	Temp °C	Impact Energy Min. (J)	Impact Energy Results (J)	Shear (%)	Lateral Expansion (mm)
BSM-3163	-	Standard	-	Sample Details	-	(3 Tests) AVG	(3 Tests) AVG	(3 Tests) AVG	(3 Tests) AVG

Additional Details:  
 ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing in accordance with ASTM/ASME A106-2014/SA106-2015, A53-2012/SA53-2015, and the purchase order requirements, and that the results meet the corresponding requirements. Bri-Steel Manufacturing is registered and certified to ISO 9001:2015 (APIQR-1584), API Q1, and PED 2014/68/EU.  
 ✓ This pipe product meets the **SOUR SERVICE** requirements of ANSI/NACE MR0175/ISO 15156-2A:2015 (Annex A2 for Region 3 Sour Service), and ANSI/NACE MR0103/ISO 17495:2015 Section 13.1.  
 ✓ 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, P. Tech (Eng.)  
 Assistant QA Manager