



# Mill Test Certificate

Bri-Steel Manufacturing  
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Product: Seamless Carbon Steel Pipe      Product Heat Number: BSM-3170      Product Size: NPS 18 STD      Production Date: Jun 19, 2017  
 Production Method: Hot Expansion      Product Heat Treatment: Normalizing Forming      Certificate No.: MTR- 003385

Product Standards: ASME B36.10M-2015, ASTM/ASME A106-2014/SA106-2015 Grade B/C NDE, AS3-2012/SA53-2015 Grade B Type 5, NACE MR0175/ISO 15156-2:2015 MR0103/ISO 17495:2015

Product Markings



NPS 18 STD 0.375 INCHWT SMLS 2017/06 NDE 1000PSI  
 HEAT BSM-3170 (PIPE # LENGTH MASS) 70.69lb/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

### Product: Details

Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Chemical Analysis (wt%)										Non-Destructive Testing					End Condition	
						C	Min	P	S	SI	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(IIW)Max		CE(CSA)
BSM-3170	Heat	NPS 18 STD 0.375in. WT	12	DRL	70.69	<5	<10	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	35° Bevel

Heat	Test Type	Product Size	Test Type	C	Min	P	S	SI	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(IIW)Max	CE(CSA)
	Product	0.23	0.92	0.019	0.007	0.25	0.05	0.03	0.00	0.01	0.003	0.001	0.001	0.001	0.0003	0.40	-	-	0.41

### Mechanical Properties

Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 2 in. GL	Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
BSM-3170	Heat	Ferrite & Pearlite	77 HRBW	Pass	Longitudinal; 1.5 in. x WT	42 100	74 000	0.57	37

Heat	Test Standard	Result	Impact Test Sample Details	Temp °C	Impact Energy Min. (J)		Impact Energy Results (J)		Shear (%)	Lateral Expansion (mm)
					(3 Tests) AVG	(3 Tests) AVG	(3 Tests) AVG	(3 Tests) AVG		
BSM-3170	-	-	-	-	-	-	-	-	-	-

### 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, AS3-2012/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:

*Tanya Lam* June 21/2017

Tonya Lam, P. Tech (Eng.)  
 Assistant QA Manager