



Mill Test Certificate

Bri-Steel Manufacturing
 2125-64 Avenue, Edmonton, AB Canada T6P 1Z4
 Tel: 001 (780) 469-6603
 Fax: 001 (780) 469-6986
 www.bri-steel.com

Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-3166 Production Date: Jun 15, 2017
 Production Method: Hot Expansion Product Heat Treatment: Normalizing Forming Certificate No.: MTR- 003381
 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 18 STD 0.375 INCHWT SMLS 2017/06 NDE 1000PSI
 HEAT BSM-3166 (PIPE # LENGTH MASS) 70.69lb/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-3166	Heat	NPS 18 STD 0.375in. WT	12	DRL	70.69	<5	<10	Pass	Pass	ASTM E114	ASTM E213	ASTM E309	1000PSI/ 5s	Pass	35° Bevel

Heat	BSM-3166	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)		
		Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.22	0.58	0.022	0.005	0.24	0.01	0.01	0.01	0.01	0.01	0.01	0.002	0.002	0.001	0.0005	0.32	-	0.33
			Product	0.22	0.56	0.021	0.004	0.24	0.01	0.01	0.01	0.00	0.01	0.002	0.002	0.001	0.0003	0.32	-	-	0.33

Mechanical Properties											
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test	Yield (Rt0.5)	Tensile (Rm)	Y/T	Elongation (A)		
BSM-3166	Heat	Ferrite & Pearlite	75 HRBW	Pass	Longitudinal; 2 in. GL 1.5 in. x WT	psi 39 200	psi 70 000		0.56	41	

Heat	Test	Result	Impact Test	Temp °C	Impact Energy Min. (J)	Impact Energy Results (J)	Shear (%)	Lateral Expansion (mm)
BSM-3166	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:

T. Lam
 T. Lam SWE 12/1/2017

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