



Mill Test Certificate

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-3126 Product Size: NPS 20 XXS Production Date: May 01, 2017
 Production Method: Hot Expansion Product Heat Treatment: Normalizing Forming Certificate No.: MTR- 003331
 Product Standards: ASME B36.10M-2015, ASTM/ASME A106-2014/SA106-2015 Grade B/C NDE, A53-2012/SA53-2015 Grade B Type S, NACE MR0175/ISO 15156-2:2009 MR0103/ISO 17495:2015



Product Markings: NPS 20 XXS 1.000 INCHWT SMLS 2017/05 NDE OPSI
 HEAT BSM-3126 (PIPE # LENGTH MASS) 203.11lb/ft ASTM/ASME A/SA106 GR B/C 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	Geliger μR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT (WT) ASTM E114	UT ASTM E213	ET ASTM E309	HydroTest	End Condition
BSM-3126	Heat	NPS 20 XXS 1.000in. WT	22	DRL	203.11	<5	<10	Pass	Pass	Pass	N12.5 Pass	-	-	Plain End

Heat	BSM-3126	Steelmaking Method Blast Furnace; EAF; Ladle Refining; Vacuum Degas; Fully Killed	Chemical Analysis (wt%)																		
			Test Type		C	Min	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(IIW)Max	CE(CSA)	
			Heat	Product	0.18	1.15	0.013	0.005	0.28	0.02	0.05	0.01	0.01	0.058	0.002	0.002	0.0005	0.39	-	0.40	
						0.16	1.18	0.012	0.004	0.25	0.02	0.04	0.00	0.01	0.048	0.018	0.001	0.0004	0.37	-	0.37

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-3126	Heat	Ferrite & Pearlite	76 HRBW	Pass	Longitudinal; 0.5 in. Round Bar	47 700	72 500	0.66	35

Heat	Test Type	Result	Impact Test Sample Details	Temp °C	Impact Energy Min. (J) (3 Tests) AVG	Impact Energy Results (J) (3 Tests) AVG	Shear (%) (3 Tests) AVG	Lateral Expansion (mm) (3 Tests) AVG
BSM-3126	Standard	-	-	-	-	-	-	-

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 NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service, and NACE MR0103/ISO 17495:2015 Section 13.1

Mill Test Certificate approved by:

Tanya Lam May 11/2017

- ✓ 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.

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