



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-3180 Product Size: NPS 36 XS Production Date: Jun 29, 2017
 Production Method: Hot Expansion Product Heat Treatment: Normalizing Forming Certificate No.: MTR- 003395

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-3180 (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 μR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT (WT) ASTM E114	UT ASTM E213	ET ASTM E309	HydroTest 600PSI/ 5s	End Condition
BSM-3180	Heat	NPS 36 XS 0.500in. WT	3	DRL	189.75	<5	<10	Pass	Pass	Pass	Pass	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)		
			0.17	1.28	0.011	0.006	0.35	0.05	0.01	0.00	0.04	0.001	0.001	0.0001	0.40	-	-	-	-	0.40
BSM-3180	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	Product	0.17	1.32	0.015	0.005	0.34	0.11	0.01	0.00	0.04	0.037	0.004	0.001	0.0003	0.42	-	-	0.42

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-3180	Heat	Ferrite & Pearlite	82 HRBW	Pass	Longitudinal; 1.5 in. x WT	57 000	76 500	0.75	50

Heat	Test	Test Standard	Result	Impact Test Sample Details	Temp °C	Impact Energy Min. (J)	Impact Energy Results (J)	Shear (%)	Lateral Expansion (mm)
BSM-3180	-	-	-	-	-	-	(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 July 06/2017

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