



# Mill Test Certificate

Bri-Steel Manufacturing  
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Product: Seamless Carbon Steel Pipe    Product Heat Number: BSM-3215    Product Size: NPS 36 STD    Production Date: Aug 02, 2017  
 Production Method: Hot Expansion    Product Heat Treatment: Normalizing Forming    Certificate No.: MTR- 003467  
 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 STD 0.375 INCHWT SMLS 2017/08 NDE 450PSI  
 HEAT BSM-3215 (PIPE # LENGTH MASS) 142.89lb/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	Geiger $\mu$ R/hr	Res. Mag. Gauss	Visual Insp.	OD	UT (WT) ASTM E114	UT ASTM E213	ET ASTM E309	HydroTest 450PSI/ 5s	End Condition
BSM-3215	Heat	NPS 36 STD 0.375in. WT	15	DRL	142.89	<5	<10	Pass	Pass	Pass	N12.5 Pass	-	Pass	Plain End

### Chemical Analysis (wt%)

Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	Mn/C	CE(IIW)	CE(IIW)Max	CE(CSA)
BSM-3215	Blast Furnace; EAF; Ladle Refining; Vacuum Degas; Fully Killed	Heat	0.16	1.10	0.010	0.008	0.24	0.17	0.08	0.02	0.05	0.060	0.001	0.001	0.0001	6.88	0.40	-	0.39
		Product	0.16	1.09	0.009	0.008	0.24	0.18	0.08	0.02	0.05	0.061	0.033	0.001	0.0004	6.81	0.40	-	0.39
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

### 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-3215	Heat	Ferrite & Pearlite	82 HRBW	Pass	Longitudinal; 1.5 in. x WT	52 000	71 000	0.73	47

Heat	Test Standard	Result	Impact Test Sample Details	Temp $^{\circ}$ 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-3215	-	-	-	-	-	-	-	-

#### 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* AUG/16/2017

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