



# Mill Test Certificate

Bri-Steel Manufacturing  
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Product: Seamless Carbon Steel Pipe    Product Heat Number: BSM-2953    Product Size: NPS 30 STD    Production Date: Nov 15, 2016  
 Production Method: Hot Expansion    Product Heat Treatment: Normalizing Forming    Certificate No.: MTR- 003051

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 15156-2:2009 MR0103/ISO 17495:2015



Product: Details		Non-Destructive Testing												
Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Geiger µR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT ASTM E114	UT ASTM E213	ET ASTM E309	HydroTest 550PSI/ 5 s	End Condition
BSM-2953	Heat	NPS 30 STD 0.375in. WT	7	DRL	118.6	<5	<10	Pass	Pass	N12.5 Pass	-	-	Pass	30° Bevel

Chemical Analysis (wt%)																		
Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(IIW)Max	CE(CSA)
BSM-2953	Blast Furnace; EAF; Ladle Refining; Vacuum Degas; Fully Killed	Heat	0.19	1.32	0.019	0.010	0.34	0.07	0.01	0.01	0.04	0.040	0.003	0.002	0.0007	0.44	-	0.45
		Product	0.18	1.31	0.020	0.008	0.35	0.06	0.01	0.01	0.04	0.040	0.002	0.002	0.001	0.0005	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-2953	Heat	Ferrite & Pearlite	84 HRBW	Pass	Longitudinal; 1.5 in. x WT	56 500	81 000	0.70	41

Heat	Test Standard	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-2953	-	-	-	-	-	-	-	-

**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-9001:2008 (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
- ✓ 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*    *Nov 23 2016*

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