



# Mill Test Certificate

**Bri-Steel Manufacturing**  
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Product: **Seamless Alloy Steel Pipe**      Product Heat Number: **BSM-2937**      Product Size: **NPS 20 XS**      Production Date: **November 3, 2016**

Production Method: **Hot Expansion**      Product Heat Treatment: **Full Annealed (920°C)**      Certificate No: **MTR: 3028**

Product Standards: **ASME B36.10M-2015, ASTM A335-2015a/ASME SA335-2015 GRADE P22**

Product Markings: **BRI-STEEL MFG ASTM/ASME A/SA335 GR P22 NPS 20 XS (0.500 inchWT) SMLS**  
**HEAT BSM-2937 (PIPE # LENGTH MASS) 104.1 LB/FT NDE(UT) 900 PSI 2016/11 MADE IN CANADA.**

Product Details				Non-Destructive Testing										
Heat	Test Type	Product Size	Pieces	Length	Mass	Gelger	Res. Mag.	Visual	OD	UT	UT	ET	HydroTest	End
BSM-2937	Heat	NPS 20 XS 0.500inWT	2	DRL	lb/ft	µR/hr	Gauss	Insp.	Pass	Pass	Pass	Pass	900 psi/5s	35° Bevel

Heat	Steelmaking Method	Chemical Analysis (wt%)																
		Analysis		C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE	CE
		Heat	Product	0.11	0.47	0.013	0.002	0.23	2.21	0.02	0.97	0.02	0.015	-	-	-	-	-
BSM-2937	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Product	0.09	0.47	0.014	0.002	0.21	2.20	0.02	0.97	0.02	0.013	0.001	0.002	0.0004	-	-	-
		Product	0.09	0.46	0.014	0.003	0.21	2.20	0.02	0.97	0.02	0.013	0.001	0.002	0.0004	-	-	-

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Tension Test		Yield (Rt0.5)	Tensile (Rm)	Y/T	Elongation (A)
				HRBW	50mm GL				
BSM-2937	Heat	Ferrite & Bainite	84	Pass	Longitudinal: 38.1mm x WT Longitudinal: 38.1mm x WT	40,472	81,873	0.49	37
				Pass		39,886	80,608	0.49	37

Additional Details:  
 ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing in accordance with ASTM A335-2015a/ASME SA335-2015, and the purchase order requirements, and that the results meet the corresponding requirements. Bri-Steel Manufacturing is registered and certified to ISO-9001:2008, API Q1 and PED 2014/68/EU.

Mill Test Certificate approved by:

- ✓ 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.
- ✓ No weld repairs have been performed on this product.

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