



Mill Test Certificate

Bri-Steel Manufacturing
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Product: **Seamless Alloy Steel Pipe** Product Heat Number: **BSM-2868** Product Size: **NPS 36 SCH 30** Production Date: **September 12, 2016**
 Production Method: **Hot Expansion** Product Heat Treatment: **Full Annealed (920°C)** Certificate No: **002948**
 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 36 SCH 30 (0.625 inchWT) SMLS**
HEAT BSM-2868 (PIPE # LENGTH MASS) 236.1 LB/FT NDE(UT) 650 PSI 2016/08 MADE IN CANADA.

Product Details				Non-Destructive Testing										
Heat	Test Type	Product Size	Pieces	Length	Mass	Geiger	Res. Mag.	Visual	OD	UT	UT	ET	HydroTest	End
BSM-2868	Heat	NPS 36 SCH30 0.625inWT	4	DRL	lb/ft	µR/hr	Gauss	Insp.	Pass	Pass	ASTM E213	ASTM E309	650 psi/5s	Condition
					236.10	<5	<20	Pass	Pass	Pass	Pass	-	Pass	Plain End

Chemical Analysis (wt%)																	
Heat	Steelmaking Method	Analysis	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE	CE
BSM-2868	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.09	0.46	0.012	0.002	0.26	2.23	0.02	0.92	0.02	0.013	-	-	-	-	-
		Product	0.09	0.46	0.015	0.004	0.24	2.21	0.02	0.99	0.02	0.012	-	-	-	-	-
		Product	0.08	0.45	0.014	0.003	0.23	2.17	0.02	0.97	0.02	0.012	-	-	-	-	-

Mechanical Properties										
Heat	Test Type	Microstructure	Hardness	Tension Test			Yield (Rt0.5)	Tensile (Rm)	Y/T	Elongation (A)
				HRBW	Flattening Test	50mm GL				
BSM-2868	Heat	Ferrite & Bainite	70	Pass	Pass	Longitudinal; 12.7mm Round Bar	45 900	69 200	0.67	37
				Pass	Pass	Longitudinal; 12.7mm Round Bar	45 900	68 400	0.67	36

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:

[Signature]
 2016 Sept 12

- ✓ 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.

Kenton Dechant, P.Eng.
 Manager of Quality and R&D