



Mill Test Certificate

Bri-Steel Manufacturing
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Product: **Seamless Alloy Steel Pipe** Product Heat Number: **BSM-3078** Product Size: **NPS 34 X 1.681** Production Date: **March 3, 2017**
 Production Method: **Hot Expansion** Product Heat Treatment: **Full Annealed (920°C)** Certificate No: **MTR: 003238**
 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 34 X 1.681 INCHWT (1.471 MW) SMLS**
HEAT BSM-3078 (PIPE # LENGTH MASS) 580.2 LB/FT NDE(UT) 1800 PSI 2017/03 MADE IN CANADA.

Product Details				Non-Destructive Testing									
Heat	Test Type	Product Size	Pieces	Length	Mass	Geiger	Res. Mag.	Visual	UT	UT	ET	HydroTest	End
BSM-3078	Heat	NPS 34 x 1.681 in WT	1	LRL	lb/ft	µR/hr	Gauss	Insp.	OD	WT	-	900 psi/5s	Plain End
					580.20	<5	<20	Pass	Pass	Pass	Pass	Pass	

Chemical Analysis (wt%)																	
Heat	Steelmaking Method	Analysis	C	Min	P	S	Si	Cr	Cu	Mo	Ni	V	TI	Nb	B	CE	CE
BSM-3078	Blast Furnace; EAF; Ladle Refining; Vacuum Degas; Fully Killed	Heat	0.11	0.44	0.007	0.001	0.20	2.18	0.04	0.95	0.04	0.007	-	-	-	-	-
		Product	0.12	0.42	0.010	0.002	0.20	2.04	0.05	0.96	0.02	0.010	0.001	0.001	0.0005	-	-

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test	Yield (Rt0.5)	Tensile (Rm)	Y/T	Elongation (A)
BSM-3078	Heat	Ferrite & Bainite	HRBW	Pass	50mm GL	psi	psi	(Rt0.5/Rm)	%
			81	Pass	Longitudinal; 12.7 mm Round Bar	51,600	77,400	0.67	35

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.

T. Lam
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 Assistant QA Manager
 MAR 15/2017