



Mill Test Certificate

Bri-Steel Manufacturing
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Product: **Seamless Alloy Steel Pipe** Product Heat Number: **BSM-2635** Product Size: **NPS 18 SCH 140** Production Date: **January 28, 2016**

Production Method: **Hot Expansion** Product Heat Treatment: **Annealed (920°C) and Tempered (750°C)** Certificate No: **002083**

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

Product Markings: **BRI-STEEL MFG NPS 18 SCH140 (1.562 InchWT) ASTM/ASME A/SA335 GR. P22 NDE(UT) 2800PSI SMLS 2016/01**
HEAT BSM-2635 (PIPE# LENGTH MASS) 274.2 lb/ft MADE IN CANADA

Product Details				Non-Destructive Testing										
Heat	Test Type	Product Size*	Pieces	Length	Mass lb/ft	Geiger μ R/hr	Res. Mag. Gauss	Visual Insp.	OD	UT	UT	ET	HydroTest	End Condition
BSM-2635	Heat	NPS 18 SCH140	1	DRL	274.20	<5	<20	Pass	Pass	Pass	Pass	-	2800 psi/5s	Plain End

Chemical Analysis (wt%)																	
Heat	Steelmaking Method	Analysis	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE (IIW)	CE (CSA)
BSM-2635	Blast Furnace; EAF; Ladle Refining; Vacuum Degass, Fully Killed	Heat	0.11	0.51	0.013	0.009	0.33	2.16	-	0.95	-	-	-	-	-	-	-
		Product	0.12	0.53	0.013	0.013	0.34	2.17	0.15	0.98	0.11	0.004	0.021	0.003	0.0004	-	-

Mechanical Properties										
Heat	Test Type	Microstructure	Hardness HRBW	Flattening Test	Tension Test		Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
					50mm GL	Longitudinal, 12.7mm Round Bar				
BSM-2635	Heat	Ferrite & Bainite	78	Pass			45 100	71 500	0.63	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 97/23/EC.
- ✓ 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.

Mill Test Certificate approved by: *Kenton Dechant* 2016 Feb 10

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