



Mill Test Certificate

Bri-Steel Manufacturing
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Product: **Welded Carbon Steel Pipe**

Product Heat Number:

BSM-2216

Product Size:

NPS 20 STD

Production Date:

January 8, 2015

Production Method: **HFIW & Hot Expansion**

Product Heat Treatment:

Thermomechanical Formed

Certificate Number: **1848**

Product Standards: **ASME B36.10-2004, ASTM/ASME A/SA53 Grade A Type E**

Product Markings:

BRI-STEEL MFG NPS 20 STD 0.375 INCHWT HFIW 2015/01 NDE 800PSI

HEAT BSM-2216 (PIPE # LENGTH MASS) 78.60 LB/FT ASTM/ASME A/SA53 GR B MADE IN CANADA

Product Details					Non-Destructive Testing									
Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Geiger µR/hr	Res. Mag. Gauss	Visual Insp.	UT OD	UT WT	UT ASTM E213	ET ASTM E309	HydroTest 800 psi/5s	End Condition
BSM-2216	Heat	NPS 20 STD 0.375 in.WT	1	DRL	78.60	<5	<20	Pass	Pass	Pass	Pass	Pass	Pass	32.5° Bevel

Chemical Analysis (wt%)																		
Heat	Steelmaking Method	Analysis	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE	CE	
		Heat	0.17	0.29	0.014	0.003	0.06	-	-	-	-	0.002	0.001	-	-	-	(IIW)	(CSA)
		Product	0.16	0.29	0.009	0.009	0.06	0.04	0.02	0.01	0.01	0.003	0.001	0.001	0.0001	0.25	0.25	
BSM-2216	Blast Furnace; EAF; Ladle Refining; Vacuum Degass																	

Mechanical Properties														
Heat	Test Type	Microstructure	Hardness	Flattening Tests		Tension Test		Yield (Rt0.5)	Tensile (Rm)	V/T	Elongation (A)			
				Pass	Longitudinal, 25.4mm x WT	Transverse to Weld, 38mm	psi					psi	(Rt0.5/Rm)	%
BSM-2216	Heat	Ferrite & Pearlite	HRBW 66	Pass	Longitudinal, 25.4mm x WT	Transverse to Weld, 38mm	42,700	60,000	0.71	43				

Additional Details:

- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing in accordance with ASTM/ASME A/SA53 and the purchase order requirements, and that the results meet the corresponding requirements.
- ✓ No weld repairs have been performed on this product.

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.

Kenton Dechant
2015 Sept 1
Kenton Dechant, P.Eng.
Manager of Quality and R&D