



Mill Test Certificate

Bri-Steel Manufacturing
 2125-64 Avenue NW, Edmonton, AB Canada T6P 1Z4
 Tel: 001 (780) 469-6603
 Fax: 001 (780) 469-6986
 www.bri-steel.com

Product: **Seamless Alloy Steel Pipe** Product Heat Number: **BSM-2523** Product Size: **NPS 30 STD** Production Date: **September 10, 2015**

Production Method: **Hot Expansion** Product Heat Treatment: **Normalized (920°C) and Tempered (750°C)** MTR **1944**

Product Standards: **ASME B36.10-2004, ASTM A335/ASME SA335-2015 GRADE P22, NACE MR0175-2009 MR0103-2012**

Product Markings: **BRI-STEEL MFG NPS 30 STD 0.375 INCHWT ASTM/ASME A/SA335 GR. P22 NDE(UT) 450PSI SMLS 2015/09**
HEAT BSM-2523 (PIPE# LENGTH MASS) 118.6 lb/ft NACE MR0175/MR0103 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-2523	Heat	NPS 30 STD 0.375 in. WT	1	DRL	118.60	μR/hr	Gauss	Insp.	Pass	OD	WT	ASTM E213	ASTM E309	900 psi/5s	Condition
						<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
BSM-2523	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.11	0.44	0.017	0.002	0.31	2.08	-	0.94	-	-	-	-	-	-	-
		Product	0.12	0.45	0.011	0.006	0.31	2.05	0.02	0.95	0.02	0.002	0.001	0.003	0.0004	0.32	0.64

Mechanical Properties										
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rt0.5)	Tensile (Rm)	Y/T	Elongation (A)
					HRBW	Pass				
BSM-2523	Heat	Ferrite & Carbide	NA	Pass	Longitudinal; 38.1mm x WT	48,600	72,000	0.68	46	

- Additional Details:
- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing Inc. in accordance with ASTM/ASME A/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 and API Q1.
 - ✓ 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.
 - ✓ This pipe meets the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service, and NACE MR0103-2012 Section 2.1

Mill Test Certificate approved by:

I. Lam Sept 130/2015

Tonya Lam, C.E.T.
 Assistant QA Manager