



# Mill Test Certificate

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


Product: **Seamless Alloy Steel Pipe**      Product Heat Number: **BSM-3072**      Product Size: **NPS 30 X 1.053**      Production Date: **2016 March 1**  
 Production Method: **Hot Finished**      Product Heat Treatment: **Normalized (920°C) and Tempered (700°C)**      MTR Certificate No. **003224**  
 Product Standards: **ASME B36.10M-2015, ASTM A335-2015a/ASME SA335-2015 GR P11**

Product Markings: **BRI-STEEL MFG NPS 30 X 1.053 INCHWT(0.922 INCH MW) SMLS 2017/03 NDE(UT) 1300PSI**  
**HEAT BSM-3772 (PIPE# LENGTH MASS) 325.61lb/ft ASTM A335/ASME SA335 GR. P11 MADE IN CANADA.**

Product Details				Non-Destructive Testing											
Heat	Heat	Product Size*	Pieces	Length	Mass lb/ft	Gelger HR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT	UT	ET	HydroTest	End Condition	
BSM-3072	BSM-3072	NPS 30 STD 1.053 in.WT	5	LRL	325.61	<5	<20	Pass	Pass	Pass	Pass	-	600 psi/5s	Pass	Plain End

Chemical Analysis (wt%)													Mechanical Properties				
Heat	Steelmaking Method	Analysis	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE (IIW)	CE (CSA)
			0.13	0.51	0.008	0.002	0.68	1.19	0.01	0.48	0.02	0.005	-	-	-	-	0.50
BSM-3072	Blast Furnace; EAF; Ladle Refining; Vacuum Degas; Fully Killed	Product	0.12	0.49	0.007	0.001	0.65	1.16	0.01	0.46	0.02	0.007	0.004	0.002	0.0004	0.53	0.45
			0.11	0.49	0.007	0.001	0.68	1.21	0.01	0.48	0.01	0.007	0.004	0.002	0.0004	0.54	0.46
Tension Test																	
50mm GL																	
Yield (Rt0.5) psi																	
41,800																	
Tensile (Rm) psi																	
75,200																	
Y/T (Rt0.5/Rm)																	
0.56																	
Elongation (A) %																	
42																	
Longitudinal; 12.7mm Round Bar																	
41,700																	
Longitudinal; 12.7mm Round Bar																	
72,000																	
0.58																	
43																	

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:  
  
 Tonya Lam, P. Tech (Eng.)  
 Assistant QA Manager



# 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-3074**      Product Size: **NPS 28 STD**      Production Date: **March 3, 2017**

Production Method: **Hot Expansion**      Product Heat Treatment: **Full Annealed (920°C)**      Certificate No: **MTR: 003236**

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 28 STD (0.375 InchWT) SMLS  
 HEAT BSM-3074 (PIPE # LENGTH MASS) 110.6 LB/FT NDE(UT) 500 PSI 2017/03 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-3074	Heat	NPS 28 STD 0.375 in. WT	4	LRL	lb/ft	µR/hr	Gauss	Insp.	Pass	Pass	WT	ASTM E213	ASTM E309	900 psi/5s	Condition
					110.60	<5	<20	Pass	Pass	Pass	Pass	-	-	Pass	35° Bevel

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-3074	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.11	0.40	0.013	0.008	0.25	2.16	0.05	0.93	0.06	0.010	-	-	-	-	-
		Product	0.11	0.51	0.016	0.008	0.21	2.11	0.03	0.90	0.01	0.003	0.003	0.003	0.003	0.0005	-
		Product	0.12	0.49	0.016	0.006	0.26	2.28	0.02	0.94	0.02	0.010	0.003	0.003	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	38.1mm x WT				
BSM-3074	Heat	Ferrite & Bainite	84	Pass	Longitudinal; 38.1mm x WT	Longitudinal; 38.1mm x WT	57,500	73,500	0.682	45
				Pass	Longitudinal; 38.1mm x WT	Longitudinal; 38.1mm x WT	57,500	81,100	0.709	46

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.

Tonya Lam, P. Tech. (Eng.)  
 Assistant QA Manager

*T. Lam*      *MAR/15/2017*