



Mill Test Certificate

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

Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-3054 Product Size: NPS 18 TRUE 40 Production Date: Feb 15, 2017
 Production Method: Hot Expansion Product Heat Treatment: Normalizing Forming Certificate No.: MTR- 003171

Product Standards: ASME B36.10M-2015, ASTM/ASME A106-2014/SA106-2015 Grade B NDE, A53-2012/SA53-2015 Grade B Type S, NACE MR0175/ISO 15156-2:2009 MR0103/ISO 17495:2015

Product Markings



NPS 18 TRUE 40 0.562 INCHWT SMLS 2017/02 NDE 1500PSI
 HEAT BSM-3054 (PIPE # LENGTH MASS) 104.73lb/ft ASTM/ASME A/SA106 GR B A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

Product: Details				Non-Destructive Testing											
Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Gelger µR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT (WT) ASTM E114	UT ASTM E213	ET ASTM E309	HydroTest 1500PSI/ 5 S	End Condition	
BSM-3054	Heat	NPS 18 TRUE 40 0.562in. WT	4	DRL	104.73	<5	<10	Pass	Pass	Pass	N12.5 Pass	-	Pass	Plain End	

Heat	BSM-3054	Steelmaking Method	Test Type	Chemical Analysis (wt%)																															
				C		Mn		P		S		Si		Cr		Cu		Mo		Ni		V		Ti		Nb		B		CE(IIW)		CE(IIW)Max		CE(CSA)	
				Heat	Product	0.20	0.20	0.56	0.017	0.010	0.26	0.07	0.01	0.01	0.03	0.004	0.002	0.001	0.0004	0.31	-	-	-	-	-	-	-	-	-	-	-	-	-		
Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed				Product		0.20	0.56	0.014	0.008	0.27	0.06	0.01	0.00	0.04	0.004	0.002	0.001	0.0003	0.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test	Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
BSM-3054	Heat	Ferrite & Pearlite	72 HRBW	Pass	Longitudinal; 1.5 in. x WT	40 700	66 500	0.61	48

Heat	Test	Standard	Result	Impact Test	Temp °C	Impact Energy Min. (J)	Impact Energy Results (J)	Shear (%)	Lateral Expansion (mm)
BSM-3054	-	-	-	Sample Details	-	-	(3 Tests) AVG	(3 Tests) AVG	(3 Tests) AVG

Additional Details:

✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing in accordance with ASTM/ASME A106-2014/SA106-2015, A53-2012/SA53-2015, and the purchase order requirements, and that the results meet the corresponding requirements. Bri-Steel Manufacturing is registered and certified to ISO-9001:2008 (APIQR-1584), API Q1, and PED 2014/68/EU.

✓ This pipe product meets the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service, and NACE MR0103/ISO 17495:2015 Section 13.1

✓ No weld repairs have been performed on this product.

✓ 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.

Mill Test Certificate approved by:

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

Tonya Lam Feb 12 7/2017