



Mill Test Certificate

Bri-Steel Manufacturing
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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-2618 Product Size: NPS 20 TRUE 40 Production Date: Jan 07, 2016
 Production Method: Hot Expansion Product Heat Treatment: ThermoMechanical Formed Certificate No.: MTR- 002042
 Product Standards: ASME B36.10M-2015, ASTM/ASME A106-2014/SA106-2013 Grade B NDE, A53-2012/SA53-2013 Grade B Type S, NACE MR0175-2009 MR0103-2012
 Product Markings: NPS 20 TRUE 40 0.594 INCHWT SMLS 2016/01 NDE 1200PSI
 HEAT BSM-2618 (PIPE # LENGTH MASS) 122.9lb/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	Geiger	Res. Mag.	Visual Insp.	OD	UT	UT	ET	HydroTest	End Condition	
BSM-2618	Heat	NPS 20 TRUE 40 0.594in. WT	2	DRL	122.9			Pass	Pass	Pass	Pass	Pass	Pass	Plain End	

Heat	Steelmaking Method	Test Type	Chemical Analysis (wt%)														
			C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(CSA)
			0.20	0.56	0.013	0.008	0.24	0.02	0.01	0.01	0.01	0.01	0.004	0.002	0.001	0.001	0.0003
BSM-2618	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.22	0.55	0.014	0.005	0.25	0.03	0.01	0.01	0.002	0.001	0.001	0.0003	0.32	0.33	

Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
					2 in. GL	Longitudinal; 1.5 in. x WT				
BSM-2618	Heat	Ferrite & Pearlite	74 HRBW	Pass		44,600	70,500	0.63	36	

Heat	Test Type	Impact Test	Temp °C	Impact Energy			% Shear			Lateral Expansion													
				J	J	J	%	%	%	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm				
BSM-2618	Standard	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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/SA106-2013, A53-2012/SA53-2013, 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 pipe product 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
 ✓ 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:
Tony Lam / 13/2016
 Tonya Lam, C.E.T.
 Assistant QA Manager