



Mill Test Certificate

Bri-Steel Manufacturing
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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-3178 Product Size: NPS 30 STD Production Date: Jun 27, 2017
 Production Method: Hot Expansion Product Heat Treatment: Normalizing Forming Certificate No.: MTR- 003392
 Product Standards: ASME B36.10M-2015, API SL-45th Ed. GradeB/X42 PSL1, ASTM/ASME A106-2014/SA106-2015 Grade B/C NDE, A53-2012/SA53-2015 Grade B Type S, NACE MR0175/ISO 15156-2:2015 MR0103/ISO 17495:2015
 Product Markings: <API & L/C No.> API SPEC 5L NPS 30 STD 0.375 INCHWT GRB/X42 PSL1 SMLS 2017/06 NDE 950PSI
 HEAT BSM-3178 (PIPE # LENGTH MASS) 148.82lb/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

Product: Details				Non-Destructive Testing										
Heat	Test Type	Product Size	Pieces	Length	Mass	Geiger	Res. Mag.	Visual	OD	UT (WT)	UT	ET	HydroTest	End Condition
BSM-3178	Heat	NPS 30 STD 0.375in. WT	7	DRL	118.82	<5	<10	Pass	Pass	Pass	N12.5 Pass	-	Pass	35° Bevel

Heat	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)													
BSM-3178	Blast Furnace; EAF; Ladle Refining; Vacuum Degas; Fully Killed (at Huanan China)	Heat	0.15	1.08	0.011	0.004	0.25	0.18	0.08	0.01	0.05	0.060	0.001	0.001	0.0001	0.39	-	0.37
			Product	0.16	1.07	0.011	0.004	0.25	0.19	0.09	0.01	0.05	0.060	0.029	0.001	0.0004	0.40	-
			0.16	1.07	0.011	0.003	0.26	0.19	0.09	0.01	0.05	0.060	0.029	0.001	0.0004	0.40	-	0.39

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test	Yield (Rt0.5)	Tensile (Rm)	Y/T	Elongation (A)
BSM-3178	Heat	Ferrite & Pearlite	78 HRBW	Pass	Longitudinal; 1.5 in. x WT 2 in. GL	psi 49 900	psi 70 500	(Rt0.5/Rm) 0.71	% 37

Heat	Test Standard	Result	Impact Test Sample Details	Temp °C	Impact Energy Min. (J)	Impact Energy Results (J)	Shear (%)	Lateral Expansion (mm)
BSM-3178	-	-	-	-	(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 GRX42 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 9001:2015 (APIQR-1584), API Q1, and PED 2014/68/EU.
 ✓ This pipe product meets the SOUR SERVICE requirements of ANSI/NACE MR0175/ISO 15156-2A:2015 (Annex A2 for Region 3 Sour Service), and ANSI/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
 Date: June 29, 2017