



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-2942 Production Date: Nov 08, 2016
 Production Method: Hot Expansion Product Heat Treatment: Normalizing Forming Certificate No.: MTR- 003037
 Product Standards: ASME B36.10M-2015, API 5L-45th Ed. GradeB PSL1, 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: <API & L/C No. > API SPEC 5L NPS 24 TRUE 40 0.688 INCHWT GRB PSL1 SMLS 2016/11 NDE 1220PSI
 HEAT BSM-2942 (PIPE # LENGTH MASS) 171.2lb/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. Gauss	Visual Insp.	OD	UT (WT)	UT	ET	HydroTest	End Condition	
BSM-2942	Heat	NPS 24 TRUE 40 0.688in. WT	6	DRL	171.2	<5	<10	Pass	Pass	Pass	ASTM E114	ASTM E213	ASTM E309	1220PSI/ 5s	30° Bevel

Heat	Test Type	Product Size	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	0.18	1.12	0.013	0.002	0.30	0.04	0.01	0.01	0.01	0.01	0.055	0.002	0.001	0.0004	0.39	-
BSM-2942	Blast Furnace, EAF; Ladle Refining; Vacuum Degas; Fully Killed (at TRCO China)		Product	0.16	1.11	0.010	0.004	0.33	0.05	0.01	0.01	0.01	0.01	0.058	0.002	0.001	0.0004	0.37	-	0.37
				0.20	1.13	0.011	0.004	0.33	0.04	0.01	0.01	0.01	0.060	0.002	0.002	0.0004	0.41	-	0.42	

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test	Yield (Rt0.5)	Tensile (Rm)	Y/T	Elongation (A)
BSM-2942	Heat	Ferrite & Pearlite	81 HRBW	Pass	Longitudinal; 1.5 in. x WT	psi	psi	0.66	51

Heat	Test Standard	Result	Impact Test Sample Details	Temp °C	Impact Energy Min. (J)	Impact Energy Results (J)	Shear (%)	Lateral Expansion (mm)
BSM-2942	-	-	-	-	-	(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 API 5L-45th Ed., 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:

Tilham Nov 15/2016

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