



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: Seamless Carbon Steel Pipe

Product Heat Number:

BSM-2027

Product Size: 24S60

Production Date: Sep 22, 2014

Production Method: Hot Expansion

Product Heat Treatment: As-rolled

Certificate No.: MTR- 001359

Product Standards:

ASME B36.10-2004, API 5L-45th Ed. Grade B PSL1, ASTM/ASME A/SA106-2013 Grade B NDE, A/SA53-2012 Grade B Type 5, NACE MR0175-2009 MR0103-2010

Product Markings



<API & L/C No.> API SPEC 5L NPS 24 SCH 60 0.969 INCH WT GR B PSL1 SMLS 2014/09 NDE 1900PSI
HEAT BSM-2027 (PIPE # LENGTH MASS) 238.1lb/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 µR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT	UT	ET	HydroTest 1900 PSI/ 5 s	End Condition
BSM-2027	Heat	NPS 24 SCH 60 0.969in. WT	2	DRL	238.1	<5	<10	Pass	Pass	Pass	Pass	Pass	Pass	Plain End

Chemical Analysis (wt%)														
Heat	Steelmaking Method	Test Type		C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti
		Heat		0.19	0.85	0.006	0.012	0.20	0.05	0.05	0.01	0.03		
		Product		0.19	0.87	0.007	0.014	0.21	0.05	0.06	0.01	0.03	0.003	0.001
BSM-2027	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed													

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 50mm GL	Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
BSM-2027	Heat	Ferrite & Pearlite	76 HRBW	Pass	Longitudinal; 19.05 mm x WT	40,900	67,500	0.61	47

Heat	Test	Impact Test Sample Details	Temp °C	Impact Energy				% Shear				Lateral Expansion			
BSM-2027	Standard	-	-	J	J	J	AVG	%	%	%	AVG	mm	mm	mm	AVG

Additional Details:

✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing Inc. in accordance with API 5L-45th Ed., ASTM/ASME A/SA106-2013 Grade B A/SA53-2012, and the purchase order requirements, and that the results meet the corresponding requirements. Bri-Steel Manufacturing is registered and certified to ISO-9001:2008 and API Q1.

✓ This pipe product meets the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service-2009 NACE MR0103-2010 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:

T. Lam *Sept 25 / 2014*
Tony Lam, C.E.T.
Assistant QA Manager