

Mill Test Certificate

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Seamless Carbon Steel Pipe Product Heat Number: BSM-2243 Product Size: 18STD Production Date:

Feb 12, 2015

Product:

Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR- 001583

Product Standards: ASME B36.10-2004, API 5L-45th Ed. Grade B PSL1, ASTM/ASME A106-2014/SA106-2013 Grade B/C NDE, A53-2012/SA53-2013 Grade B Type S, NACE MR0175-2009 MR0103-2012

Product Markings

bristeel

HEAT BSM-2243 (PIPE # LENGTH MASS) 70.59lb/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA <API & L/C No.> API SPEC 5L NPS 18 STD 0.375 INCHWT GR B PSL1 SMLS 2015/02 NDE 1640PSI

32.5° Bevel	Pass	Pass	Pass	Pass	Pass	Pass	<15	Ġ	70.59	DRL	З	NPS 18 STD 0.375in. WT	Heat	BSM-2243
s Condition	1640 PSI/ 5 s		ASTM E213 ASTM	WT		Insp.	Gauss	μR/hr	lb/ft					
End	HydroTest	ET	TU	TU	OD	Visual	Res. Mag.	Geiger	Mass	Length	Pieces	Product Size	Test Type	Heat
			ive Testing	Non-Destructive Testing	Nc							Product: Details		

						Chemical Analysis (wt%)	Analysis (v	vt%)									
Heat	Steelmaking Method	Test Type	С	Mn	P	S	Si	Cr	CL	Mo	Z.	<	Ti	Nb	В	CE(IIW)	CE(CSA)
BSM-2243 Bla	Blast Furnace; EAF; Ladle Refining; Vacuum	Heat	0.18	0.89	0.014	0.006	0.25	0.03	0.03	0.00	0.01	0.004	t	Ē.	L		ı
C	Cogas, Fully Nilled	Product	0.19	0.88	0.019	0.007	0.23	0.03	0.03	0.01	0.01	0.005	0.029	0.001	0.0003	0.35	0.35

	Heat		BSM-2243 H		Heat Test	
Standard	Test		Heat		Test Type	
Samp	lmp		Ferrite & Pearlite		Microstructure	
Sample Details	Impact Test		75 HRBW		Hardness	
റ്	Temp		Pass		Flattening Test	
_			Į.			Mechan
J	Impact Energy		Longitudinal; 38.1 mm x	50r	Tensi	Mechanical Properties
٦	nergy		; 38.1 m	50mm GL	Tension Test	ties
AVG			m x WT			
%	% Shear				Υi	
%			41,800	psi	rield (Rt0.5)	
%			7(Tens	
AVG			70,000	psi	Tensile (Rm)	
mm	Lateral Expansion		0.60	(Rt0.5/Rm)	1/λ	
mm		Lateral E	0	'Rm)	-1	
mm			43	%	Elongation (A)	
AVG					on (A)	

Additional Details:

BSM-2243

- ✓ 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 A106-2014/SA106-2013 Grade B/C 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 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 MR0103-2012 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.
- \checkmark This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:

lam Feb/18/2015

Tonya Lam, C.E.T.

Assistant QA Manager