



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-1683 Product Size: NPS 14 TRUE 40
Production Method: Hot Expansion Product Heat Treatment: Thermomechanical Formed Certificate No.: MTR- 002057
Product Standards: ASME B36.10M-2015, 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



NPS 14 TRUE 40 0.438 INCHWT SMLS 2014/03 NDE
HEAT BSM-1683 (PIPE # LENGTH MASS) 63.67lb/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	UT	ET	HydroTest	End Condition
BSM-1683	Heat	NPS 14 TRUE 40 0.438in. WT	11	DRL	63.67 lb/ft	<5 µR/hr	<10 Gauss	Insp. Pass	Pass	Pass	Pass	Pass	-	33° Bevel

Chemical Analysis (wt%)														
Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb
BSM-1683	Blast Furnace: EAF; Ladle Refining: Vacuum Degass: Fully Killed	Heat	0.19	0.94	0.010	0.004	0.25	0.03	0.07	0.01	0.04	-	-	0.0005
		Product	0.20	0.95	0.009	0.005	0.26	0.03	0.08	0.01	0.04	0.004	0.001	0.0003

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test	Yield (Rt0.5)	Tensile (Rm)	V/T	Elongation (A)
BSM-1683	Heat	Ferrite & Pearlite	79 HRBW	Pass	2 in. GL Longitudinal; 1.5 in. x WT	psi 45,100	psi 74,500	(Rt0.5/Rm) 0.61	% 46

Heat	Test	Impact Test	Temp °C	Impact Energy				% Shear				Lateral Expansion			
BSM-1683	Standard	Sample Details	-	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 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:

T. Lam Jan 21 / 2016

Tanya Lam, C.E.T.
Assistant QA Manager



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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-1683 Product Size: 14XS
Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR- 000927
Product Standards: ASME B36.10-2004, ASTM/ASME A/SA106-2013 Grade B/C NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009 MR0103-2010

Product Markings



NPS 14 XS 0.500 INCH WT SMLS 2014/03 NDE
HEAT BSM-1683 (PIPE # LENGTH MASS) 72.09lb/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

Product: Details

Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Gelger µR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT	UT	ET	HydroTest	End Condition
BSM-1683	Heat	NPS 14 XS 0.500in. WT	11	DRL	72.09	<5	<10	Pass	Pass	Pass	Pass	Pass	-	32.5° Bevel

Chemical Analysis (wt%)

Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(CSA)
BSM-1683	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.19	0.94	0.010	0.004	0.25	0.03	0.07	0.01	0.04					0.0005	-
		Product	0.20	0.95	0.009	0.005	0.26	0.03	0.08	0.01	0.04	0.004	0.001	0.001	0.0003	0.38	0.38

Mechanical Properties

Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 50mm Gt.	Yield (Rt0.5) psi	Tensile (Rm) psi	V/T (Rt0.5/Rm)	Elongation (A) %
BSM-1683	Heat	Ferrite & Pearlite	79 HRBW	Pass	Longitudinal; 38.1 mm x WT	45,100	74,500	0.61	46

Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy			% Shear			Lateral Expansion		
				J	J	J	AVG	%	%	AVG	mm	mm
BSM-1683	-	-	-	-	-	-	-	-	-	-	-	-

Additional Details:

✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing Inc. in accordance with ASTM/ASME A/SA106-2013 Grade B/C A/SA53-2012, and the purchase order requirements, and that the results meet the corresponding requirements.

✓ 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:

Paul Sowden

2014 MAR 6

Paul Sowden, T.T.

Assistant QA Manager