

Product:

Seamless Carbon Steel Pipe

Mill Test Certificate

Bri-Steel Manufacturing Inc. 2125-64 Avenue, Edmonton, AB Canada T6P 1Z4

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Product Heat Number: BSM-1734 Product Size: 16S100 Production Date: Mar 26, 2014

Product Standards: Production Method: 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 Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR- 000990

Product Markings

NPS 16 SCH 100 1.031 INCHWT SMLS 2014/03 NDE

REPRESENTATION

HEAT BSM-1734 (PIPE # LENGTH MASS) 164.8Ib/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

Test Type Pro		BSM-1734		Heat	
Product: Details Product: Details Product: Details Product: Details Product Size Product Size		734			
Pieces Length Mass Geiger Res. Mag. Visual OD** UT UT ET HydroTest htt μR/hr Gauss Insp. WT ASTM E213 ASTM E309	0.0000000000000000000000000000000000000	Heat		Test Type	2000
Length Mass Geiger μR/hr Res. Mag. Visual lb/ft Visual lb/ft OD** UT lb/ft UT lb/ft ET lb/ft lb/ft HydroTest lb/ft DRL 164.8 <5		NPS 16 SCH 100 1.031in. WT			Product: Details
Length Mass Geiger μR/hr Res. Mag. Visual lb/ft Visual lb/ft OD** UT lb/ft UT lb/ft ET lb/ft lb/ft HydroTest lb/ft DRL 164.8 <5		1		Pieces	
Geiger Res. Mag. Visual OD** UT UT ET HydroTest μR/hr Gauss Insp. WT ASTM E213 ASTM E309 <- color="block">C5 <20 Pass Pass Pass Pass Pass Pass Pass Pas		DRL		Length	
Res. Mag. Visual OD** UT UT ET HydroTest Gauss Insp. WT ASTM E213 ASTM E309 <20 Pass Pass Pass Pass Pass Pass *		164.8	lb/ft	Mass	
Visual OD**		G	μR/hr	Geiger	
Non-Destructive Testing OD ** UT UT ET HydroTest WT ASTM E213 ASTM E309 Pass Pass Pass Pass *		<20	Gauss	Res. Mag.	
• UT UT ET HydroTest WT ASTM E213 ASTM E309 Pass Pass Pass •		Pass	Insp.	Visual	
ET HydroTest 3 ASTM E309 Pass *		Pass		OD**	Nor
ET HydroTest 3 ASTM E309 Pass *		Pass	WT	T	1-Destruct
HydroTest *		SSEd	ASTM E213	T	ive Testing
		Pass	ASTM E309	티	
End Condition Plain End		•		HydroTest	
		Plain End	Condition	End	

					C	Chemical Analysis (wt%)	analysis	(wt%)									
Heat	Steelmaking Method	Test Type	С	Mn	P	S	Si	Cr	Cu	Mo	N:	٧	i.	Nb	В	CE(IIW)	CE(CSA)
BSM-1734	Blast Furnace; EAF, Ladle Refining, Vacuum	Heat	0.19	0.94	0.014	0.002	0.29	0.05	0.06	0.01	0.02	0.003	0.002	0.001	0.0003	-	£
	Condens, a condens of the condens of	Product	0.22	0.88	0.010	0.002	0.33	0.05	0.07	0.01	0.03	0.003	600.0	0.001	0.0003	0.38	0.38

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BSM-1734		Heat	
Heat		Test Type	
Ferrite & Pearlite		Microstructure	
76 HRBW		Hardness	
Pass		Flattening Test	W
Longitudinal; 19.05 mm x WT	50mm GL	Tension Test	Mechanical Properties
42,500	psi	Yield (Rt0.5)	
70,000	psi	Tensile (Rm)	
0.61	(Rt0.5/Rm)	T/Y	
47	%	Elongation (A)	

Heat	Test	Impact Test	Temp		Impact	Energy			% Shear	lear			Lateral E	I Expansion	
	Standard	Sample Details	°C	J	7	_	AVG	%	%	%	AVG	mm	mm	mm	AVG
BSM-1734	•	•	•		ı		•						•	,	,

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.
- \checkmark 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.
- \checkmark This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.
- * Note that this product was hydrotested to 1000 psi for 5 seconds
- **OD Tolerances as per API

Mill Test Certificate approved by:

2014 2 cemolen APRO7

Paul Sowden, T.T. Assistant QA Manager