

Bri-Steel Manufacturing Inc.

2125-64 Avenue, Edmonton, AB Canada T6P 124

Tel: 001 (780) 469-6603 Fax: 001 (780) 469-6986

www.brichemsteel.com

Product: Seamless Carbon Steel Pipe

Product Heat Number: BSM-0046

Product Size:

Mill Test Certificate

e: NPS 20 STD

Production Date: 2011 Oct 6

Production Method: Hot Expansion Production

Product Heat Treatment: As-rolled

Product Standards: ASTM/ASME A/SA106-2010 Grade B, A/SA53-2010 Grade B Type S, NACE MR0175-2003

Product Markings: .BRI-STEEL MFG NPS 20 STD ASTM/ASME A/SA106 GR B A/SA53 GR B HEAT BSM-0046 (PIPE # LENGTH MASS) NDE 800PSI NACE MR0175 2011/10 MADE IN CANADA.

BSM-0046	Heat		
16 Heat	Test Type	Section 1	
20	NPS		
STD	SCH		Product Detai
Ь	Pieces		ails
DRL	Length		
78.60	lb/ft	Mass	
<5	μR/hr	Geiger	
<20	Gauss	Res.Mag.	
Pass	Insp.	Visual	
Pass	OD		Non-L
Pass	WT	TU	Destructive 1
	ASTM E213	TU	esting
Pass	ASTM E309	ET	
Pass	800 psi/5s	HydroTest	
37.5° Bevel	Condition	End	

BSM-0046	Heat		
Heat	Test Type		
Refining; Vacuum Degas	Blast Furnace; EAF; Ladle	Steelmaking Method	
0.20	С		
0.87	Mn		
0.014	P		
0.009	S		Chemical Analysis (wt%)
ı	Si		l Analysis
0.24 0.04	Ç		(wt%)
0.10	Cu		
0.02	Mo		
0.03	Z:		
0.003	<		
0.001	· Ti		
0.001	Nb		
0.0002	В	1.00	
0.36	(IIW)	Œ	
0.37	(CSA)	Œ	

Heat Test Type Microstructure HRBW Flattening Test BSM-0046 Heat Ferrite & Pearlite 73 Pass 38mm x WT 50,500 51,000 76,000 42	E	Т	_	I
Mechanical Properties Mechanical Properties Tension Test Vield (Rt0.5) Vield (Rp0.2) Tension Test Vield (Rt0.5) Vield (Rt0.	3SM-0046	Heat		
Hardness Hardness Tension Test Yield (Rt0.5) Yield (Rp0.2) Tension Test Properties HRBW Flattening Test Transverse; 50mm GL; psi psi psi 73 Pass 38mm x WT 50,500 51,000	Heat	Test Type		
Mechanical Properties Tension Test Yield (Rt0.5) Yield (Rp0.2) Tension Test Prattening Test Transverse; 50mm GL; Psi Pass 38mm x WT 50,500 51,000	Ferrite & Pearlite	Microstructure		
Tension Test Yield (Rt0.5) Yield (Rp0.2) Tension Test Yield (Rt0.5) Yield (Rp0.2) Tension Test Psi	73	HRBW	Hardness	
Yield (Rt0.5) Yield (Rp0.2) Tell psi psi 50,500 51,000	Pass	Flattening Test		Mechan
7.5) Yield (Rp0.2) Tel	38mm x WT	Transverse; 50mm GL;	Tension Test	ical Properties
Rp0.2) Tel	50,500	psi	Yield (Rt0.5)	
Tensile (Rm) Elongation (A) psi % 76,000 42	51,000	psi	ᄍ	
Elongation (A) % 42	76,000	psi	Tensile (Rm)	
	42	%	Elongation (A)	

Additional Details:

results meet the corresponding requirements Inc. in accordance with ASTM/ASME A/SA106-2010, A/SA53-2010 and the purchase order requirements, and that the We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing

Service, and NACE MR0103-2010 Section 2.1. ✓ This pipe product meet the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour

✓ No weld repairs have been performed on this product. This product has no mercury contamination ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:

ton Dachant P Eng

2012 Feb3

Kenton Dechant, P.Eng. Manager of Quality and R&D