

Mill Test Certificate

Bri-Steel Manufacturing Inc.

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www.brichemsteel.com

Product: Seamless Carbon Steel Pipe

Product Heat Number:

BSM-0279

Product Size:

April 2, 2012

Production Method: **Hot Expansion**

Product Standards:

NPS 16 STD

Production Date:

Product Heat Treatment: As-rolled

ASTM/ASME A/SA106-2011 Grade B/C, A/SA53-2010 Grade B Type S, NACE MR0175-2009

Product Markings: .BRI-STEEL MFG NPS 16 STD ASTM/ASME A/SA106 GR B/C A/SA53 GR B HEAT BSM-0279 (PIPE # LENGTH MASS) 62.581b/ft NDE 1140PSI NACE MR0175 2012/04 MADE IN CANADA.

Product Details Non-Destructive Testing HydroTest End HydroTest End Hord Est Type NPS SCH Pieces Length Ib/ft μR/hr Gauss Insp. OD WT ASTM E213 ASTM E309 1140 psi/5s Condition BSM-0279 Heat 16 STD 13 DRL 62.58 <5 <20 Pass Pass Pass Pass 37.5° Beyel	B	Т		Т
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End Condition 37.5° Bevel	Pass	1140 psi/5s	HydroTest	
	37.5° Bevel	Condition	End	

C/70-IAICG	07C0 N38	Heat				
nedi	L 02+	lest Type	. (Company of the Compan	
Neilling; Vacuum Degas	Datining Vancous Dates	Blast Furnace; EAF; Ladle	ч	Steelmaking Method		
0.21	2	0				
0.88	2	Mn				
0.019	000	Ъ				
0.011	2	S				Chemica
0.22	3	Si				Analysis (wt%)
0.05		ر				(wt%)
0.10		5				
0.03		<u></u>				
0.05		Z				
0.004		<				
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0.002	+	N D				
0.0001		œ				100
0.38	, , ,		(Ç		
0.39	100,4	(CSA)	ŕ	<u> </u>		

	BSM-0279 Heat		Heat		Sec. 1992	
	Heat		Test Type		S 200 W	
	Ferrite & Pearlite		Microstructure			
	78		HRBW	Hardness		
	Pass		Flattening Test			Mechar
Longitudinal	Transverse		Flattening Test 50mm GL; 38mm x WT	Tension Test		Mechanical Properties
46,400	49,300		psi.	Yield (Rt0.5)		
46,500	48,800	1	psi.	Yield (Rp0.2)		
75,000	81,500	1	DS.	Tensile (Rm)		
0.62	0.60	Comment of the control	(Rt0.5/Rm)	Τ/Υ		
39	34	,,,	%	Elongation (A)		

Additional Details:

results meet the corresponding requirements. Inc. in accordance with ASTM/ASME A/SA106-2011, 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

Mill Test Certificate approved by:

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 \prime No weld repairs have been performed on this product. This product has no mercury contamination

 $\checkmark~$ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

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

2012Apr 12