

Bri-Steel Manufacturing Inc.

2125-64 Avenue, Edmonton, AB Canada T6P 1Z4

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

www.brichemsteel.com

Product: Seamless Carbon Steel Pipe

Product Heat Number: BSM-0360

Product Size:

Mill Test Certificate

NPS 20 TRUE80

Production Date: June 11, 2012

Production Method: Hot Expansion

Product Heat Treatment: As-rolled

Product Standards: ASTM/ASME A/SA106-2011 Grade B/C, A/SA53-2012 Grade B Type S, NACE MR0175-2009

Product Markings: .BRI-STEEL MFG NPS 20 TRUE80 ASTM/ASME A/SA106 GR B/C A/SA53 GR B HEAT BSM-0360 (PIPE # LENGTH MASS) 208.91b/ft NDE 1000PSI NACE MR0175 2012/06 MADE IN CANADA.

Heat Test Type NPS SCH Pieces Length Ib/ft LR/hr Gauss Pass Pass Pass Pass Pass Pass Pass	įω	Τ	-	Τ
Product Details Non-Destructive Testing Non-Destructive Testing Non-Destructive Testing HydroTest Non-Destructive Testing The product Details Non-Destructive Testing Non-Destructive Testing HydroTest ASTM E213 ASTM E309 1000 psi/5s TRUE80 4 DRL 208.90 <5 <20 Pass Pass Pass Pass Pass Non-Destructive Testing HydroTest Pass Pass Pass Pass Pass	SM-0360	Heat		
Product Details Non-Destructive Testing Non-Destructive Testing HydroTest SCH Pieces Length lb/ft μR/hr Gauss Insp. OD WT ASTM E213 ASTM E309 1000 psi/5s TRUE80 4 DRL 208.90 <5 <20 Pass Pass Pass Pass Pass*	Heat	Test Type		
Details Non-Destructive Testing Non-Destructive Testing Non-Destructive Testing UT UT ET HydroTest HydroTest	20	NPS		_
Non-Destructive Testing Mass Geiger Res.Mag. Visual UT UT ET HydroTest Pieces Length lb/ft μR/hr Gauss Insp. OD WT ASTM E213 ASTM E309 1000 psi/5s 4 DRL 208.90 <5 <20 Pass Pass Pass Pass Pass*	TRUE80	SCH		roduct Detail
Mass Geiger Res.Mag. Visual UT UT ET HydroTest n lb/ft μR/hr Gauss Insp. OD WT ASTM E213 ASTM E309 1000 psi/5s 208.90 <5 <20 Pass Pass Pass Pass Pass*	4	Pieces		S
Hon-Destructive Testing Geiger Hes.Mag. Visual Ly/hr UT UT UT ET HydroTest μR/hr Gauss Insp. OD WT ASTM E213 ASTM E309 1000 psi/5s <5	DRL	Length		
Res.Mag. Visual UT UT ET HydroTest Gauss Insp. OD WT ASTM E213 ASTM E309 1000 psi/5s <20 Pass Pass Pass Pass Pass*	208.90	lb/ft	Mass	
Visual UT UT ET HydroTest Insp. OD WT ASTM E213 ASTM E309 1000 psi/5s Pass Pass Pass Pass Pass*	~ 5	μR/hr	Geiger	
Non-Destructive Testing UT UT ET HydroTest OD WT ASTM E213 ASTM E309 1000 psi/5s Pass Pass Pass Pass Pass Pass	<20	Gauss	Res.Mag.	
Dn-Destructive Testing UT UT UT ET HydroTest ASTM E213 ASTM E309 1000 psi/5s Pass Pass Pass Pass Pass	Pass	Insp.	Visual	
estructive Testing UT UT UT ET HydroTest ASTM E213 ASTM E309 1000 psi/5s Pass Pass Pass Pass Pass	Pass	OD		Non-C
B UT ET HydroTest M E213 ASTM E309 1000 psi/5s Pass Pass*	Pass	WT	TU	estructive 1
HydroTest 309 1000 psi/5s Pass*		ASTM E213	TU	esting
droTest 0 psi/5s ³ ass*	Pass	ASTM E309	ET	
End Condition Plain End	Pass*	1000 psi/5s	HydroTest	
	Plain End	Condition	End	

BSM-0360	Heat		
Heat			
Refining; Vacuum Degas	Blast Furnace; EAF; Ladle	Steelmaking Method	
0.17	0		
1.00	Mn		
0.016	٦		
0.004	S		Chemica
0.25	Si		cal Analysis (wt%)
0.05	Ç		(wt%)
0.06	Cu		
0.01	Mo		
0.02	<u>Z</u> .		
0.005	٧		
0.002	T!		
0.002	Nb		
0.0002	В		
0.36	(IIW)	CE	
0.35	(CSA)	Œ	

	BSN			Γ
	BSM-0360	Heat		
	Heat	14		
	Ferrite & Pearlite	Microstructure		
	75	HRBW	Hardness	
	Pass	Flattening Test		Mechar
Longitudinal	Transverse	Flattening Test 50mm GL; 38mm x WT	Tension Test	Mechanical Properties
46,500	48,300	psi	Yield (Rt0.5)	
46,500	46,100	psi	Yield (Rp0.2)	
71,000	71,500	psi	Tensile (Rm)	
0.65	0.68	(Rt0.5/Rm)	Τ/Υ	
57	57	%	Elongation (A)	

Additional Details:

Inc. in accordance with ASTM/ASME A/SA106-2011, A/SA53-2012 and the purchase order requirements, and that the results meet the corresponding requirements. $\checkmark~$ 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. $\checkmark~$ 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.

*Note that Pipe 004 was too short to be able to perform the hydrotest.

Mill Test Certificate approved by:

Kenton Dechant, P.Eng.

Manager of Quality and R&D