

Mill Test Certificate

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

Tel: 001 (780) 469-6603

Fax: 001 (780) 469-6986 www.bri-steel.com

Mar 02, 2015

Seamless Carbon Steel Pipe Product Heat Number: BSM-2267 Product Size: 20STD Production Date:

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

ASME B36.10-2004, 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

Product Standards:

Product:

brirteel

NPS 20 STD 0.375 INCHWT SMLS 2015/03 NDE

HEAT BSM-2267 (PIPE # LENGTH MASS) 78.6lb/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

1077-IAICG	DCM 2267		Heat	
nedt	U02+		Test Type	
NF3 20 310 0:3/3III. WI	NIDE OF STEE OF STEE		Product Size	Product: Details
F	,		Pieces	
DKL	20		Length	
/8.0	7.05	lb/ft	Mass	
ô	,	μR/hr	Geiger	
OT>	2	Gauss	Res. Mag.	
Pass		Insp.	Visual	
Pass	,		OD	No
Pass	,	ΚŢ	TU	n-Destruc
Pass	,	ASTM E213 ASTM	TU	Non-Destructive Testing
Pass	,	ASTM	ET	
1			HydroTest	
32.5 Bevel	200	Condition	End	

1	-		100000000000000000000000000000000000000	CONTRACTOR OF TAXABLE	CONTRACTOR OF CONTRACTOR		STATE STATE STATE		20	0.0000000000000000000000000000000000000		2000 2000					
0.35	0.35	0.0002	0.001	0.001	0.005	0.03	0.02	0.06	0.05	0.23	0.007	0.009	0.89	0.18	Product	Cegas, rully silica	
t	1	0.0003		-	ı	0.03	0.01	0.06	0.05	0.23	0.007	0.009	0.87	0.18	Heat	Blast Furnace; EAF; Ladle Refining; Vacuum	BSM-2267
CE(CSA)	CE(IIW)	В	dN	Ti	<	N:	Mo	Cu	Cr	Si	S	P	Mn	С	Test Type	Steelmaking Method	Heat
									(wt%)	Chemical Analysis (w	Chemical						

_		1	-		_				
	Heat		BSM-2267		Heat				
Standa	Test		Heat		Test Type				
rd			Ferrite & Pe		Microstruc				
Samp	lmp		arlite		ture				
le Details	act Test		77 HRBW	1000 and 100	Hardness				
°C	Temp		Pass		Flattening Test				
J						Mecha			
J	Impact E		Longitudinal	50	Tens	Mechanical Properties			
J	nergy		; 38.1 m	nm GL	ion Test	ties			
AVG			m x WT						
%	% Shear				Υic				
%		% Shear	% Shear		43,700	psi	eld (Rt0.5)		
%					70		Tens		
AVG),500	psi	ile (Rm)				
mm	Lateral Expansion		0.62	(Rt0.5/I	Υ/Τ				
mm		Lateral £	Lateral E	Lateral E			(m)		
mm			44	%	Elongati				
AVG		ם	n			AD (S	on (A)		
	J J AVG % % AVG mm mm mm	Test Impact Test Temp Impact Energy % Shear Lateral Expansion Standard Sample Details °C J J AVG % % 8 AVG mm mm	Test Impact Test Temp Impact Energy % Shear Lateral Expansion Standard Sample Details °C J J AVG % % % AVG mm mm	7 Heat Ferrite & Pearlite 77 HRBW Pass Longitudinal; 38.1 mm x WT 43,700 70,500 0.62 44 Test Impact Test Temp Impact Energy % Shear % Shear Lateral Expansion Standard Sample Details °C J J AVG % % AVG mm mm mm	Heat Ferrite & Pearlite 77 HRBW Pass Longitudinal; 38.1 mm x WT 43,700 70,500 0.62 44 Test Impact Test Temp Impact Energy Shear Shear AVG Mm	Test Type Microstructure Hardness Flattening Test Tension Test Yield (Rt0.5) Tensile (Rm) Y/T			

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 A106-2014/SA106-2013 Grade B/C 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 and API Q1.

√ This pipe product meets the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service-2009 NACE MR0103-2012 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.

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

Mill Test Certificate approved by:

am March /04/2015

Tonya Lam, C.E.T.

Assistant QA Manager