



Mill Test Certificate

Bri-Steel Manufacturing
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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-2806 Product Size: NPS 24 STD Production Date: Jun 16, 2016
 Production Method: Hot Expansion Product Heat Treatment: Normalizing Forming Certificate No.: MTR- 002869
 Product Standards: ASME B36.10M-2015, ASTM/ASME A333-2015 Grade 6 LT(M45C) A106-2014/SA106-2015 Grade B/C NDE, A53-2012/SA53-2015 Grade B Type S, NACE MR0175/ISO 15156-2:2009 MR0103/ISO 17495:2015
 Product Markings: NPS 24 STD 0.375 INCHWT SMLS 2016/06 NDE 750PSI
 HEAT BSM-2806 (PIPE # LENGTH MASS) 94.62lb/ft ASTM/ASME A/SA333 GR 6 LT(M45C) A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA



Product: Details

Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Non-Destructive Testing																
						Geiger	Res. Mag.	Visual	OD	UT	UT	ET	HydroTest	End								
BSM-2806	Heat	NPS 24 STD 0.375in. WT	9	DRL	94.62	<5	<60	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	30° Bevel

Heat	Test Type	Steelmaking Method	C	Mn	P	Chemical Analysis (wt%)																
						S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(IIW)Max	CE(CSA)				
BSM-2806	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed		0.17	1.11	0.013	0.005	0.34	0.04	0.01	0.01	0.01	0.01	0.01	0.060	0.002	0.001	0.0003	0.38				0.38
	Product		0.18	1.11	0.011	0.005	0.35	0.04	0.01	0.01	0.01	0.01	0.067	0.002	0.001	0.0003	0.39					0.40

Mechanical Properties

Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 2 in. GL	Yield (Rt0.5) psi	Tensile (Rm) psi	V/T (Rt0.5/Rm)	Elongation (A) %
BSM-2806	Heat	Ferrite & Pearlite	81 HRBW	Pass	Longitudinal; 1.5 in. x WT	54 000	80 500	0.67	41

Heat	Test Standard	Result	Impact Test Sample Details	Temp °C	Impact Energy Min. (J)	Impact Energy Results (J)			Shear (%)	Lateral Expansion (mm)
						(3 Tests) AVG	(48/41/54) 48	(3 Tests) AVG		
BSM-2806	ASTM A333	Pass	CVN Long 10 x 7.5 mm	-48	(11/11/11) 14					

Additional Details:

- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing in accordance with ASTM/ASME A333-2015/SA333-2015, A106-2014/SA106-2015, A53-2012/SA53-2015, and the purchase order requirements, and that the results meet the corresponding requirements. Bri-Steel Manufacturing is registered and certified to ISO-9001:2008 (APIQR-1584), API Q1, and PED 97/23/EC.
- ✓ This pipe product meets the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service, and NACE MR0103/ISO 17495:2015 Section 13.1
- ✓ No weld repairs have been performed on this product.
- ✓ This product has not come into contact with mercury during the Bri-Steel Manufacturing processes.
- ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:

T. Lam June 20/2016

Tomya Lam, P. Tech (Eng.)
 Assistant QA Manager