



Mill Test Certificate

Bri-Steel Manufacturing
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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-2874 Product Size: NPS 14 TRUE 80 Production Date: Aug 31, 2016
 Production Method: Hot Expansion Product Heat Treatment: Normalizing Forming Certificate No.: MTR- 002947

Product Standards: ASME B36.10M-2015, ASTM/ASME A106-2014/SA106-2015 Grade B NDE, A53-2012/SA53-2015 Grade B Type S, NACE MR0175/ISO 15156-2:2009 MR0103/ISO 17495:2015

Product Markings



NPS 14 TRUE 80 0.750 INCHWT SMLS 2016/08 NDE
 HEAT BSM-2874 (PIPE # LENGTH MASS) 106.1lb/ft ASTM/ASME A/SA106 GR B A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

Product: Details						Non-Destructive Testing								
Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Geiger μR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT (WT)	UT	ET	HydroTest	End Condition
BSM-2874	Heat	NPS 14 TRUE 80 0.750in. WT	30	DRL	106.1	<5	<10	Pass	Pass	Pass	Pass	-	-	Plain End

Heat	Test Type	Steelmaking Method	Test Type	Chemical Analysis (wt%)															
				C	Min	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(IIW)Max	CE(CSA)
				Heat	0.21	0.58	0.010	0.004	0.25	0.03	0.01	0.01	0.01	0.01	0.01	0.004	0.002	0.001	0.0005
BSM-2874		Blast Furnace; EAF; Ladle Refining; Vacuum Degas; Fully Killed	Product	0.20	0.56	0.011	0.005	0.26	0.03	0.01	0.01	0.01	0.01	0.002 <td>0.001 <td>0.0002 <td>0.30</td> <td>-</td> <td>0.31</td> </td></td>	0.001 <td>0.0002 <td>0.30</td> <td>-</td> <td>0.31</td> </td>	0.0002 <td>0.30</td> <td>-</td> <td>0.31</td>	0.30	-	0.31

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test	Yield (Rt0.5)	Tensile (Rm)	Y/T	Elongation (A)
BSM-2874	Heat	Ferrite & Pearlite	72 HRBW	Pass	Longitudinal; 0.5 in. Round Bar	35 400 psi	67 500 psi	0.52	36

Heat	Test Standard	Result	Impact Test Sample Details	Temp °C	Impact Energy Min. (J)	Impact Energy Results (J)	Shear (%)	Lateral Expansion (mm)
BSM-2874	-	-	-	-	(3 Tests) AVG	(3 Tests) AVG	-	(3 Tests) AVG

Additional Details:

✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing in accordance with ASTM/ASME 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 2014/68/EU.

✓ 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:

Tonya Lam Sept 11/2016

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