



Mill Test Certificate

Bri-Steel Manufacturing
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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-3181 Product Size: NPS 36 STD Production Date: Jun 29, 2017
 Production Method: Hot Expansion Product Heat Treatment: Normalizing Forming Certificate No.: MTR- 003397
 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 15156-2:2015 MR0103/ISO 17495:2015

Product Markings

 NPS 36 STD 0.375 INCHWT SMLS 2017/06 NDE 450PSI
 HEAT BSM-3181 (PIPE # LENGTH MASS) 142.89lb/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 μ R/hr	Res. Mag. Gauss	Visual Insp.	OD	UT (WT) ASTM E114	UT ASTM E213	ET ASTM E309	HydroTest 450PSI/ 5 s	End Condition
BSM-3181	Heat	NPS 36 STD 0.375in. WT	3	DRL	142.89	<5	<10	Pass	Pass	Pass	N12.5 Pass	-	Pass	Plain End

Chemical Analysis (wt%)

Heat	Steelmaking Method	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(IIW)Max	CE(CSA)
BSM-3181	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	0.16	1.10	0.007	0.004	0.26	0.15	0.14	0.01	0.05	0.060	0.001	0.001	0.0001	0.40	-	0.39
	Product	0.16	1.09	0.006	0.004	0.26	0.16	0.15	0.01	0.05	0.062	0.028	0.001	0.0004	0.40	-	0.39
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Mechanical Properties

Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 2 in. GL	Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
BSM-3181	Heat	Ferrite & Pearlite	79 HRBW	Pass	Longitudinal; 1.5 in. x WT	48 200	69 500	0.69	39

Heat	Test Standard	Result	Impact Test Sample Details	Temp °C	Impact Energy Min. (J) (3 Tests) AVG	Impact Energy Results (J) (3 Tests) AVG	Shear (%)	Lateral Expansion (mm) (3 Tests) AVG
BSM-3181	-	-	-	-	-	-	-	-

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 9001:2015 (APIQR-1584), API Q1, and PED 2014/68/EU.
- ✓ This pipe product meets the **SOUR SERVICE** requirements of ANSI/NACE MR0175/ISO 15156-2A:2015 (Annex A2 for Region 3 Sour Service), and ANSI/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, P. Tech (Eng.)
 Assistant QA Manager