



Mill Test Certificate

Bri-Steel Manufacturing
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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-2538 Production Size: NPS 24 TRUE 40 Production Date: Sep 23, 2015
 Production Method: Hot Expansion Product Heat Treatment: ThermoMechanical Formed Certificate No.: MTR- 001968
 Product Standards: ASME B36.10-2004, API 5L-45th Ed. Grade X42/X46/X52 PSL1, ASTM/ASME A106-2014/SA106-2013 Grade B/C NDE, A53-2012/SA53-2013 Grade B Type S, NACE MR0175-2009
 Product Markings: MR0103-2012
 <API & L/C No.> API SPEC 5L NPS 24 TRUE 40 0.688 INCHWT GR X42/X46/X52 PSL1 SMLS 2015/09 NDE 2690PSI
 HEAT BSM-2538 (PIPE # LENGTH MASS) 171.2lb/ft ASTM/ASME A/SA106 GR B/C 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	Gelger µR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM E309	HydroTest 2690 PSI/ 5 s	End Condition	
BSM-2538	Heat	NPS 24 TRUE 40 0.688in. WT	1	DRL	171.2	<5	<10	Pass	Pass	Pass	Pass	Pass	Pass	Plain End	

Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	Chemical Analysis (wt%)															
																Heat	0.10	1.06	0.012	0.001	0.25	0.11	0.16	0.08	0.15	0.050	0.002	0.024	0.0002	0.35	0.27
																Degas: Fully Killed	Product	0.09	1.12	0.012	0.002	0.25	0.10	0.16	0.08	0.16	0.047	0.002	0.024	0.0004	0.34

Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
					2 in. GL	Longitudinal; 0.75 in. x WT				
BSM-2538	Heat	Ferrite & Pearlite	86 HRBW	Pass			59,000	75,000	0.79	43

Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy				% Shear				Lateral Expansion					
				J	J	J	AVG	%	%	%	AVG	mm	mm	mm	mm	AVG	
BSM-2538	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Additional Details:
 ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing in accordance with API 5L-45th Ed., ASTM/ASME A106-2014/SA106-2013, 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, and 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.
 ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:

 Tonya Lam, C.E.T.
 Assistant QA Manager