



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-2024 Product Size: 26XS Production Date: Sep 18, 2014
Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR- 001356
Product Standards: ASME B36.10-2004, API 5L-45th Ed. Grade B PSL1, ASTM/ASME A/SA106-2013 Grade B NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009 MR0103-2010
Product Markings: <API & L/C No.> API SPEC 5L NPS 26 XS 0.500 INCHWT GR B PSL1 SMLS 2014/09 NDE 900PSI
HEAT BSM-2024 (PIPE # LENGTH MASS) 136.2lb/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 ASTM E213 | ET ASTM | HydroTest 900PSI/ 5 s | End Condition |
| BSM-2024 | Heat | NPS 26 XS 0.500in. WT | 4 | DRL | 136.2 | <5 | <10 | Pass | Pass | Pass | Pass | Pass | Pass | 32.5° Bevel |

| Chemical Analysis (wt%) | | | | | | | | | | | | | |
|-------------------------|--|-----------|------|------|-------|-------|------|------|------|------|------|-------|-------|
| Heat | Steelmaking Method | Test Type | C | Mn | P | S | Si | Cr | Cu | Mo | Ni | V | Ti |
| BSM-2024 | Blast Furnace EAF; Ladle Refining; Vacuum Degass; Fully Killed | Heat | 0.18 | 0.87 | 0.009 | 0.005 | 0.25 | 0.03 | 0.08 | 0.01 | 0.04 | | |
| | | Product | 0.18 | 0.85 | 0.008 | 0.005 | 0.24 | 0.03 | 0.08 | 0.01 | 0.03 | 0.002 | 0.001 |

| Mechanical Properties | | | | | | | | | |
|-----------------------|-----------|--------------------|----------|-----------------|--------------|---------------|--------------|------------|----------------|
| Heat | Test Type | Microstructure | Hardness | Flattening Test | Tension Test | Yield (Rt0.5) | Tensile (Rm) | Y/T | Elongation (A) |
| BSM-2024 | Heat | Ferrite & Pearlite | 74 HRBW | Pass | 50mm GL | psi | psi | (Rt0.5/Rm) | % |

| Heat | Test | Impact Test | Temp | Impact Energy | | | | % Shear | | | | Lateral Expansion | | | |
|----------|----------|----------------|------|---------------|---|---|-----|---------|---|---|-----|-------------------|----|----|-----|
| BSM-2024 | Standard | Sample Details | °C | J | J | J | AVG | % | % | % | AVG | mm | mm | mm | AVG |
| | | | | - | - | - | - | - | - | - | - | - | - | - | - |

Additional Details:
✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing Inc. in accordance with API 5L-45th Ed., ASTM/ASME A/SA106-2013 Grade B A/SA53-2012, 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 MR0103-2010 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