



6600 South Harlem Avenue  
Argo, IL 60501-1930

# Material Test Report

WELDBEND CORPORATION  
PO Box 2388  
Sulphur, LA  
PO: P0230978-01

Quantity		Product	Heat Code		Heat Treatment Info					Steel Mill										
8		1½" Std LR 45° Elbow	A175678		Hot Formed					MICHIGAN SEAMLESS										
<u>C</u>	<u>Mn</u>	<u>P</u>	<u>S</u>	<u>Si</u>	<u>Cu</u>	<u>Ni</u>	<u>Cr</u>	<u>Mo</u>	<u>V</u>	<u>Al</u>	<u>Ti</u>	<u>B</u>	<u>Cb</u>	<u>Tens.</u>	<u>Yield</u>	<u>Elon</u>	<u>ROA</u>	<u>BHN</u>	<u>BHN2</u>	
0.18	0.77	0.008	0.017	0.21	0.14	0.07	0.11	0.040	0.00	0.021	-	-	0.001	64,202	39,900	52.10	-	136	138	
CE (IIW): 0.353																				
A 234 WPB-13 Dimensional Specification: B16.9																				

Quantity		Product	Heat Code		Heat Treatment Info					Steel Mill										
8		12" Std Straight Tee	ED531		Heat Treat: Normalized					NIPPON										
<u>C</u>	<u>Mn</u>	<u>P</u>	<u>S</u>	<u>Si</u>	<u>Cu</u>	<u>Ni</u>	<u>Cr</u>	<u>Mo</u>	<u>V</u>	<u>Al</u>	<u>Ti</u>	<u>B</u>	<u>Cb</u>	<u>Tens.</u>	<u>Yield</u>	<u>Elon</u>	<u>ROA</u>	<u>BHN</u>	<u>BHN2</u>	
0.20	0.67	0.017	0.006	0.21	0.01	0.02	0.06	0.010	0.00	-	0.001	0.0000	0.000	74,000	39,900	32.00	66.00	138	137	
CE (IIW): 0.328																				
CE (PCM): 0.245																				
A 234 WPB-13 Dimensional Specification: B16.9																				

Quantity		Product	Heat Code		Heat Treatment Info					Steel Mill										
20		2" XS Straight Tee	19N516		Heat Treat: Normalized					NIPPON										
<u>C</u>	<u>Mn</u>	<u>P</u>	<u>S</u>	<u>Si</u>	<u>Cu</u>	<u>Ni</u>	<u>Cr</u>	<u>Mo</u>	<u>V</u>	<u>Al</u>	<u>Ti</u>	<u>B</u>	<u>Cb</u>	<u>Tens.</u>	<u>Yield</u>	<u>Elon</u>	<u>ROA</u>	<u>BHN</u>	<u>BHN2</u>	
0.11	1.33	0.011	0.001	0.21	0.02	0.03	0.15	0.010	0.01	-	0.000	0.0001	< 0.001	67,200	39,900	31.30	-	132	135	
CE (IIW): 0.369																				
CE (PCM): 0.195																				
A 234 WPB-13 Dimensional Specification: B16.9																				

Quantity		Product	Heat Code		Heat Treatment Info					Steel Mill										
12		4" XS Straight Tee	18N703		Heat Treat: Normalized					TMK /IPSCO/KOPPEL										
<u>C</u>	<u>Mn</u>	<u>P</u>	<u>S</u>	<u>Si</u>	<u>Cu</u>	<u>Ni</u>	<u>Cr</u>	<u>Mo</u>	<u>V</u>	<u>Al</u>	<u>Ti</u>	<u>B</u>	<u>Cb</u>	<u>Tens.</u>	<u>Yield</u>	<u>Elon</u>	<u>ROA</u>	<u>BHN</u>	<u>BHN2</u>	
0.20	0.80	0.007	0.004	0.23	0.18	0.10	0.10	0.030	0.04	0.017	-	-	0.001	73,500	39,900	34.20	-	143	143	
CE (IIW): 0.387																				
A 234 WPB-13 Dimensional Specification: B16.9																				

We hereby certify that the material meets the following

- All fittings and flanges meet NACE MRO-175/ISO 15156-Latest Revision.
- All fittings and flanges meet NACE MRO-103 - Latest Revision.
- All non high-yield fittings meet the requirements of ASTM A-234 WPB (AND SA-234).
- All fittings are seamless except as noted;
- All non-high yield flanges meet the requirements of ASTM A-105 (AND SA-105)
- Starting Material Seamless Pipe for elbows, tees and reducers;
- Plate for caps and welded fittings.
- Bars, Billets or Blooms for flanges and certain caps and tees.
- Ladle chemistry reported.

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*Richard Purpura*

**Richard Purpura**  
Quality Assurance Department  
3/28/2022



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Report

We hereby certify that the material meets the following:

- ISO 9001:2015 CERTIFIED MANUFACTURER
- Test Results herein are correct as contained in test records retained by the company in accordance with EN 10 204 Para 3.1 in accordance with PED Annex 1, Paragraph 4.3 of 2014/68/EU
- No Weld Repair Performed. No Lead Content. No Mercury Content.
- Knowingly making false, fictitious, or fraudulent statements on a MTR may result in legal liability.
- Material has been manufactured/supplied and tested in accordance with the most current version of the Weldbend Quality System Program