



*C + B*  
*PO 76190*  
*WD 5503*  
*CPA - 20*  
*WID STD*

CERTIFIED MATERIAL TEST REPORT

CERTIFICATE OF CONFORMANCE

Bill To: 9181704  
 COPPER & BRASS  
 P.O. BOX 5116  
 SOUTHFIELD MI

48086

Ship To: 028  
 COPPER & BRASS ELKHART  
 1015 SAINT JEROME ST  
 MISHAWAKA IN USA

46544

OUR ORDER NO LP1432730  
 YOUR ORDER NO 5400102435-R02  
 MEMO NO 377425-01  
 CERT. DATE 09/27/2011  
 WHS-1 DUAL CERT - REV

PO 1577

**134534**

*Tracy McFarland*

Tracy McFarland - Director, Corporate Quality Assurance

AL 304/304L ✓ HRAP  
 ASTM A240 10b ASME SA240 10 AMS 5511 H  
 AMS 5513 J  
 UNS S30400; UNS S30403; NACE MR0175-2003; ✓  
 ROHS COMPLIANT

*ek*  
*W*

Heat	Matl ID	Slip	Sid	Lot No	Size(Inches)	Pcs	Weight (lb)									
734534 ✓	10A	24013	A	246904	3.0000 x 60.0000 x 144.0000	1	7523	SI	NI	CR	MO	CO	CU	N		
734534		.017	1.44	.031	.0002			.38	8.15	18.44	.50	.28	.33	.084		
Lot No	Gauge	Cond.	Cond. Test	Yield Strength	Tensile Strength	Elong %	Red. of Area %	Hardness	Bend	Corrosion	Grain Size					
246904	3.0000	TRANS	ANNEAL	37.9 KSI	87.0 KSI	61.0	76.0	BHN161		OK						

MATERIAL WAS SOLUTION ANNEALED (HEAT TREATED) ABOVE 1900F AND WATER QUENCHED  
 MATERIAL WAS PRODUCED WITHOUT KNOWN CONTACT WITH MERCURY  
 MATERIAL IS OF USA MELT AND MANUFACTURE  
 MATERIAL WAS NOT WELD REPAIRED  
 DIN EN 10204:2005 3.1 CERTIFICATE ✓

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THIS CERTIFICATE OF TEST SHALL NOT BE REPRODUCED IN FULL WITHOUT THE WRITTEN APPROVAL OF THE COMPANY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULANT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. TESTING WAS PERFORMED AT ALC NADCAP AND ISO/IEC 17025 APPROVED LABORATORIES LOCATED AT NATRONA HEIGHTS, BRACKENRIDGE, LATROBE, MIDLAND AND LEECHBURG, PA FACILITIES OR A NADCAP AND ISO/IEC 17025 ACCREDITED LABORATORY. EN 10204 - 3.1 ALLEGHENY LUDLUM IS APPROVED AS MANUFACTURER ACCORDING TO AD-MERKBLATT WO/TRD 100 AND THE PRESSURE EQUIPMENT DIRECTIVE PED 97/23/EC.

ALLEGHENY LUDLUM PERFORMS CHEMICAL ANALYSIS BY THE FOLLOWING TECHNIQUES: C, S BY COMBUSTION/INFRARED. N, O, H BY INERT FUSION/THERMAL CONDUCTIVITY. MN, P, SI, CR, NI, MO, CU, CB, CO, V BY WDXRF. B BY OES. AL AND TI (>= 0.10%) BY WDXRF. OTHERWISE BY OES. PB, BI, AG BY GFAA. CERTIFICATE OF TEST & CHEMISTRY STATEMENTS EXCEPT AS OTHERWISE NOTED, MATERIAL WAS MANUFACTURED AND TESTED IN ACCORDANCE WITH THE LISTED SPECIFICATIONS AND RESULTS CONFORM TO SPECIFICATION/ORDER REQUIREMENTS.

*v beb*