



Allegheny Technologies  
Ship COPPER & BRASS  
To 6555 E DAVISON  
DETROIT MI

500 Green Street  
Washington, PA 15301

COPPER & BRASS  
P.O. BOX 5116  
SOUTHFIELD MI

48212

CERTIFIED MATERIAL  
TEST REPORT

OUR ORDER NO. LP8298440  
YOUR ORDER NO. CW6600  
MEMO NO. 333797-00 DUAL CERT  
DATE 05/12/2008  
SALESMAN NO. 586

*Joe M. Xenakis*

D. M. XENAKIS - Director, Corporate Quality Assurance

48086

HRAP  
ASTM A240 07 ASME SA240 A06 AMS 5511 H  
AMS 5513 H

Heat	Slip	Lot No	Size	Pcs	Weight
726394	17320 A	211258	3.0000 x 48.0000 x 122.0000	1	5099 PART# 412307-1

Heat	C	MN	P	S	SI	NI	CR	MO	CO	CU	N
726394	.020	1.44	.032	.0002	.48	8.07	18.17	.35	.25	.40	.074

Lot No	Gauge	Cond	Test	Yield Strength	Tensile Strength	Elong	Red. of Area	Hardness	Bend	Corrosion	Gr	Siz
211258	3.0000	TRANS	ANNEAL	38.5 KSI	86.0 KSI	62.0	79.0	BHN156		OK		

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

THIS CERTIFICATE OF TEST SHALL NOT BE REPRODUCED IN FULL WITHOUT THE WRITTEN APPROVAL OF THE COMPANY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT 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

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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, 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 STATEMENT &amp; CHEMISTRY STATEMENT

EXCEPT AS OTHERWISE NOTED, THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE LISTED SPECIFICATIONS AND RESULTS CONFORM TO THE SPECIFICATION AND ORDER REQUIREMENTS.