



517448T01

CERTIFIED MATERIAL TEST REPORT

CERTIFICATE OF CONFORMANCE

OUR ORDER NO. QP0416140
 YOUR ORDER NO. 087644
 MEMO NO. 373247-01
 CERT. DATE 04/03/2012
 WHS-1 REVISION

Tracy McFarland - Director, Corporate Quality Assurance

AL 400 HRAP
 ASTM B127 05 ASME SB127 A08
 UNS N04400; NACE MR0175 / ISO 15156-3 2009
 QQ-N-281 D AM. 2 CLASS A FORM 6

CPA - 026

Heat	Matl ID	Slip	Sid	Lot No	Size (Inches)	Pcs	Weight (lb)
517448T01	01	95256	AA	242584	2.0000 x 84.0000 x 84.0000	1	4574 PART# 1-053002000

Heat	C	MN	P	S	SI	NI	CU	FE	AL	PB	SN	ZN	CO
517448T01	.122	1.00	.006	.0001	.10	64.26	32.54	1.71	.22	.001	.001	.002	.027

Lot No	Gauge	Cond.	Cond. Test	Yield Strength	Tensile Strength	Elong %	Red. of Area %	Hardness	Bend	Corrosion	Grain Size
242584	2.0000	TRANS	ANNEAL	40.2 KSI	79.5 KSI	45.0	78.0	BHN154			

MATERIAL WAS ELECTRIC ARC FURNACE MELTED, AOD REFINED, AND ELECTROSLAG REMELTED
 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
 MATERIAL WAS ANNEALED ABOVE 1350F

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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. FB, 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.

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