



CERTIFIED MATERIAL TEST REPORT

CERTIFICATE OF CONFORMANCE

517576T04 (18.75")

CERT. DATE
WHS-1

02/24/2012
REVISION

Tracy McFarland

Tracy McFarland - Director, Corporate Quality Assurance

New West P076722 W05593 CPA 16 FOE 40

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

Monel 400

*oh
uttt
2/16/12*

cut to 18 3/4" OD

Heat Matl ID Slip Sid Lot No *thick* Size(Inches) Pcs Weight(lb)
517576T04 04 10053 AA 243592 3.0000 x 72.0000 x 72.0000 1 5052 1-053003000

Heat C MN P S SI NI CU FE AL PB SN ZN CO
517576T04 .121 1.02 .005 .0001 .16 64.31 32.05 1.82 .21 .001 .001 .001 .027

Lot No Gauge Cond. Cond. Test Yield Strength Tensile Strength Elong % Area % Hardness Bend Corrosion Grain Size
243592 3.0000 TRANS ANNEAL 40.1 KSI 80.0 KSI 43.0 64.0 BHN156

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

*SV
mc*

COPY

PAGE 1 FINAL PAGE

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.