
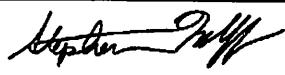


519643.

	<b>Certificate of Test</b>		 <small>Stephen Wolff - Director, Corporate Quality Assurance</small>
	<b>Mill Information</b>		<b>Customer Information</b>
500 Green Street Washington, PA 15301	Cert Number 0108314-01 Sales Order 50-062-387 Cert Date Oct-26-2012	PO Date Jun-29-2012	



**Material Information**

"ATI 400" NICKEL ALLOY PMP HOT ROLLED PLATE ANNEALED* PICKLED COMMERCIAL CUT EDGE	
ASME-SB-127 ED 2010 QQ-N-281D & AM 2 CLASS A FORM 6 NACE MR0175/ISO 15156-3:10/2009	ASTM-B-127-05 R2009 UNS N04400

**Piece Information**

	Gauge	Width	Length					Total Wt
Pcs	(in)	(in)	(in)	Heat #	Piece ID	Section Id	Lot #	(lbs)
Item: 006		Cust-Id:		Govt-Contract-#:		Govt-DO-Rating:		
		Cust-Job:		ScheduleB:				
1	2.5000	72.0000	72.0000	519643	AA65779	---	414808	4258

**Chemistry Testing**

Element	Requirements		Final Heat Analysis	
	Min	Max	519643	Loc
C	---	.2	.1	LO
MN	---	2.00	1.04	LO
P	---	.02	.01	LO
S	---	.015	.001	LO
SI	---	.50	.12	LO
NI	63.00	70.00	65.58	LO
AL	---	.5	.2	LO
CU	28.0	34.0	31.5	LO
CO	---	---	.06	LO
SN	---	.006	.002	TC
PB	---	.006	.002	TC
FE	---	2.50	1.87	LO
ZN	---	.02	< .01	TC
NCO	63.0	70.0	65.6	--

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500 Green Street Washington, PA 15301	<b>Mill Information</b>		<b>Customer Information</b>	
	Cert Number	0108314-01	PO Date	Jun-29-2012
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## Chemistry Testing

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; Pb, Bi, Ag by GFAA;  
 B by OES; Al and Ti (>=0.10%) by WDXRF, otherwise by OES.

519643 - Material was produced by EF melting with AOD refining.

NCO = Ni + Co

## Mechanical Testing

		<b>LOT</b> 414808	
<b>Condition:</b>		ANNEALED	
<b>Direction:</b>		TRANSVERSE	
<b>Temperature:</b>		ROOM TEMP	
<b>Spec:</b>			
<b>Test Limit</b>	<b>Units</b>	<b>Result</b>	<b>Loc</b>
YIELD 0.2%	psi	35800.	TC
TENSILE	psi	81000.	TC
ELONGATION	%	46.	TC
RED OF AREA	%	72.	TC
HARDNESS	--	146. HBW	TC

Material not rejected for hardness as tensile properties were met

## Mechanical Property Requirements

<b>Condition:</b>		ANNEALED	
<b>Direction:</b>		TRANSVERSE	
<b>Temperature:</b>		ROOM TEMP	
<b>Spec:</b>			
<b>Test Limit</b>	<b>Units</b>	<b>Min</b>	<b>Max</b>
YIELD 0.2%	psi	28000.	---
TENSILE	psi	70000.	---
ELONGATION	%	35.	---
RED OF AREA	%	---	---

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	Cert Number	0108314-01	PO Date	Jun-29-2012
	Sales Order	50-062-387		
	Cert Date	Oct-26-2012		

### Mechanical Property Requirements

Condition:	ANNEALED		
Direction:	TRANSVERSE		
Temperature:	ROOM TEMP		
Spec:			
Test Limit	Units	Min	Max
HARDNESS	--	110. HBW	140. HBW

### Certification Statements

Material was solution annealed at 1350F (732C) minimum for a time commensurate with thickness.

Allegheny Ludlum does not use mercury in the testing or production of its products.

Material is of USA melt and manufacture.

No welds/weld repairs performed.

Knowingly and willfully recording any false, fictitious or fraudulent statement or entry on this document may be punished as a felony under Federal Statutes, including Federal Law, Title 18, Chapter 47.

DIN EN 10204:2005 3.1 certificate

### General Statements

TESTING WAS PERFORMED AT THE FOLLOWING LOCATIONS  
 LO = ATI-ALLEGHENY LUDLUM; Route 981 North; Latrobe, PA 15650  
 TC = ATI-ALLEGHENY LUDLUM; 1300 Pacific Avenue; Natrona Heights, PA 15065

WARNING: Processing that makes fumes, dust, or solutions may cause lung disease. Please see MSDS for further information which has been supplied to your Purchasing Department. For an additional copy, please refer to our web site at [www.alleghenyludlum.com/pages/assistance/MSDS.asp](http://www.alleghenyludlum.com/pages/assistance/MSDS.asp).

For access to online Certifications of Test, please register at [www.alcextra.com](http://www.alcextra.com).

The above is a true copy of the data on file. The material and test results conform to the sales contract and specification(s) as set forth in ATI Allegheny Ludlum's order acknowledgement. This certificate of Test may not be reproduced except in full without the written authorization of the company.

ATI Allegheny Ludlum's website contains a listing of material produced, general technical and contact information, and current quality and company accreditations including but not limited to ISO-9001, AS-9100, Nadcap, and ISO/IEC 17025.

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