

KA16018 (NAC226319X)

Description: AMS5510 REV.(T) 321 ANL STAINLESS SHEET

Customer: 596870-NAKANO AVIATION, INC.

Customer Release #: SHOJI.YOKOGAWA

SHIPPER: Eli Rojas

NOTICE OF SHIPMENT/
PACKING LISTATI
Specialty Rolled Products

CERTIFICATE OF TEST

AL 6168-9 1221

CUST. ORD. NO. & DATE		CUST. CODE	FINISHING LOCATION	SHIPPER NO.	PRODUCT CODE	MILL ORDER NUMBER	DATE SHIPPED
43-172301		209355	VANDERGRIFF, PA	532065	13020103060000	30-094-061	11/18/24
FORMS DISTRIBUTION		MG BILL	REPEAT ORDER	DO RATE	PRI-ORITY	MATL	SHIPPING LOCATION
SOLD TO →		L757779	14732-0	10		1141 VANDERGRIFF	PA 650160
SOLD TO		PRIME SEC.	DSO DSO			SHIP TO	
RELIANCE STEEL-BRALCO METALS			10			BRALCO METALS	
15090 NORTHAM STREET						15090 NORTHAM STREET	
LA MIRADA CA 90638						LA MIRADA CA 90638	

GRADE AND SPECIFICATIONS CARRIER - INDEPENDENT DISPATCH, INC

"ATI 321" STAINLESS STEEL SHEET C R COILS ANNEALED 2D FIN 3 EDGE (ASTM-E-45-18A R2023 METHOD A) (ASTM-E-45-18A R2023 METHOD D) (AMS 5510T) (ASME-SA-480 ED 2023) (ASTM-A-480-24) (ABS5782D ISSUE 6) (IPS ASNA3106-01 ISSUE 2) (ASME-SA-240 ED 2023) (ASTM-A-240-24) (ROLLS-ROYCE SABRE 4) (BS S526:1969 +A3:2013) (S-SPEC-1, S-1000 DATED 7-12-24) (S-SPEC-35 S-400 DATED 2-18-21)

ITEM	PCS	DIMENSIONS W/G/L	HEAT #	COIL #	TEST #	GROSS TARE NET	THEO	TAG #/ CD SKID #
001A	1	36./080/1098.	866481	AAE48866-B	8905242	11690 50 11640		816726
	1	36./080/1100.	866481	AAE48866-D	8905242	11755 50 11705		816721
	1	36./080/945.	866481	AAE48866-F	8905242	10080 50 10030		816723
C CUST IDENTITY 321D080X36-AB								
3 SKIDS						33525 150 33375		

TYPE HEAT/TEST (WT %)	--C--	--MN--	--P--	--S--	--SI--	--CR--	--NI--	--MO--	--CU--	--TI--	--N--	--FE--
HEAT 866481	.01	1.5	.028	.0001	.55	17.22	9.14	.48	.40	.15	.01	BAL
TEST LOCATION	BN	BN	BN	BN	BN	BN	BN	BN	BN	BN	BN	
HEAT 866481	FER											
	7.89											

MELT METHOD: EF + AOD

ITEM TEST NO	YIELD PSI *	TENSILE PSI	% ELONG IN 2"	% R/A	HARDNESS	BEND A	CORROSION ASTM GRAIN	HARDENABILITY
001A 8905242	T 33500.	85000.	66. #		74.HRBW	T PASS	PASS 10.	
	T 39200.	88700.	60. #		79.HRBW	T PASS		
TEST LOCATION	TC	TC	TC		TC	TC	TC	

* Y.S. BY 0.2% OFFSET METHOD

PAGE 01 - CONTINUED ON PAGE 02

11/18/24 11:46:40

CONSIGNEE - Please Note - This consignment was turned over to carrier in first class condition, being correctly loaded, at which time our responsibility for loss or damage in shipment ceased. For your protection please examine shipment as it arrives. If any shortage or damage is discovered, have a full description made by transportation agent on way bill before signing.

WARNING
Safety Data Sheets for this product are available on our website, www.ATImetals.com. A thorough review of the Safety Data Sheet for the grade of material purchased shall be performed prior to working with this product and all safety & health considerations outlined must be implemented.

The above is a true copy of data on file. The material and test results conform to the sales contract and specification(s) as set forth in ATI Specialty Rolled Products' Order Acknowledgement.

Noreen Deferrari
Sr. Manager Quality, Corporate Quality Assurance

Order Number: 43 - SO - 85271-1 Customer PO: 3FM32620968

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GRADE "ATI 321" STAINLESS STEEL SHEET C R COILS ANNEALED 2D FIN 3 EDGE CARRIER - INDEPENDENT DISPATCH, INC

ITEM TEST NO	CORROSION	T-YIELD
001A 8905242	A262 E MOD	1%
	PASS	36600.
		41900.
TEST LOCATION	TC	TC
	INCLUSIONS E-45 METH A	
ITEM TEST NO	A	B C D
001A 8905242	HVY 0.0	0.0 0.0 0.0
	THN 0.0	1.5 0.0 1.0
TEST LOCATION	TC	
	INCLUSIONS E-45 METH D	
ITEM TEST NO	A	B C D
001A 8905242	HVY	SEE ATTACHMENT FOR RESULTS
	THN	

ELONG AT FRACTURE
METALLOGRAPHIC MAGNIFICATION: 100X ETCHANT USED: OXALIC ACID

GRADE VERIFICATION WAS CARRIED OUT SPECTROSCOPICALLY

ATI SPECIALTY ROLLED PRODUCTS DOES NOT USE MERCURY IN THE TESTING OR PRODUCTION OF ITS PRODUCTS.

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GRADE CARRIER - INDEPENDENT DISPATCH, INC
"ATI 321" STAINLESS STEEL SHEET C R COILS ANNEALED 2D FIN 3 EDGE

THE FOLLOWING TEST METHODS ARE USED BY THE LISTED LAB: ASTM E8 FOR ALL SPECIMENS FOR YIELD, TENSILE, AND ELONGATION EXCEPT ISO 6892-1 FOR 80MM SPECIMENS; ASTM E290 FOR BEND (FOR NEW BEDFORD LABORATORY - TYPE 2 FREE BEND IS USED); ASTM E112 FOR GRAIN SIZE; ASTM E10, E18, E92, & E384 FOR HARDNESS; ASME B46.1 SECTION3 FOR SURFACE ROUGHNESS; AMS 2750 FOR LABORATORY HEAT TREATMENT; ASTM E139 FOR STRESS RUPTURE; ASTM E29 FOR ROUNDING; ASTM E3 AND E407 FOR METALLOGRAPHIC PREPARATION AND ETCHING.

ATI FLAT ROLLED PRODUCTS PERFORMS CHEMICAL ANALYSIS BY THE FOLLOWING TECHNIQUES FOR TESTING LOCATIONS TC, BN, & LO: C & S BY COMBUSTION/INFRARED ABSORPTION. PER ASTM E1019; N & O BY INERT FUSION/THERMAL CONDUCTIVITY PER ASTM E1019; MN, P, SI, CR, NI, MO, CU, CB(NB), CO, V, W BY WDXRF PER ASTM E572; PB, BI, AG, SE, SB BY GFAA PER ASTM E1184; AL AND TI (>=0.10%) BY WDXRF PER ASTM E572 OTHERWISE BY OES PER ASTM E1086; TA, ZN, MG, CD, CE, CA, ZR, LA BY ICP PER ASTM E1479.

EN 10204:2005 - 3.1 CERTIFICATE DOES NOT IMPLY THAT MATERIAL IS AN APPROVED PED GRADE. FOR A COMPLETE LISTING OF APPROVED PED GRADES, VISIT OUR WEBSITE AT WWW.ATIMATERIALS.COM.

THESE COMMODITIES OR TECHNOLOGY, WHEN EXPORTED FROM THE UNITED STATES, ARE IN ACCORDANCE WITH THE USA EXPORT ADMINISTRATION REGULATIONS. DIVERSION CONTRARY TO U.S. LAW IS PROHIBITED. U.S. LAW ALSO PROHIBITS DISPOSITION OF THESE COMMODITIES/TECHNICAL DATA TO ANY END-USER OR FOR ANY END-USE RELATED TO THE DESIGN, DEVELOPMENT, PRODUCTION, STOCKPILING, OR USE OF CHEMICAL, BIOLOGICAL, OR NUCLEAR WEAPONS, OR MISSILES, WITHOUT THE PROPER APPROVAL OF THE UNITED STATES GOVERNMENT.

MATERIAL IS OF USA MELT AND MANUFACTURE.

WESTMORELAND MECHANICAL TESTING & RESEARCH, YOUNGSTOWN, PA (94387), PRODUCTION EVALUATION SYSTEMS INC, LATROBE, PA (T9377) AND DIRATS LABORATORIES, WESTFIELD, MA (32851) ARE GRAE S400 AND ISO/IEC 17025 APPROVED FACILITIES.

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Noreen Delarri
Sr. Manager Quality, Corporate Quality Assurance

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SPEC →		DSO				
		DSO				
		10				
RELIANCE STEEL-BRALCO METALS				BRALCO METALS		
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 "ATI 321" STAINLESS STEEL SHEET C R COILS ANNEALED 2D FIN 3 EDGE

THIS CERTIFIED MATERIAL TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL. FEDERAL LAW PROHIBITS THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT AND MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTE. ATI SRP HOLDS SEVERAL QUALITY CERTIFICATIONS THAT INCLUDE ISO-9001, AS9100, NADCAP, AND ISO/IEC 17025. MATERIAL WAS MANUFACTURED IN ACCORDANCE WITH THE ATI SRP QUALITY MANUAL REVISION 34 DATED 11/06/2023. FOR THE TESTING SPECIFICATION USED IN THE ANALYSIS OF THIS MATERIAL, PLEASE SEE THE SCOPE OF APPROVAL FOR NADCAP AND ISO/IEC 17025 FOR THE LABORATORIES. THE SCOPE OF THE APPROVALS CAN BE FOUND AT WWW.ATIMATERIALS.COM

ATI SPECIALTY ROLLED PRODUCTS WORKS TO THE ROLLS ROYCE SABRE QUALITY MANAGEMENT SYSTEM REQUIREMENTS.

MATERIAL TESTED AT ATI SPECIALTY ROLLED PRODUCTS GEAE S400 APPROVED FACILITIES (T1225 & T9317): NATRONA HEIGHTS, PA; BRACKENRIDGE, PA AND NEW BEDFORD, MA.

ATI SPECIALTY ROLLED PRODUCTS HOLDS SEVERAL QUALITY AND LABORATORY CERTIFICATIONS THAT INCLUDE ISO-9001, AS9100, AD-MERKBLATT W0, EU PRESSURE EQUIPMENT DIRECTIVE 14/68/EU, NADCAP, ISO/IEC 17025, GEAE S400(T1225 & T9317), GEAE S-1000. REFER TO WWW.ATIMATERIALS.COM TO ACCESS THE CURRENT ATI SRP QUALITY CERTIFICATIONS.

EN 10204:2005 3.1 CERTIFICATE.

TESTING WAS PERFORMED AT THE FOLLOWING LOCATIONS:

BN = ATI SRP BRACKENRIDGE; 100 RIVER ROAD; BRACKENRIDGE, PA 15014

TC = ATI SRP NATRONA HEIGHTS; 1300 PACIFIC AVENUE; NATRONA HEIGHTS, PA 15065

PAGE 04 - CONTINUED ON PAGE 05

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GRADE "ATI 321" STAINLESS STEEL SHEET C R COILS ANNEALED 2D FIN 3 EDGE CARRIER - INDEPENDENT DISPATCH, INC

ISSUED BY ATI SPECIALTY ROLLED PRODUCTS 11/20/2024 07:15

MARGARET HOOKS - TECHNICAL SERVICES DEPARTMENT

11/18/24 11:46:40

PAGE 05 - SEE ATTACHMENT.

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