



Certificate No. 4777.1.5W10

Customer: TMS

Purchase Order #: 21-13498

Heat No.: 0-28-06682

Quantity: 5 lbs

Chemical composition:

Element	C	O	N	H	Fe	Al	V	Residuals, each/ total	
Spec max, %	0.05	0.18	0.030	0.015	0.22	6.75	4.50	<0.05	<0.20
Spec min., %	0.00	0.12	0.00	0.000	0.00	5.50	3.50	n/a	n/a
Actual, %	0.02	0.12	0.004	0.0016	0.18	6.27	3.83	<0.05	<0.20

Y<0.001%

Balance - Titanium

C/N/O/H/Fe tested on final diameter

Mechanical Properties:

	Tensile Strength	Yield Strength	Elongation %	Reduction of Area, %	Bend Test
Spec max.					
Spec min.					
Actual	n/a	n/a	n/a	n/a	n/a

Condition: drawn, straightened & cleaned

Grade: ERTi-5 per AWS A5.16-07 & AMS-4954H (chemistry only)

Nominal Size: Dia 0.063" x 36"

Based on chemical composition and mechanical properties (if applicable), the material confirms to the requirements of the following specifications: ERTi-5 per AWS A5.16-07 & AMS-4954H (chemistry only)

Material did not come into contact with Mercury during production and is Mercury free.

Igor Krjenitski

29-Nov-21



G&S TITANIUM, INC.

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WIRE DRAWING SPECIALISTS

CERTIFICATE OF TESTS

CUSTOMER.		DATE .	APRIL 23, 2012
CUST. PO.		G&S MO.	48128

MATERIAL DESCRIPTION	WEIGHT/QUANTITY
.063" X 36" S/L	TI 6AL-4V 361.75 LBS

SPECIFICATIONS	HEAT NUMBER
AWS A5.16-07 ERTI-5, AMS 4954H	0-28-06682

CHEMICAL COMPOSITION				
C *.02	FE *.18	H *.0016	N *.004	O *.12
AL 6.27	V 3.83	Y <.001	.	.
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* TESTED AT FINISH DIAMETER

MECHANICAL PROPERTIES

TENSILE STRENGTH [KSI].
YIELD STRENGTH [KSI].
ELONGATION % IN 4D.
REDUCTION OF AREA % .
STRESS RUPTURE .
BETA TRANSUS TEMP. .
HEAT TREAT TEMP/TIME .
MACRO/MICRO STRUCTURE .
ROCKWELL HARDNESS .
MELT SOURCE . VSMPO - RUSSIA
CONDITION SHIPPED . AS DRAWN, STRAIGHTENED, CLEANED, FTOE
CONVERSION OF CUSTOMER SUPPLIED MATERIAL

THIS STATEMENT IS TO CERTIFY THAT THE ABOVE MATERIAL HAS NOT COME INTO CONTACT WITH MERCURY OR ANY OF ITS ALLOYS OR ANY RADIOACTIVE ELEMENTS. WE ALSO CERTIFY THAT THE ABOVE MATERIAL MEETS ALL REFERENCED SPECIFICATIONS AND CUSTOMER PURCHASE ORDER REQUIREMENTS UNLESS OTHERWISE NOTED.

Dan Eagle

DAN EAGLE / QUALITY ASSURANCE MANAGER

GS-01 004 060110QM