

"Sample (s): Customer Supplied"

TEST REPORT



ATLAS TESTING LABORATORIES, INC.

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PO# 22-13857

DATE: 05/18/2022

ATL# 255839

CLIENT: TMS TITANIUM
ATTN: QUALITY CONTROL
12215 KIRKHAM ROAD SUITE 300
POWAY, CA 92064

QTY: 1
HT# 8-23-01260-1
2.25" THK X CORNER TEST PC

MATERIAL: 6Al-4V Ti GRADE 5 COND. A

SPEC: ASTM-B-265/20A

TENSILE TEST (METHOD: ASTM-E8/21)

| SPECIMEN ID | INSPECTION | | | | YIELD | | ULTIMATE | | ELONGATION IN 4D | | | REDUCT OF AREA | | LOC. OF FRACT (A) |
|-------------------|------------|--------------------|-------------|------------|--------------------|-----|--------------------|-----|------------------|--------------|----------|----------------|---------------|-------------------|
| | TEMP | VISUAL INSPECT OK? | ORIG. DIAM. | ORIG. AREA | ACTUAL LOAD IN LBS | KSI | ACTUAL LOAD IN LBS | KSI | ORIG GAGE LENGTH | ELONG INCHES | PER-CENT | FINAL DIAM. | PER-CENT RofA | |
| L | RT | OK | 0.252 | 0.0499 | 6453 | 129 | 7143 | 143 | 1.00 | 0.149 | 15 | 0.19 | 42 | 1 |
| MINIMUM REQUIRED: | | | | | | 120 | | 130 | | | 10 | | | |

Strain Rate: 0.005 inch per inch per minute; Yield determined at 0.2% Offset; Elongation calculated after fracture ATE# 502

(A) 1 = Center Fracture; 2 = Outer Quarter Fracture; 3 = Fractured @ Gage Mark; 4 = Fractured @ Radius; 5 = Material Flaw/Defect

CHEMICAL ANALYSIS: (% BY WEIGHT)

| | Al | V | Fe | Ti | O.E | O.T | *H | **C | ***N | ***O |
|----------|------|------|------|------|------|------|-------|------|------|------|
| Actual: | 6.01 | 4.17 | 0.18 | Rem. | <0.1 | <0.4 | 0.001 | 0.02 | 0.01 | 0.20 |
| Min Req: | 5.5 | 3.5 | - | - | - | - | - | - | - | - |
| Max Req: | 6.75 | 4.5 | 0.40 | Rem. | 0.1 | 0.4 | 0.015 | 0.08 | 0.05 | 0.20 |

| | | |
|------------------------------|------------------|--|
| METHOD: ASTM-E1086/14 MOD | ATE# 202 OES-ARL | STD'S: IARM175C |
| METHOD: ASTM-E1447/09 (2016) | ATE# 200 | STD'S: 502-891 LOT 0749 *by inert gas fusion |
| METHOD: ASTM-E1941/10 (2016) | ATE# 207 | STD'S: AR591 **by combustion |
| METHOD: ASTM-E1409/13 | ATE# 207 | STD'S: AR641 LOT 321D ***by inert gas fusion |

Remarks: Material as tested, conforms to requirements.

Respectfully Submitted,

Jerry D. Espeseth

General Operations Manager

Date: 5.18.2022

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