



Certified Test Report

NIS001-21-06-19625-1



ACCREDITED

Materials Testing Laboratories
NonDestructive Testing

2331 Topaz Drive, Hatfield, PA 19440
TEL: 800-219-9095 • FAX: 800-219-9096

SOLD TO

National Institute of Standards
100 Bureau Drive, Mailstop 855
Bldg 233, Rm A153
Gaithersburg, MD 20899-8555

SHIP TO

National Institute of Standards
100 Bureau Drive, Mailstop 855
Bldg 233, Rm A153
Gaithersburg, MD 20899-8555
ATTN: Mark Stoudt

CUSTOMER P.O.

CREDIT CARD

CERTIFICATION DATE

7/8/2021

SHIP VIA

EMAIL

DESCRIPTION

Quantity: 2
Material: Inconel 718
Description: Additively Manufactured Samples

CHEMICAL ANALYSIS:

APPLICABLE SPECIFICATIONS: UNS N07718; Customer's Requirement

KEY: C - Conforms NC - Non-Conformance R-Report for Information

| <u>ELEMENT</u> | <u>REQUIREMENTS</u> | | <u>SAMPLE ID</u> | |
|----------------------|---------------------|------------|----------------------|----------------------|
| | <u>MIN</u> | <u>MAX</u> | <u>Build Plate 6</u> | <u>Build Plate 8</u> |
| Al | 0.20% | 0.80% | 0.48% | 0.49% |
| B | | 0.006% | 0.002% | 0.001% |
| C | | 0.08% | 0.04% | 0.04% |
| Cb | 4.75% | 5.50% | 5.39% | 5.36% |
| Co | | 1.00% | 0.01% | 0.01% |
| Cr | 17.0% | 21.0% | 18.8% | 18.8% |
| Cu | | 0.30% | 0.01% | 0.01% |
| Fe | REMAINDER | | 17.84% | 17.86% |
| Mn | | 0.35% | 0.02% | 0.02% |
| Mo | 2.80% | 3.30% | 2.82% | 2.82% |
| N | | | 0.009% | 0.009% |
| Ni | 50.0% | 55.0% | 53.5% | 53.5% |
| O | | | 0.021% | 0.023% |
| P | | 0.015% | <0.001% | <0.001% |
| S | | 0.015% | 0.002% | 0.002% |
| Si | | 0.35% | 0.01% | 0.01% |
| Ti | 0.65% | 1.15% | 1.02% | 1.03% |
| KEY (C/NC/R): | | | C | C |

Date Completed: 7/7/2021 and 7/8/2021

Procedures/Methods: MAS-CS, Rev. 7, Carbon and Sulfur Analysis; MAS-ICP, Rev. 25, Analysis of Metals & Their Alloys by ICP; MAS-NOH, Rev. 2, Nitrogen, Oxygen & Hydrogen Analysis

The services performed above were done in accordance with LTI's Quality System Program Manual Revision 21 dated 5/1/2019 and ISO/IEC 17025:2017. These results relate only to the items tested and this report shall not be reproduced, except in full, without the written approval of Laboratory Testing, Inc. The services provided on this certificate have been performed in conformance with the customer's purchase order requirements. L.T.I. is accredited by Nadcap for NDT and Materials Testing for the test methods and specific services as listed in the Scopes of Accreditation available at www.labtesting.com and www.eAuditNet.com. The results reported on this test report represent the actual attributes of the material tested and indicate full compliance with all applicable specification and contract requirements. This is a shared risk decision rule which the customer also has responsibility for determining acceptance of the results.

MERCURY CONTAMINATION: During the testing and inspection, the product did not come in direct contact with mercury or any of its compounds nor with any mercury containing devices employing a single boundary of containment.

NOTE: The recording of false, fictitious or fraudulent statements or entries on this document may be punishable as a felony under Federal Statutes.

Sherri L. Scheifele
QA Specialist

Sherri L. Scheifele

Authorized Signature