

Titanium Metals Corporation

100 Titanium Way Toronto, OH, 43964 Telephone (740) 537-5694, Fax (740) 537-5653

CERT ID

GN3583-B2B

20-AUG-2019 17:51:28 GM

PURCHASE ORDER

7106 line 3

HEAT NUMBER GN3583

TEST NUMBER

The Thatilithe Sample Cork

Th MS Titanium Sample PRODUCT DESCRIPTION

DELIVERY CONDITION Annealed & Pickled

Specifications 5 3 2

This material complies with the following specifications.

ASTM B 265 -15

Grade 2

Additional Specifications

ASME SB 265 -17

Grade 2

Melt Method

Melt/Process Location

EB

Sample Cert TIMET - Morgantown, PA, USA /

TIMET - Toronto, OH, USA

Compliance Statements

- The thanium sample cent Die Cert Surface free from alpha case and product conforms to the other technical requirements of the referenced specification(s).
- Bend testing performed meets or exceeds the requirements of the ordered specifications.
- TIMET-Toronto has a Quality Management System that is in compliance with ISO 9001:2015, and AS 9100:2016 Revision D. (AS9100 certificate is available at www.timet.com)
- Customer accepts material (randon width) per attached electronic mail message dated 23 May 2019.
- This revised certificate supersedes all previously issued certificates but does not in any way alter, amend, waive, or modify the terms and conditions of the original sale as contained on TIMET's sales acknowledgement.
- Material certificate in compliance with EN 10204:2004 Type 3.1 in accordance with PED DIRECTIVE 2014/68/EU.

Ingot Chemical Analysis (Weight percent)

Sample Cer Unless otherwise noted, Ingot Chemical Analysis performed at Morgantown Process Lab, 900 Hemlock Road, Morgantown, PA,

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Sample ID	Sil	χ.	.xol.	
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This test report shall not be reproduced except in full, without the written approval of TIMET.

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Titanium Metals Corporation

Approved Certificate

100 Titanium Way Toronto, OH, 43964 citanium Sample Telephone (740) 537-5694, Fax (740) 537-5653

TNS Titanium S 2 o

CERT ID OGN3583-B2B 20-AUG-2019 17:51:28 GMT SOLD TO CUSTOMER

7106 line 3 PURCHASE ORDER

> **Product Analysis** (Weight percent)

Sample Cert Sample ysis HS (itaniu) Sample Cer Unless otherwise noted, Product Analysis performed at Toronto Laboratory, 100 Titanium Way, Toronto, OH, 43964, USA nium Sample

Chemistry Statements

- Cert INS Titanium S y, 100 Oert Mis STitanilm NS Titanium TWS Titanium Hydrogen values reported in PPM. Hydrogen determined by inert gas fusion per ASTM E1447. Carbon determined by combustion per ASTM E1941. Oxygen and Nitrogen determined by inert gas fusion per ASTM E1409. Henderson Melt: TWS Titanium Sample Cert. Metallics determined by Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) per ASTM E2371. STI x-ray f. element de le lement de lement de le lement Morgantown Melt: Copper and Boron by atomic spectrometry (ingot only) and all other elements by x-ray fluorescence ospectrometry. ch les Cert
 - 2. Residual elements each less than 0.10% maximum, 0.40% maximum total



Approved Certificate

TMSTITAL Titanium Metals Corporation
100 Titanium Way Mechanical Properties

Unless otherwise noted, testing performed at Toronto Laboratory, 100 Titanium Way, Toronto, OH, 43964, USA

on, R/T, (ASTM E 290)

CVA 3 to 14 Minutes @ 1440°F

20X105

Page 3 of 5

TMS Titanium Sample PASS PASS

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TMS Titanium S

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Sample Cerl SOLD TO CUSTOMER TMSTitanii

7106 line 3 PURCHASE ORDER

> A Records Item # 10 Results are from TIMET Quality Control Records on file Sales Order # 583103

Version

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Cert Cert TMS Titanium S Giovannone 2019.08 13:52:21 -04'00'

Michael Giovannone - Certification Specialist

Version History

24-MAY-2019 Original Version

appro-SB 265J4 Type 3.1

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T. Cate Material certificate in compliance with EN 10204:2004 Type 3.1 in accordance with PED DIRECTIVE 2014/68/EU.