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Certificate of Analysis Part No. B2614 Hydrogen and Carbon in Titanium Pin Standard

Certificate Number 1216C
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***% Carbon**

***Mean = 0.047**

***One Sigma Standard Deviation = ± 0.0006**

***Expanded Uncertainty = ± 0.0012
(k=2, @ 95% confidence) (n=39)**

% Hydrogen

Mean = 0.0017

One Sigma Standard Deviation = ± 0.0002

**Expanded Uncertainty = ± 0.0004
(k=2, @ 95% confidence) (n=88)**

*Note – No primary NMI or ISO 17034 references of this concentration level were available at the time of certification.

Method of Analysis is ASTM E 1941-10, E 1447-09, ARI 033, and ARI 036

Primary (NMI) Standards used for traceability:

NIST SRM	360B, 173C, 2432, 649
BCS CRM	357, 356
BCR CRM	318

ALPHA - AR586-315D, AR651-1213A, AR637-29C97, AR590-815C, AR589-814C, AR637-114C

The intended use of this standard is for the calibration and validation of Carbon and Hydrogen in Titanium or refractory metals as described in the above ASTM methods. The mean analytical values were derived by separate data sets showing traceability to the above-mentioned reference standards and reported in mass fraction. The precision values represent the estimated uncertainty derived from the data sets and may not represent your testing capabilities. Refer to your test method for the expanded method derived uncertainty if needed. When necessary, professional judgment is applied toward consideration of data and statistical information.

The material used in production of this reference standard was identified in accordance with ARI 032. The samples for round robin testing were selected in accordance with ARI 014. The above values relate only to the material used to produce this reference. This bottle consists of 25g material in .25g (nominal) pins and is to be used directly from the bottle without preparation. Multiple pins may be used per test method requirements, with a minimum sample size of 1 pin. This product has an indefinite shelf life.

Remedies for any claimed defect in this product will be limited to product replacement or refund of the purchase price. In no event, shall Elemental Microanalysis Ltd be liable for incidental or consequential damages. This certificate cannot be reproduced except in full.

This Reference Material (working reference standard) is traceable to the above-mentioned standards. For good laboratory practice, it is recommended that all standards be verified prior to use.

Certified July 7, 2017

Elemental Microanalysis Ltd