

Metal and Quality LLC
Reference Material
Certificate of Chemical Analysis
CA016a
Titanium



APPLICABILITY

Reference Material of titanium CA016a is intended for verification of analytical methods, for calibration of analytical instruments based on inert gas fusion methods

MEAN VALUES OF LABORATORIES

Lab. No.	Mass fraction in %		
	O	N	H
1	0.058	0.0063	0.00222
2	0.058	0.0041	0.00253
3	0.073	0.0065	0.00207
4	0.059	0.0057	0.00183
5	0.065	0.0058	0.00235
6	0.063	0.0040	0.00160
M(M)	0.063	0.0054	0.00210
s(M)	0.006	0.0011	0.00034

M(M) - Mean of intralaboratory means

s(M) - Standard deviation of the mean values of laboratories

CERTIFIED VALUES (mass fraction in %)

Elements	O	N	H
Certified	0.063	0.0054	0.0021
Uncertainty C(95%)	0.006	0.0011	0.0003

Uncertainty C(95%) estimated as the half-width confidence interval of Student's t-distribution, when n is the number of laboratory means

$$C(95\%) = \frac{t \cdot s(M)}{\sqrt{n}}$$

SPECIFICATION	Reference material made as pins weighing of 0.10 g, diameter and length about of 3 mm
TRACEABILITY	The characterization of material has been achieved by means interlaboratory experiment. Each laboratory performed 10 measurements of the content of elements. Laboratories used the analysis methods on their choice
DELIVERY	Packing - 100 pins in glass bottle and Certificate
DATE OF ISSUE	June 2020
VALID	June 2030
SAFETY	RM CA016a and packing does not contain explosives and radioactive substances and substances which might influence health and the environment

NOTE

This reference material should be stored in a tightly closed bottle in a dry and cool place. When the bottle is opened for analysis, it should be stoppered immediately after use.

Samples extracted from the bottle using clean metallic tweezers and placed directly into a carefully cleaned weigher and boat devices of analyzer

PARTICIPATING LABORATORIES

Dnepropetsstal (DSS) PJSC, Ukraine
East Mining and Processing Plant SE, Ukraine
E.O. Paton Electric Welding Institute, Ukraine
OSCAR Production Group, Ukraine
VSMPO Titan Ukraine LTD, Ukraine
Zaporozhye Titanium & Magnesium Combine, Ukraine

THE METHODS USED

Inert gas fusion with infrared absorption and thermal conductivity

CONTACTS

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