

Metal and Quality LLC
Certified Reference Material
Certificate of Chemical Analysis
CA016b
Titanium



APPLICABILITY

Reference Material of titanium CA016b 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	0,0552	0,00378	0,00121
2	0,0577	0,00350	0,00135
3	0,0597	0,00390	0,00151
4	0,0603	0,00390	0,00159
5	0,0607	0,00406	0,00160
6	0,0629	0,00417	0,00173
7	0,0629	0,00420	0,00203
M(M)	0,0599	0,00393	0,00157
s(M)	0,0028	0,00024	0,00026

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	0.060	0.0039	0.0016
Uncertainty C(95%)	0.003	0.0002	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. Laboratories used the analysis methods on their choice
DELIVERY	Packing - 100 pins in glass bottle and Certificate
DATE OF ISSUE	January 2022
VALID	January 2027
SAFETY	RM CA016b 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 are removed from the bottle using clean metal tweezers and placed directly into a thoroughly cleaned balance and analyzer loading device

PARTICIPATING LABORATORIES

Antares Int. Co. Ltd, Ukraine

Azovstal Iron & Steel Works, Ukraine

E.O. Paton Electric Welding Institute, Ukraine

Institute for Certified Reference Materials (ICRM), RU

Institute for Ferrous Metallurgy (IMZ), Poland

OSCAR Production Group, Ukraine

Zaporozhye Titanium & Magnesium Combine (ZTMK), Ukraine

THE METHODS USED

Inert gas fusion with infrared absorption and thermal conductivity

CONTACTS

Metal and Quality, LLC

37 Nezalezhnoi Ukrain Street, Zaporozhye City 69019, Ukraine

Tel/Fax: +380 61 717 1800

rm@rm.co.ua

<https://rm.co.ua>