

Metal and Quality LLC
Certified Reference Material
Certificate of Chemical Analysis
CA037
Stainless Steel



APPLICABILITY

Certified Reference Material CA037 is intended for calibration of analytical instruments based on inert gas fusion methods

MEAN VALUES OF LABORATORIES

Lab. No.	Mass fraction in %		
	O	N	H
1	0.01150	0.08376	0.00017
2	0.01150	0.08443	0.00020
3	0.01175	0.08450	0.00022
4	0.01240	0.08484	
5	0.01249	0.08490	
6	0.01267	0.08553	
7	0.01320	0.08580	
8	0.01345	0.08598	
9	0.01401	0.08688	
10	0.01419	0.08780	
11		0.08810	
M(M)	0.01272	0.08568	0.00019
s(M)	0.00098	0.00141	0.00002

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	0.0127	0.0857	<i>0.0002</i>
Uncertainty C(95%)	0.0007	0.0009	-

Italic - indicative value

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	The reference material is made of stainless steel (AISI 321) in the form of nickel-plated pins with a diameter of 4 mm and a weight of 1 gram
TRACEABILITY	The characterization of material has been achieved by means interlaboratory experiment in accordance to ISO Guide 35:2017. In each laboratory applied the methods of analysis of their choice
HOMOGENEITY	The homogeneity was evaluated according to ISO Guide 35:2017
DELIVERY	50 pins in glass jar and certificate
DATE OF ISSUE	July 2023
VALID	July 2033
SAFETY	A Safety Data Sheet (SDS) is not required for CA037. Reference Material CA037 and packing does not contain hazardous chemical, explosives and radioactive substances and substances which might influence health and the environment
NOTE	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. <u>Samples extracted from the bottle using clean metallic tweezers and placed directly into a carefully cleaned weigher and boat devices of analyzer</u>

PARTICIPATING LABORATORIES

Dneprospetsstal (DSS) PJSC, Ukraine
E.O. Paton Electric Welding Institute, Ukraine
Zaporizhstal OJSC, Ukraine
ArcelorMittal Kryvyi Rih OJSC, Ukraine
OSCAR Production Group, Ukraine
Metpromservis LLC, Ukraine
Motor Sich OJSC, Ukraine
Interpipe Steel, Ukraine
Institute for Ferrous Metallurgy (IMZ), Poland
VÍTKOVICE TESTING, Czech Republic

THE METHODS USED

Inert gas fusion with infrared absorption and thermal conductivity

CONTACTS

Metal and Quality, LLC
37 Nezalezhnoi Ukrain Street, Zaporozhye City 69109, Ukraine
Tel/fax: +380 61 7171800
rm@rm.co.ua
<https://rm.co.ua>