

Metal and Quality, LLC
Certified Reference Material
Certificate of Chemical Analysis
CA036
Stainless Steel



APPLICABILITY

Certified reference material CA036 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	0.01173	0.09551	0.00064
2	0.01250	0.09730	0.00074
3	0.01260	0.09758	0.00077
4	0.01294	0.09764	
5	0.01334	0.09783	
6	0.01343	0.09800	
7	0.01416	0.09878	
8	0.01418	0.09880	
9	0.01485	0.09932	
10		0.09940	
11		0.10001	
M(M)	0.01330	0.09820	0.00072
s(M)	0.00098	0.00125	0.00007

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	0.0133	0.0982	<i>0.0007</i>
Uncertainty C(95%)	0.0007	0.0008	-

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 (ER 309LSi) in the form of pins with a diameter of 3 mm and a weight of 0.5 gram
TRACEABILITY	The characterization of material has been achieved by means interlaboratory experiment in accordance to ISO Guide 35:2017. Traceability is achieved by using certified reference materials in analyses: LECO 501-147, 501-529, 501-644, 501-645, 501-646, 502-106, 502-328; AR1647, 1650; ICRM C41d, DSZU CA012
HOMOGENEITY	The homogeneity was evaluated by repeated measurements in one laboratory and was found to be acceptable
DELIVERY	100 pins in glass jar and a certificate
DATE OF ISSUE	July 2023
VALID	July 2033
SAFETY	A Safety Data Sheet (SDS) is not required for CA036. Reference Material CA036 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 PJSC, Ukraine
Institute for Ferrous Metallurgy (IMZ), Poland
VÍTKOVICE TESTING, Czech Republic

THE METHODS USED

Inert gas fusion with infrared absorption and thermal conductivity

CONTACTS

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