

Metal and Quality LLC
Certified Reference Material
Certificate of Chemical Analysis
DSZU CA040
Stainless Steel AISI 316L



APPLICABILITY

Certified reference material DSZU CA040 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	0.00310	0.03200	0.000290
2	0.00330	0.03240	0.000325
3	0.00345	0.03283	0.000373
4	0.00349	0.03320	0.000393
5	0.00349	0.03360	0.000405
6	0.00357	0.03370	0.000417
7	0.00365	0.03420	0.000428
8	0.00405	0.03452	0.000487
9	0.00413	0.03545	-
M(M)	0,00358	0,03354	0,000390
s(M)	0,00033	0,00108	0,000061

M(M) - Mean of intralaboratory means

s(M) - Standard deviation of laboratory means

CERTIFIED VALUES (mass fraction in %)

Elements	O	N	H
Certified	0.0036	0.0335	0.00039
Uncertainty C(95%)	0,0003	0,0008	0,00005

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 AISI 316L stainless steel in the form of polish balls with a diameter of 1/4 inch (6.35 mm) and a weight of **1.071±0.001** gram

TRACEABILITY	The characterization of material has been achieved by means interlaboratory experiment in accordance to ISO Guide 35:2017. Each laboratory used the analysis technique and reference materials of its choice.
HOMOGENEITY	Homogeneity was evaluated using multiple measurements (36 samples) in the one laboratory and was found to be satisfactory
DELIVERY	50 balls in glass bottle and certificate
DATE OF ISSUE	March 2024
VALID	March 2034
SAFETY	A Safety Data Sheet (SDS) is not required for CA040. Reference Material CA040 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

ArcelorMittal Kryvyi Rih, Ukraine

Dneprospetsstal (DSS), Ukraine

ENVIFORM a.s., Czech Republic

E.O. Paton Electric Welding Institute, Ukraine

Metal and Quality LLC, Ukraine

OSCAR Production Group, Ukraine

Sieć Badawcza Łukasiewicz – Górnośląski Instytut Technologiczny, Poland

TCR ENGINEERING SERVICES PVT. LTD., India

VÍTKOVICE TESTING CENTER s.r.o., 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 69019, Ukraine

Tel/fax: +380 61 7171800

rm@rm.co.ua

<https://rm.co.ua>