

Metal and Quality, LLC
CERTIFICATE OF ANALYSIS
DSZU CA010
Low Alloy Steel



APPLICABILITY Certified reference material DSZU CA010 is intended for calibration of analytical instruments based on combustion and inert gas fusion methods

MEAN VALUES OF LABORATORIES

n	Mass fraction in %		
	C	S	N
1	0.0840	0.0149	0.00680
2	0.0880	0.0151	0.00680
3	0.0900	0.0154	0.00690
4	0.0900	0.0158	0.00700
5	0.0906	0.0159	0.00700
6	0.0910	0.0160	0.00710
7	0.0910	0.0161	0.00715
8	0.0915	0.0162	0.00730
9	0.0915	0.0163	0.00740
10	0.0915	0.0164	0.00740
11	0.0917	0.0164	0.00747
12	0.0918	0.0166	0.00750
13	0.0920	0.0166	0.00750
14	0.0940	0.0169	0.00835
15	0.0940	0.0169	
M(M)	0.0908	0.0161	0.00726
s(M)	0.0024	0.0006	0.00040

M(M) - Mean of intralaboratory means

s(M) - Standard deviation of laboratory means

CERTIFIED VALUES (mass fraction in %)

	C	S	N
Certified, M(M)	0.091	0.0161	0.0073
Uncertainty, C(95%)	0.002	0.0003	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

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

Indicative content, mass fraction in %

<i>Si</i>	<i>Mn</i>	<i>P</i>	<i>Cr</i>	<i>Ni</i>	<i>Cu</i>
0.9	2	0.02	0.03	0.01	0.02

SPECIFICATION

DSZU CA010 was selected from the [CRM DSZU CX02a](#) batch as being most suitable material for use in combustion and inert gas fusion methods.

DSZU CA010 is a small steel pins with a diameter of 0.8 mm and a mass of about 3 mg.

DSZU CA010 certification was based on the results of the CRM DSZU CX02a analysis and additional C, S, N content measurements in four laboratories.

NOTES	Reference material should be stored in a tightly closed bottle in a dry place. When the bottle is opened for analysis, it should be sealed immediately after use
TRACEABILITY	The characterization of the DSZU CA010 material has been achieved by means interlaboratory experiment. The participating laboratories followed the requirements of ISO 17025 and used standardized analytical methods and certified reference materials to validate the analytical data
DELIVERY	150 grams in a glass bottle and the certificate of analysis
DATE OF ISSUE	May 2025
VALID	May 2035
SAFETY	A Safety Data Sheet (SDS) is not required for DSZU CA010. Reference material and packing does not contain hazardous chemical, explosives and radioactive substances and substances which might influence health and the environment
PARTICIPATING LABORATORIES	ArcelorMittal Krivy Rig UA, Azovsteel UA, Dneprospetsstal UA, Dnipro Metallurgical Plant UA, DMKD UA, ICRM RU, Khartsyzsk Tube Works UA, SE Metallurgical Plant BY, Powder Metallurgy Institute BY, Scientific Research Tube Institute UA, Scientific Research Centre Energostal UA, Ukrainian Special Steels Institute UA, VITKOVICE TESTING CZ, Zaporizhstal UA
METHODS USED	C - Infrared absorption, Combustion-coulometric titration S - Infrared absorption, Combustion-coulometric titration, Combustion-iodometric titration N - Inert gas fusion
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