

Metal and Quality, LLC
CERTIFICATE OF ANALYSIS
DSZU CH01 – DSZU CH08
Cast Iron



INFORMATION Certified Reference Materials DSZU CH01 - DSZU CH08 is intended for calibration of measuring instruments at definition of chemical composition of cast iron by using of Optical Emission and X-ray Spectrometry methods

MANUFACTURER Metal and Quality, LLC

CERTIFIED VALUES

Mass content, %	C	Si	Mn	S	P	Cr	Ni	Ti	Cu	Al	V	Mo
CH01	2.61	1.95	0.258	0.0045	0.012	0.88	0.072	0.132	0.097	0.079	0.134	0.070
CH02	3.18	1.35	1.09	0.0116	0.007	0.59	0.658	0.161	0.038	0.026	-	0.224
CH03	3.54	0.57	0.40	0.034	0.023	0.612	0.187	0.059	0.194	0.035	0.009	-
CH04	4.01	0.73	1.77	0.018	0.074	0.100	0.273	0.025	0.55	0.014	-	-
CH05	3.99	0.46	2.23	0.039	0.119	1.63	0.85	0.070	0.61	-	0.200	0.109
CH06	3.88	0.28	0.85	0.050	0.050	-	1.23	0.33	1.03	0.025	0.205	0.29
CH07	2.33	3.01	1.36	0.064	0.090	0.34	0.403	0.150	0.35	0.036	0.52	0.66
CH08	3.02	2.05	0.79	0.058	0.056	2.13	2.52	0.315	1.60	0.29	0.34	0.96
Uncertainty C(95%)	C	Si	Mn	S	P	Cr	Ni	Ti	Cu	Al	V	Mo
CH01	0.03	0.02	0.005	0.0003	0.001	0.01	0.002	0.004	0.002	0.003	0.004	0.004
CH02	0.03	0.01	0.01	0.0008	0.001	0.01	0.006	0.004	0.002	0.002	-	0.005
CH03	0.02	0.01	0.01	0.001	0.001	0.006	0.007	0.003	0.004	0.002	0.001	-
CH04	0.03	0.02	0.02	0.001	0.002	0.003	0.008	0.001	0.01	0.001	-	-
CH05	0.04	0.01	0.05	0.001	0.005	0.02	0.01	0.003	0.01	-	0.006	0.007
CH06	0.04	0.01	0.01	0.002	0.002	-	0.02	0.01	0.01	0.003	0.006	0.01
CH07	0.04	0.04	0.02	0.004	0.002	0.01	0.008	0.007	0.01	0.004	0.03	0.02
CH08	0.04	0.04	0.01	0.002	0.002	0.07	0.07	0.004	0.03	0.03	0.01	0.02

The uncertainty C(95%) is estimated in accordance with the national standard DSTU GOST 8.532-2003 "Metrology. Reference materials of composition of substances and materials. Interlaboratory metrological certification. Content and procedure for carrying out work"

INDICATIVE VALUES

Mass content, %	Sn	Pb	Co	Nb	W	Mg	Ca	B	As	Cr	V	Mo
CH01	0.05	-	0.06	0.010	0.02	0.0005	0.001	0.03	-	-	-	-
CH02	0.014	-	0.06	0.4	-	0.002	0.001	0.016	-	-	-	-
CH03	0.004	0.01	0.05	0.010	0.006	0.0001	0.002	0.001	0.004	-	-	0.02
CH04	0.002	0.007	0.05	0.005	<0.002	0.0001	0.0007	0.0007	-	-	0.004	-
CH05	0.01	-	0.07	0.3	-	0.001	0.002	0.03	-	-	-	-
CH06	0.03	-	0.07	0.05	0.1	-	0.001	0.02	-	2.8	-	-
CH07	0.07	-	-	0.08	-	0.01	0.001	0.13	-	-	-	-
CH08	0.008	-	0.07	0.3	-	-	0.001	0.08	-	-	-	-

CRM VALIDITY

The shelf life of samples is unlimited subject to the conditions of storage and use. The working surface of the sample should be purified before use. Reference material will remain stable provided that it is not subjected to excessive heat (e.g. during preparation of the working surface)

SPECIFICATION

CRMs with double analytical surface: CH01,CH05 - blocks 30-35 mm x 40-35 mm, thick.18-20 mm; CH02 - 35-37dia. X 18-20mm; CH03,CH04 - 30-40 x 45-35 mm, thick.14 -18mm; CH06-CH08 – 35 x 35mm, thick.18 – 20 mm. Cast white structure, got by rapid crystallization of fusion after vacuum melting

DELIVERY

CRM, packed into a box and a certificate of analysis

DATE OF ISSUE

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SAFETY

A Safety Data Sheet (SDS) is not required for CRMs CH01 - CH08. Material and packing does not contain hazardous chemical, explosives and radioactive substances and substances which might influence health and the environment

PARTICIPATING LABORATORIES (Ukraine)

ArcelorMittal Krivy Rig, OJSC
Ilyich Iron and Steel Works of Mariupol, OJSC
Zaporizhstal, OJSC
Alchevsk Iron & Steel Works, OJSC
Dneprospetsstal, OJSC
Khartsyzsk Tube Works, OJSC
Ukrainian Special Steels Institute, State Enterprise
Krivorozhskiy Factory of Mountain Equipment (KZGO), JSC
Kerch Pointer Factory Ltd.
Dnipropetrovsk Forming Roll Works, OJSC
Metpromservice Ltd.

CONTACTS

37 Nezalezhnoi Ukrain Street, Zaporozhye 69019, Ukraine
Tel/fax: +380 61 7171800
rm@rm.co.ua
<https://rm.co.ua>