

Metal and Quality, LLC
CERTIFICATE OF ANALYSIS
RM C045a
Low Alloy Steel



INFORMATION

Reference Material C045a is intended for calibration of measuring instruments at determination of chemical composition of low alloy steels using Optical Emission Spectrometry

DEVELOPER AND MANUFACTURER

Metal and Quality LLC

METROLOGICAL CHARACTERISTICS, mass fraction in % (bold)

C045a	C	S	Mn	P	Si	Cr	Ni	Cu	Al	W	V	Mo	Ti	Co	Nb	Sn	B	As	Ca	N
	0.374	0.0032	0.382	0.012	0.267	1.45	0.147	0.191	0.86	0.005	0.004	0.184	0.004	0.010	0.003	0.012	0.0004	0.010	0.002	0.0063
Uncertainty	0.009	0.0005	0.003	0.001	0.004	0.01	0.004	0.004	0.02	-	0.001	0.003	0.001	0.001	0.001	0.001	-	0.002	-	0.0005

Italics - indicative value

SPECIFICATION

Reference material C045a is made of hot rolled steel in the form of cylinders with a diameter of 40 mm and a thickness of 25 mm.

The metrological characteristics were obtained on the basis of multiple comparative measurements component content in RM C045a and in CRM C045 by OES and combustion (C, S, N) methods. The uncertainty was estimated as a standard deviation of the mean values of interlaboratory comparisons, taking into account the uncertainty of CRM C045 certified values

PARTICIPATING LABORATORIES

Dneprospetsstal (DSS) PJSC, Ukraine

Ferrox LLC, Ukraine

Iron and Steel Works Zaporizhstal OJSC, Ukraine

Metal and Quality LLC, Ukraine

Zaporozhye Steel Plant LLC, Ukraine

DATE OF ISSUE

December 2022

EXPIRY DATE

Unlimited

SAFETY

A Safety Data Sheet (SDS) is not required for the reference material C045a. The material and packing does not contain hazardous chemical, explosives and radioactive substances and substances which might influence health and the environment

DELIVERY

RM packed into box and Certificate

CONTACTS

37 Nezalezhnoi Ukrain Street, Zaporozhye city 69019, Ukraine

Tel/fax: +38 061 7171800

rm@rm.co.ua <https://rm.co.ua>