



INSTITUTE OF NON-FERROUS METALS

Analytical Chemistry Department

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CERTIFICATE OF ANALYSIS

Wrought brasses MK 75

The average results of chemical analyses in wt %

Element ^{No.}	WC 1	WC 2	WC 3	WC 4	WC 5	WC 6
Si	0,26	0,41	0,89	0,76	0,48	0,58
Fe	0,031	0,015	0,021	0,0067	0,18	0,051
P	0,015	0,011	0,0058	0,0048	---	0,0037
Sb	0,0034	0,0023	0,0010	0,00080	0,0011	0,00057
Bi	0,0028	0,0020	0,00093	0,00047	0,0019	0,0012
Sn	0,0032	0,0025	0,0011	0,0010	0,0044	0,0028
Pb	0,046	0,031	0,0085	0,0051	0,0055	0,0036
Al	0,0034	0,0016	0,0018	0,00096	0,00084	0,0019
As	0,0043	0,0024	0,0011	---	0,0022	0,00097
Cu	75,10	75,05	75,28	75,32	75,03	75,32
Zn	the rest	the rest	the rest	the rest	the rest	the rest

Director of the Institute

Prof. Ph.D. Zbigniew Śmieszek

The confidence intervals in wt % at the probability level of 0,05

Element No.	WC 1	WC 2	WC 3	WC 4	WC 5	WC 6
Si	0,0093	0,013	0,020	0,014	0,16	0,018
Fe	0,0018	0,0021	0,0019	0,00037	0,0098	0,0025
P	0,00048	0,00064	0,00049	0,00089	---	0,00061
Sb	0,00030	0,00020	0,00012	0,000070	0,000090	0,000050
Bi	0,00030	0,00010	0,000080	0,000050	0,000090	0,00012
Sn	0,00017	0,00022	0,000090	0,00012	0,00031	0,00029
Pb	0,0019	0,00040	0,00058	0,00018	0,00046	0,00025
Al	0,00013	---	---	0,00005	0,000090	---
As	0,00036	0,00030	0,00014	---	0,00016	0,000080
Cu	0,050	0,071	0,020	0,025	0,090	0,035

Analytical methods applied:

Si - gravimetric

*Fe - atomic absorption after precipitation on La (OH)₃,
spectrophotometric with sulphosalicylic acid*

Pb - atomic absorption after precipitation on La (OH)₃

P - spectrophotometric as a complex phosphoric-molibdenium

Bi - atomic absorption

Sb - atomic absorption, spectrophotometric with crystal violet

As - spectrophotometric with ammonium molybdenate after extraction

Al - spectrophotometric with eriochromocyanin R, atomic absorption

Sn - spectrophotometric with phenylfluoran, atomic absorption.

The chemical analyses have been carried out in three industrial laboratories and at the Institute of Non-Ferrous Metals.

The set consists of 6 reference materials in form of discs 40 mm in diameter and 30 mm in height.