



INSTITUTE OF NON-FERROUS METALS

Analytical Chemistry Department

CERTIFICATE OF ANALYSIS

Cartridge brasses M 68, M 70

The average results of chemical analyses in wt %

No. Element	MJJ1	MJJ2	MJJ3	MJJ4
Zr	0,0454	0,00017	0,00070	0,0074
Cu	67,82	(68,03)	67,87	67,75
Zn	the rest	the rest	the rest	the rest

Gliwice 2008

Director of the Insitute

Prof. Ph.D. Zbigniew Śmieszek

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

No. Element	MJJ1	MJJ2	MJJ3	MJJ4
Zr	0,0037	0,000082	0,000052	0,0010
Cu	0,33	-	0,27	0,06

Analytical methods applied:

Zr - atomic emission spectrometry wit ICP,

- spectrophotometric,

Cu - electrolysis,

- jodometric.

The chemical analyses have been carried out in four specialistic laboratories, (using minimal two different methods). Cartridge brasses CRMs were made by melting of all components in the coreless induction furnace and by casting into special cast iron moulds, preventing elimination of segregation of the components during solidification. Homogeneity testing were made using 50% of the material produced. Investigation were carried out using atomic emission spectrometry method with low voltage spark. Homogeneity was estimated statistically with application of the test F. Final product of CRMs has been obtained in form of discs 40 mm in diameter and ~28 mm height.

Application for:

- atomic emission spectrometry with low voltage argon spark.

Certified Reference Materials MJJ series is stable in time

Sale:

Institute of Non-Ferrous Metals

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