EUROPEAN COMMISSION
JOINT RESEARCH CENTRE

Institute for Reference Materials and Measurements (Geel)

CERTIFIED REFERENCE MATERIAL
BCR-327

CERTIFICATE OF ANALYSIS

UNALLOYED ZINC			
	Mass Fraction		Number of accepted sets of data p
	Certified value [1] [µg/g]	Uncertainty [2] [µg/g]	
Cd	301.4	2.3	13
Fe	144.0	1.3	10
Pb	409.4	2.3	12

[1] Unweighted mean value of the means of p sets of data, each set being obtained in a different laboratory and/or with a different method of determination. The certified values are traceable to the International System of Units (SI).

[2] Half-width of the 95 % confidence interval of the certified mean.

This certificate is valid for five years after purchase.

Sales date:

The minimum amount of sample to be used is 1 g. It is recommended not to use the center of the sample (10 mm diameter).

NOTE

This material has been certified by BCR (Community Bureau of Reference, the former reference materials programme of the European Commission). The certificate has been revised under the responsibility of IRMM.

Brussels, November 1989
Latest revision: August 2015

Signed: _____

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Joint Research Centre
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Indicative Values			
	Mass Fraction		
	Indicative value [1] [µg/g]	Uncertainty [2] [µg/g]	Number of accepted sets of data
Cu	0.56	0.11	5

[1] Unweighted mean value of the means of p sets of data, each set being obtained in a different laboratory and/or with a different method of determination. The indicative value is traceable to the International System of Units (SI).

[2] Half-width of the 95 % confidence interval of the mean as defined in 1).

DESCRIPTION OF THE SAMPLE

The samples are discs with 80 mm diameter and 20 mm thickness.
Each sample has two different numbers:

- a five digit code, marked on the metal by the producer of the materials, defining the exact position of the sample in the original batch of rods;
- the "normal" individual identification (consecutive numbering of samples within a CRM), marked on the label of the samples.

	Individual identification (on label)	Five digit code (on metal sample) *
BCR-327	001 to 060 061 to 120 121 to 180 181 to 240	17101 to 17160 17201 to 17260 17301 to 17360 17401 to 17460

* First digit : 1 for unalloyed zinc
Second digit : 7 for BCR-327
Third digit : rod number within one CRM
Last two digits : disk number within one rod (01 = bottom, 60 = top)

ANALYTICAL METHOD USED FOR CERTIFICATION

- Charged particle activation analysis
- Differential pulse voltammetry
- Electrothermal atomic absorption spectrometry
- Flame atomic absorption spectrometry
- Inductively coupled plasma emission spectrometry
- Isotope dilution mass spectroscopy
- Polarography
- Spectrophotometry

PARTICIPANTS

- Budelco B.V., Budel-Dorplein (NL)
- Bundesanstalt für Materialforschung und –prüfung, Berlin (DE)
- Energieonderzoek Centrum Nederland, Petten (NL)
- Ever Ready Ltd, Durham (GB)
- Instituut voor Nucleaire Wetenschappen, Gent (BE)
- Laboratoire National d'Essais, Paris (FR)
- Metaleurop Harz-Metall GmbH, Goslar (DE)
- Metaleurop, Noyelles-Godault (FR)
- Metaleurop Weser Blei GmbH, Nordenham (DE)
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- Ruhr-Zink GmbH, Datteln (DE)
- Vieille-Montagne, Balen (BE)
- Vieille-Montagne, Overpelt (BE)
- Vieille-Montagne France, Auby-les-Douai (FR)

SAFETY INFORMATION

Not applicable.

INSTRUCTIONS FOR USE

The material is mainly intended for calibration in emission spectrometry with solid samples; the usual mechanical cleaning should be applied prior to the measurement (the CRM and the user's samples should be treated in the same way). It is recommended not to use the centre of the samples (approx. 10 mm diameter).

STORAGE

The CRMs should be stored in clean and dry conditions at ambient temperature.
The European Commission cannot be held responsible for changes that happen during storage of the material at the customer's premises, especially of opened samples.

LEGAL NOTICE

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NOTE

A technical report on the production of BCR-327 is available on the internet (http://www.irmm.jrc.be). A paper copy can be obtained from IRMM on request.

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