Product Data Sheet

Reference Material - RM

RCu 11 / 01

Copper Base (Type of Standard)
High purity copper setting up sample (SUS)

Indicative Values

Element	Mass fraction [%]
Zinc (Zn)	(< 0.001)
Lead (Pb)	(< 0.002)
Tin (Sn)	(< 0.005)
Phosphorus (P)	(< 0.001)
Manganese (Mn)	(< 0.001)
Iron (Fe)	(< 0.001)
Nickel (Ni)	(< 0.01)
Silicon (Si)	(< 0.005)
Magnesium (Mg)	(< 0.001)
Chromium (Cr)	(< 0.001)
Tellurium (Te)	(< 0.001)
Arsenic (As)	(< 0.001)
Selenium (Se)	(< 0.001)
Antimony (Sb)	(< 0.005)
Cadmium (Cd)	(< 0.001)
Bismuth (Bi)	(< 0.02)
Silver (Ag)	(0.001)
Cobalt (Co)	(< 0.001)
Aluminium (Al)	(< 0.005)
Sulfur (S)	(0.001)
Zirconium (Zr)	(< 0.001)
Beryllium (Be)	(< 0.001)
Titanium (Ti)	(< 0.001)

Values in brackets ( ) are not certified but given for information only.

Manufacturing
This setting up sample is produced from a single melt via casting and forging.

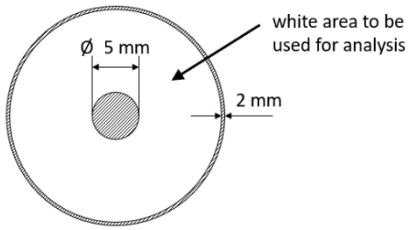
Homogeneity
Homogeneity testing is performed by means of spark emission spectroscopy. Tests involve making multiple measurements on individual samples taken from each rod. Depending on the mass fraction of the element, the relative standard deviation of > 25 measurements within one disc is influenced by the material homogeneity and stability of the measurement instrument and is typically found to be as shown in the following table. Homogeneity in between discs of the same batch is not guaranteed.

Analysis
The homogeneity analysis of this material was performed in our ISO/IEC 17025 accredited analytical laboratory (STS 0023) by spark optical emission spectroscopy. This is a setting up sample. Only homogeneity of this standard is analyzed. No mass fraction values are certified. The values given in brackets have been determined using spark source optical emission spectroscopy.

Description of Sample
This setting up sample is available in the form of discs (approx. Ø 40 x 40 mm).

Intended Use and Stability
This setting up sample is primarily intended for use in spark optical emission spectroscopy. The use in other applications such as X-ray fluorescence spectrometry (XRF) or laser induced breakdown spectroscopy (LIBS) is also possible. This reference material shall mainly be used for drift correction over time. It shall not be used for instrument calibration. The material will remain stable for the period given below (data sheet validity) if it is stored in a dry (non-condensing) and clean environment at room temperature (≤ 40 °C).

Instructions for Use
Measurements should be made within a ring (see white area in the picture). For spark OES analysis, the surface of the material needs to be prepared by milling. The minimum area to be analyzed is 30 mm^2. This reference material shall mainly be used for drift correction. The values within one disc may be regarded as constant for this purpose. For a new disc of the same material the values may slightly differ, and this should be taken into account (check operator manual of your system).



Accreditation

Suisse Technology Partners Ltd. is accredited as a producer of reference materials and certified reference materials according to ISO 17034 (SRMS 0006). This material was analyzed in our own laboratories accredited according to ISO/IEC 17025 (STS 0023). This material is a reference material which was produced outside the scope of accreditation of SRMS 0006.

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This certificate
can be downloaded
here: https://refmat.ch/RCu11-01