

Electrical Conductivity

Copper oxygen-free 99,999 + % - the Grade "A +/-".

Manufacture of LLC " Sibneotech ".

Measuring is made for 2 samples from each of 6 ingots reflecting internal accepted fluctuations of quality. After the analysis of impurities, ingots were numbered according to expected results (6th is as "the worst" expectation for the Grade "A +/-").

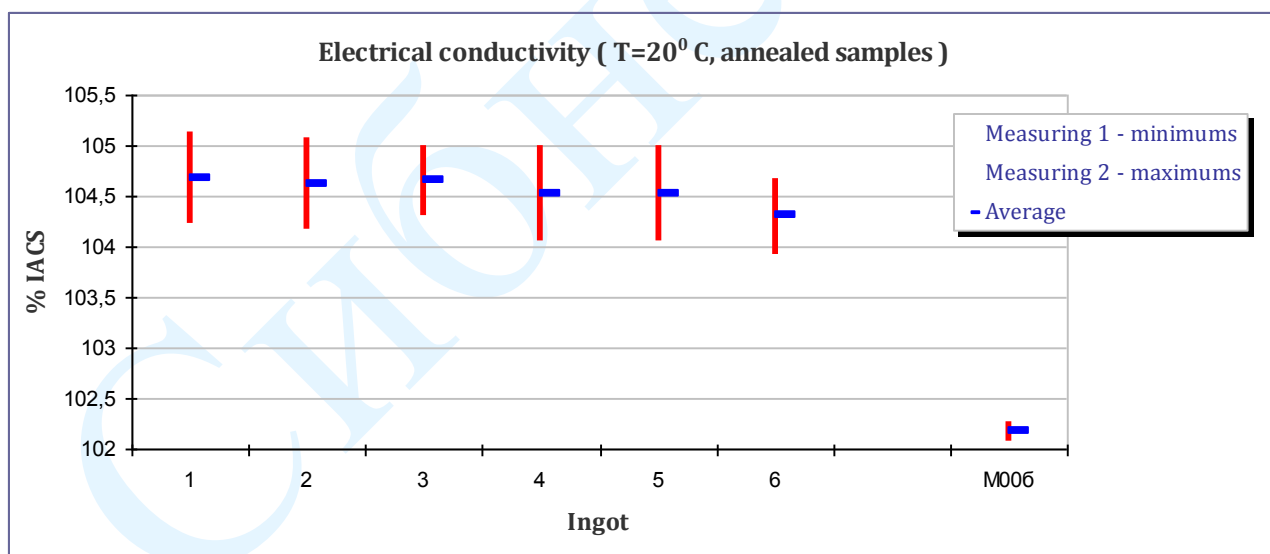
Preparation and measuring

Two rectangular conductors were sawn from each of 6 ingots. The copper wire of grade M006 (manufactures of 80th years, the USSR) also was measured for the control of conditions of measuring and as the additional standard.

In each measurement there were one sample from each ingot and M006 wire. Preparation of samples and their numbering were spent irrespective of an annealing and of measuring to prevent casual interpolation/adjustment of results - at measuring not was known what sample should be better or worse.

Results practically coincided with expected results and are presented below.

Electrical conductivity, % IACS. Annealed samples.							
Ingot	1	2	3	4	5	6	M006
<i>Measuring 1</i>	104,24	104,18	104,30	104,05	104,05	103,93	102,08
<i>Measuring 2</i>	105,13	105,07	105,00	105,00	105,00	104,68	102,26
Average	104,68	104,62	104,65	104,52	104,52	104,30	102,17



Results of two series differ a little. It is possible to explain it by some difference in annealing and also by calculations of conductors profiles. Results within the limits of expected and also do not contradict other data - some various sources assert that for pure "correct copper of 99,999%", electrical conductivity is not less ~103, 4-6% IACS.

Also the Institute of Applied Physics of the Russian Academy of Science made the measuring of annealed sample of our copper on reflectance in the millimeter range of wavelengths at 0-300K. The result is also very high and close to calculations for « theoretical copper ».

Measuring is carried out professionally but for more exact and stable "routine" measuring, it is necessary to have the stationary stand of tests.