CONCLUSIONS

It is shown that the three technologies of copper-phosphorus solder only one (with the use of powder metallurgy and synthesized powders) allows a solder to form metall matrix composite that can be subjected to cold deformation without destruction in order to obtain the required assortment, such as letters or ribbons 200-250 microns thick, with a residual porosity of less than 2%.

In the study metallographic not etched Grinding bands solder on electronic microscope spectrometer with the prefix for energodispersive analysis by varying the phase contrast could set it bimatryx structure, which consists of two interpenetrating networks. The first component (dark) is phosphorus, corresponding to a compound Cu_3P (14 % P). The second component (lighter) corresponds to a solid solution of phosphorus in copper (0,3-0,16 % P), and when moving from near-boundary zone to the middle phase of light decreases in phosphorus.

Through research conducted at the facility-current 902 (IPM NAS of Ukraine) developed to study the sintering process under high power electric current principal possibility of using solder for soldering midnofosfornym flat specimens, like hard alloy plates. It was shown that under these conditions the solder solder properties not samoflyusuyuchyh

Samples of hard alloy VK-3 and stainless steel 12X18H10T burned by installing current-902; Some examples welded together with a layer of solder, the other two layers, in both cases using flux 902.

The electron pictures show a small change in the structure of samples and pores encountered in rolling and Peitz and probably is the result of the presence of wahed, part of the powder ICP-1 and prevents its premature oxidation.

Established that microhardness Vickers rolled solder is - 197,80 HV, and molten - 146,04 HV, indicating the emergence of a certain hardening during the final sealing rolling.

The changes in micro hardness and hard alloy VK3, increasing

microhardness at a distance of 150 m from the soldered seam, probably due to the decrease carbide component (decarbonization) on the surface during soldering.

Established that microhardness stainless steel 12X18H10T varied within the confidence interval from 3.48 to 10.27 NV (Vickers) without a trend.

The study conditions for soldering solder wettability surface hard alloy and stainless steel, it is found that VK3 - wettability angle is from 17.4 ° to 26.4 °, which is a very good indicator, and for steel 12X18H10T - angle of wettability was 48,4 ° to 49,7 °, which is also acceptable.