

# METHOD FOR IDENTIFICATION AND EVALUATION DEPTH OF PENETRATION CONTACT DETAILS-SWITCHING DEVICES

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*The article is devoted penetration method of determining the contact details of the heat equation in spherical coordinates. It is shown that as the size of the foundations of the arc are very small compared with the surface of the contact details of the calculation of the thermal regime of contact details is carried out using the method of point source. Determined temperature distribution electric arc during its combustion when switching electrical current when working.*

***Call detail electric arc, electric erosion electricity.***

Purpose - improving the mathematical model of thermal processes switching devices.

Materials and methods of research: Options arc method and thermal energy balance of the electric arc during switching current.

Research results: the first time calculated the value of penetration depth, electrical erosion, service life of contacts studied materials powder metallurgy and power electric arc.

Considering the microstructure of a longitudinal section of the electrodes can testify that the depth of penetration is on average 0.6.

Thus, the phrase data and experimental data is satisfactory, given the estimated calculation.

## **Conclusions**

The depth of penetration of the material contacts depends on the energy of the arc, electro material properties of contacts, time burning arc.

As a result of the calculations was the dependence of the lifetime of the contacts on the amount of electricity transferred in the arc.