

## CONCLUSIONS

1. Analysis of published data on the possible powder materials for use as metal inserts in the tram cars to enhance their conductivity. It is shown that a promising material in this regard may be inserts from powder material based on iron and aluminum. As a method of manufacturing powdered rates may be conventional powder metallurgy technology.

2. The processes of mixing powders and outgoing quality control methods of mixing. Established quality mixing takes place when added to the starting mix and 1.6% lubricant blending conduct in furthering 2,0-3,0 hours at number two conical mixer speed of 50-60 rpm. / Min . Insertion oil prevents the possible segregation of the mixture by density difference velykoh components.

3. The processes of pressing powder mixtures of iron and aluminum. Shown based densification is plastic deformation of the components of the original charge. Therefore, increase of less ductile iron charge, ceteris paribus, reduces its ushilnyuvanosti.

4. The processes of sintering compacts from powder mixtures of iron and aluminum. It is shown that the interaction during sintering of iron and aluminum to form intermetallic FeAl with greater specific volume than the initial components.

5. established that investigated the receive mode materials based on aluminum alloys - iron contributes to a commensurate with the structure and properties. From an economic perspective is the most suitable mode which involves pressing products for pressure 400 MPa, followed by sintering in a container of consumable shutter 800<sup>0</sup>S for temperature for 30 minutes.

6. The developed principles of safety and environmental protection, ensuring safe conditions of production materials based alloy Al-Fe.

7. The economic calculations show that the development of new material compositions based Al-Fe is economically viable.