**Kramarenko J.M.**

**PROCESS DESIGN DIE CASTING METAL PRODUCTION (FE-CU) WELDING ELECTRODES**

This work is dedicated to the development process of obtaining bimetallic (Fe-Cu) electrodes for welding. By the development process includes the following tasks:

1. Development of special design Coquille, which has made for the formation of through-hole electrode;

2. Development Process extrusion crucible of molten copper through holes everywhere which is necessary to calculate the amount of molten copper, which is required in order to form the outer layer of welding Bi (Fe-Cu) electrode and then placed in a crucible of molten calculated amount;



3. Choose the method for determining the adhesive strength disrupt the outer layer of copper with a steel rod, which is shown in the picture.

As a result of this work were developed following:

1. The technological process for the production of bimetallic (Fe-Cu) welding electrodes, which consists of the following:

- To determine the thickness of the copper layer on the steel surface electrode;

- Determine the number (N) of electrodes to be at one make in casting the melt in the casting;

- To calculate the total mass of molten copper, which is necessary for the manufacture of (N) electrodes;

2. A settlement and development of design, which consists of the following components:

- On the total mass of molten iron defined geometric parameters crucible;

- The length of bimetallic electrode made of metal mold height.

3. The complex of equipment for the production of bimetallic electrodes consisting of the following elements:

- Iron crucible, the inner surface of which is made of ground glass outer surface metal mold with through holes;

- Chill with through vertical works,

- Metal mold design with through holes

4. The method for determining the adhesive strength of the copper layer adhesion with a steel rod in bimetallic electrode.

Work performed under the direction of prof. of the Department of cutting equipment and transportation systems Khoroshilov O.M.