

Invention relates to the welding, in particular, to the process of manufacture of structures with permanent connections by pressure, namely, by diffusion welding of metals and alloys, and it can be used in the machine-building, aerospace, instrument-making branches etc. In the method of diffusion welding of materials, which includes heating the combinable components to welding temperature, their compression and endurance under given conditions of welding, is created cyclic decrease and increase of the temperature. The number of cyclic decreases and increases of the temperature and quantitative size of cycling depends on the mechanical properties of the combinable materials at welding temperature and on the cleanliness of preparation of the combinable surfaces. The intensification of thermal deformation processes in the weld-metal area is achieved that improves the welding quality.