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Review
For the dissertation abstract;
Norova Muattar Turdievna

“ Physicochemical properties of industrial aluminum- magnesium alloys with alkaline earth and rare earth metals”, submitted for the degree of Doctor of Technical Sciences in the specialty 02.00. 04 - «physical chemistry»

Purposeful research of corrosionprocesses and the development of effective means of protecting metals, providing for the search for new and rational use of existing structural materials, are included in the list of the most important tasks. In this regard, the need for further improvement and wider use of specific scientific and technical solutions for the protection of metals from corrosion that have already proven themselves at laboratory stages and experimental- industrial tests is growing. For this reason, the topic of the dissertation work by Norova M.T., is relevant and is devoted to the study of the influence of alkali earth metals (Ca, Sr, Ba) and rare earth metals (Sc, Y, La, Ce, Pr, Nd), on the physicochemical properties of industrial aluminum-magnesium alloys.

Norova’s dissertation work is a scientific and qualifying work, which contains the results of an experimental study of the structure, thermophysical and physical and chemical properties of aluminum-magnesium alloys with alkaline earth and rare earth metals using modern research methods and their theoretical interpretation.

The results of the dissertation research have scientific and practical significance and contribute to the development of science, which are confirmed by the establishment of patterns and mechanisms for changing physical and chemical properties and their explanation on the basis of the laws of chemistry,

obtained by 5 patents of the Republic of Tajikistan, one of which is introduced into production. The compositions of alloys developed by the authors based on AMg- REM systems (scandium, yttrium, cerium, lanthanum, praseodymium and neodymium) are recommended for the shipbuilding, automotive, aviation and construction industries. The results of thermodynamic studies can add to the bank of the given thermodynamic values.

The analysis of the author's abstract indicates that the presented dissertation fully meets such criteria as relevance, scientific novelty, practical significance, validity and reliability of the results, completeness of their publication. Thus, the dissertation meets the requirements of the «Regulations on the award of academic degrees» of the Higher Attestation Commission under the Ministry of Education and Science of the Russian Federation, presented for the degree of Doctor of Technical Sciences, and its author is Norova M.T. deserves to be awarded the desired degree in the specialty:02.00.04-«Physical chemistry (in technical sciences)».

Pr. Massoud Mirshahi