NOVATEUR PUBLICATIONS
INTERNATIONAL JOURNAL OF INNOVATIONS IN ENGINEERING RESEARCH AND TECHNOLOGY
[IJIERT] ISSN: 2394-3696 Website: ijiert.org
VOLUME 9, ISSUE 10, Nov. -2022

ELECTRICAL ENGINEERING FIELD AND MATERIALS

Meliboev Raxmatjon

ANNOTATION
In this article, opinions were expressed about the field of electrical engineering and materials.

Keywords: electrical engineering, electricity, voltage lines, enterprise, magnetic, power

Along with the reforms being carried out in all aspects of our republic due to independence, fundamental changes are also taking place in the electrical engineering industry. for example, special attention is being paid to the production of high-voltage transformers at the transformer plant, and new types of asynchronous motors with high performance indicators at the Andijan Electric Motor Joint-Stock Company.

Currently, as a result of the increase in the technical level of production, various new types of electric machines, devices and other electrical equipment are used in all sectors of the national economy. large power generators are producing electricity; modern electric motors that produce products, drive machines and mechanisms are widely used in various fields. It is important to be able to use various electrical machines and equipment correctly and economically in enterprises and households.

Development of the material and technical base of the society envisages wide and effective use of electricity in all areas. the future development of all sectors of industrial agriculture and domestic service is determined by the expanding volume of capital construction and reconstruction of enterprises. In the plans in this direction, works on the construction and development of power plants, networks and substations make a significant contribution.

Electric energy is characterized by the fact that it can be transmitted over long distances and can be easily converted into other types of energy, such as light, heat, mechanical and other energies. therefore, the electricity produced in thermal, hydroelectric and other types of power plants is transmitted through power lines to the places of its consumption - factories, factories, agricultural enterprises, household service outlets, etc. power lines, step-up and step-down substations, distribution devices and various voltage lines are used to transmit electric energy and distribute it to consumers. There are various types of solutions for positive solutions to electrical engineering problems production of materials, at the same time, it is necessary to continuously improve the properties of existing materials and improve their quality. which requires the rapid development of enterprises producing high-quality electrotechnical materials based on new technology. Deep physical, chemical, mechanical properties of the material that can be used to achieve the intended purpose learning is required. To study the materials used in electrical engineering and to achieve the above goal, the course "Electrical engineering materials" is studied.

At present, science and technology have developed, technological processes have improved, and electrical engineering has reached new levels, and various materials are being produced. in the design, production and testing of electrical equipment, specialists encounter electrical materials with various properties. Electrical, mechanical and magnetic properties are required to a certain extent from electrical materials.

In the science of electrical engineering materials, the following are studied: basics of studying and testing electrical engineering materials; their properties and structure; determining the use of materials in electrical engineering through their specific properties and practical application.

Electrotechnical materials are mainly divided into 4 types: conductors, dielectrics, semiconductors and magnetic materials. Conductor materials are used in air and cables for the transmission of electrical energy. These materials are made of pure metals with high electrical conductivity.

Dielectrics are used to limit electrical current in hardware and equipment. Therefore, they must have great resistance

Semiconductors are located between conductors and dielectrics in terms of their electrical conductivity and are widely used today.

Magnetic materials are used in order to generate or transmit magnetic current in magnetic electrotechnical equipment. these materials require some degree of magnetic properties.this property is present in iron or its various alloys (nickel, cobalt). The development of digital technology is at an unprecedented level in modern automation and telemechanics, space and military technology, computing technology, and in theory and practice of electronics sciencebased on the developed.it can be said with confidence that in recent years, the development of a part of electronics science called microelectronics will have a great impact on all spheres of life, industrial production, socio-social, household, construction, etc.

REFERENCES

1. Рашидов И.Р., Абидов К.F., Колесников И.К. Электротехниканинг назарий асослари 1. II. III кисмлар (Маъруза матинлари туплами), ТДТУ, 2002. - 250 6.
2. Amirov S.F.. Yoqubov M.S., Jabborov N.G. Elektrotexnikaning nazariy asoslari.I-III qismlar. Toshkent; 2007,- 426 b.
3. Amirov S.F., Yaqubov M.S., Jabborov N.G'., Sattorov X.A., Balg'ayevN.E. Elektrotexnikaning nazariy asoslaridan masalalar to'plami.-T.: Adabiyotuchqunlari, 2015. -420 b
4. Демирчан К.С., Нейман Л.Р., Коровкин Н.В., Чечурин В.Л.
5. Теоретические основы электротехники. СПб. Питер, 2003. -462 с.
6. Бессонов Л. Теоретические основы электротехники. 4.1,2,-М.: Высшим школа, 1991,- 528 с.-231 с.