POSSIBLE DIRECTIONS OF PATENTOLOGICAL RESEARCH ON ELECTRICAL SAFETY ON A BUILDING OBJECT

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Electrical safety is an actual medical and social problem due to the fact that electric trauma is characterized by high lethality and significant disability of surviving patients [1].

The characteristics and outcome of an electric trauma are determined by the following factors: voltage, current strength, type of current, resistance, path of current, duration of contact, factors related to the injured person [2]. It is assumed that the severity of the electric shock depends mainly on its magnitude, which is determined by the ratio of the voltage and resistance of the body part, the duration of the action, the type of current (constant or variable), the paths of passage through the human body and the conditions under which electric trauma occurs [3] . Most often (75-80%), deadly electric shock occurs in the most common electrical installations with voltages up to 100 V.Electric shock in construction leads to death in 70-80% of cases, most fatal accidents occur on electrical installations with voltages up to 1000 [4].

Consumers of electrical energy in construction - it is construction area, auxiliary enterprises for the production of concrete mortar, paint and varnish coatings, repair shops, lighting and household installations. They receive electricity through distribution networks from energy systems, from power supply systems of industrial enterprises and cities, and from own power plants. Electricity supply of construction objects usually is carried out from transformer substations. At construction sites consumers of electric power – construction and assembly cranes, excavators, machine tools of repair shops.

Electric receivers - electric motors of drives of construction machinery and mechanisms, technological installations of electric heating of concrete, heaters, welding units, rectifying devices, high-frequency installations, electric lamps of lighting installation the specificity of the patentological approach to patent research in the field of construction technologies wos considered.s, radio-electronic equipment [5].

Patentology carries out analytical studies of new technologies and technical objects simultaneously considered as patent objects (methods, devices, utility models, etc.) [6]. In the literature is the general characteristics of the directions of patent studies in the field of engineering [7], production technologies [8] and technospheric safety [9]. Some perspectives of patenting research of technologies in construction are also presented, the specificity of the patentological approach to patent research in the field of construction technologies considered [10].

Studies on patenting of improving electrical safety at construction sites may, in our opinion, include studies of functionally related patent objects in the form of technologies and devices that are used when providing electrical energy for construction work. These devices include: electrical equipment for welding installations, construction cranes and hoists, electrified hand machines and power tools, as well as personal protective equipment against electric shock. Interesting in this aspect are electrical devices that provide electrical safety for personnel when servicing mobile electrical installations. Great importance in the quality of the object of patent studies on the improvement of electrical safety at construction sites can be technology of electrical heat treatment of concrete.

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