

TECHNOLOGIES FOR IMPROVING FILTERING SYSTEMS FOR THE NEUTRALIZATION OF HAZARDOUS CHEMICAL SUBSTANCES

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The analysis of existing filtering systems of the NATO and Russian Federation, which protect the personnel and the civilian population from different types of hazardous chemical substances, is carried out. It is established that there are no such filters that protect against all types of hazardous substances. Therefore, it is proposed to retrofit the construction of collective protection systems on armored vehicles and stationary objects by additional installation of a mesh coated with a layer of catalytic material that will neutralize different types of chemically hazardous substances due to photocatalytic air purification by titanium oxides.

In modern condition of use of weapons of mass destruction by terrorist organization, the armed conflict in Syria, during which chemical weapons were used, the aggravation of the situation in the East of Ukraine, where a large number of chemically dangerous objects are located, violation of the UN International Convention on the Prohibition of the Use of Chemical Weapons by some countries, there is a high probability of subversive and terrorist acts committed by sabotage and re-connaissance forces with the use of extremely hazardous substances.

It is determined in that human progress is impossible without the use of new technologies. With the development of technological progress and the emergence of modern technologies and materials special danger today is man-made disasters, especially disasters on chemically dangerous enterprises. At present, photocatalytic purification is considered to be the optimal method of air purification, where titanium oxides are used as a photocatalyst.

Increasing the effectiveness of collective protection systems from HCHS, the possibility of installing catalytic materials for the neutralization of toxins of different nature in the existing structure will enable to improve the performance characteristics of FVU without significant structural changes and substantial material costs.

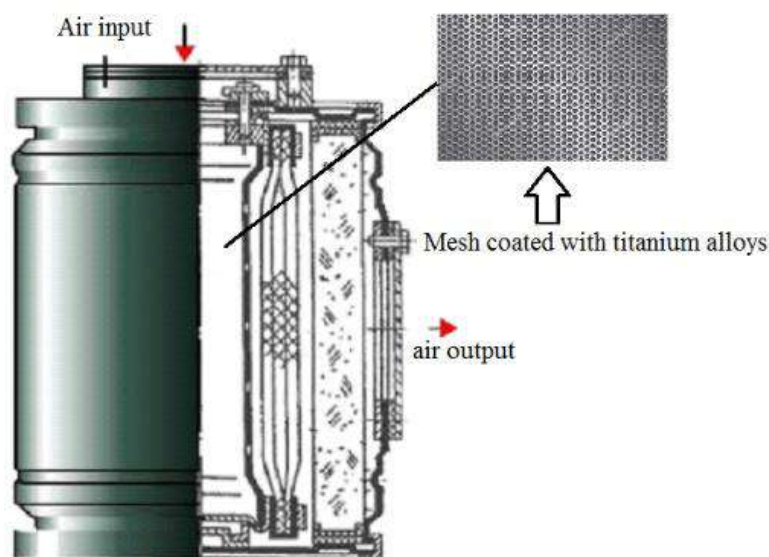


Fig. – Installation of a mesh coated with titanium diox-ide in the collective protection system