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Fire prevention measures

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Annotation: This article describes measures to prevent fires, the process of combustion, types of combustion, categories of industrial enterprises on fire and explosion hazard, fire safety when working with electrical appliances, the organization of firefighting services

Key words: fire, combustion, diffusion, kinetic combustion, combustible substance, combustion medium, heating process, reaction.

Introduction:
Fires are a catastrophic event that can be comparable to natural disasters in terms of damage to industrial enterprises, all sectors of the economy, agriculture and housing.While fires can cause great material damage, there are many cases in which serious accidents result in poisoning or burns.
Therefore, firefighting is a common duty of all citizens, and this work is carried out at the state level. Ensuring fire prevention in general, and preventing its development and spread in the event of a fire, are measures aimed at preserving material wealth, human health and life, which are an integral part of labor protection.
Our mission is to provide students with a basic understanding of fire, as well as effective firefighting, the basic tools used to put out fires, and various activities.

Literature analysis and methodology:
Combustion is a phenomenon that occurs during the complex oxidation of combustible substances with the release of large amounts of heat and radiation as a result of the conversion of one substance into another.Three main factors play an important role in combustion:
1) flammable substance;
2) flammable environment;
3) heating process.
Flammable substances are found almost everywhere: in various wood products and equipment, paper products, chemicals, flammable liquids and any organic substances.
The combustible medium is the oxygen in the air that surrounds us, and it is always there. In some cases, combustion can occur in the presence of oxidizing agents such as chlorine and bromine. Now if there is a heating process, a combustion reaction occurs.
Once the reaction has started, the heat generated by the reaction determines whether the combustion will continue. Therefore, the burning zone is the source of ignition and the combustion zone. The higher the zone temperature, the faster the combustion.
There are two main types of combustion. In the first, solid substances are released from the air during combustion. Combustion with oxygen occurs as a result of heat in the combustion zone, and the accumulated substance (or combustion product) is directed upwards when heated, and in

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turn causes the entry of oxygen with air, which in turn destroys the combustible substance.This combustion is called diffusion combustion because it provides oxygen to the combustion zone as a result of air movement. This type of combustion can be observed when burning wood, coal, candles, etc.

Results:

Usually the water used for firefighting is sent to the place of ignition as a strong current under high pressure. Sufficient pressure for this is generated in urban conditions through common city plumbing networks.

Alternatively, in some places you can use a specially designed pool and utensils. In industrial enterprises, it is often not advisable to install plumbing systems for firefighting even in urban settings. Therefore, drinking water taps are used for industrial purposes and firefighting.

The state fire control authorities do not comply with the rules, norms and requirements of fire safety, as well as improper storage and use of primary means of firefighting and the necessary equipment for other purposes.

Each industrial enterprise has a fire and explosion hazard based on its production technology, the raw materials it uses, and the design of the building in which it is located, based on the risk of fire, explosion, and its spread in the event of a fire.

In any industrial enterprise, the fire hazard is measured primarily by the degree of fire hazard of the raw materials used and the products produced there. For example, if a manufacturing plant uses gaseous combustibles and the product is in the form of flammable liquids, then of course non-combustible raw materials are used, which is more likely to cause a fire than a non-combustible product.

Exhaust fumes should prevent the transfer of smoke to adjacent rooms, as well as regulate the fire, that is, to direct the fire in the desired direction. Smoke vents are used in basements, lightless industrial buildings and warehouses. The cut areas of these holes are found by calculation.

Lightweight wall structures will be pre-installed, and if the pressure of the gases created by the fire creates a dangerous situation, these structures will ensure that they do not collapse and damage the main structures of the building.

Lightweight structures are usually mounted on walls or barriers that protrude from the outside of the building. This allows these gases to be released when the pressure exceeds a certain level.

Discussion:

Firefighting in industrial enterprises is determined by the management of the enterprise, depending on the level of fire hazard of the enterprise. If an industrial enterprise is a fire hazard, a fire department will be set up. Such a unit organizes its own special firefighting teams. If the fire risk of an industrial enterprise is low, then the main focus of fire protection is to take precautions to ensure that the fire does not spread and does not spread even if it does occur.

Fires are also mostly in diffusion order. The second type of combustion — combustion of flammable gases, vapors of combustible liquids, and dusts of combustible substances mixed with air — is called kinetic combustion.

This combustion takes place in the process of volumetric combustion, which means that a certain amount of matter burns equally. The rate of combustion depends on the density of the substance,

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the temperature. If such combustion occurs in closed volumes or containers, an explosion will occur.

In the event of a fire, the building structures are affected by other forces in addition to high temperatures. For example, the weight of the structure itself may be affected by additional static and dynamic forces in addition to the total weight it carries, which is the weight of the water being sprayed, the building parts being collected and the pressure falling. Therefore, under the influence of such forces, structures can bend, bend and lose their strength, impairing their ability to lift.

Smoke causes a lot of problems, especially in multi-storey buildings. This smoke and gases can be emitted through doors and windows, as well as through aeration lanterns, which provide special smoke extraction intervals), and through easily accessible walls (specially designed).

Conclusion:

In conlusion, the state fire control is carried out by the fire protection department of the Ministry of Internal Affairs.Its main task is to develop and implement organizational and technical measures to eliminate the causes of fires and explosions in industrial enterprises.

This work is carried out by fire inspectors. They can inspect industrial enterprises, warehouses, buildings and facilities at any time, request documents and information related to fire safety from any industrial enterprise or individual, which will allow them to quickly extinguish a fire in the event of a fire.

It is known that when there is a fire, the smoke from it is very large. It should be noted that the most harmful factor of fire for humans is bending and poisoning from this smoke, which is especially common.

The spread of smoke and the suffocating effects make it difficult to evacuate people from the building, and the difficulty of reaching the burning area makes it difficult to put out the fire.

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