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SHELTER OF THE POPULATION IN PROTECTIVE BUILDINGS: TYPES, STORAGE, RESIDENCE RULES.

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Protective structures are designed to protect people from the consequences of accidents (catastrophes) and natural disasters, as well as from the damaging effects of weapons of mass destruction and conventional means of destruction and the impact of secondary factors of a nuclear explosion.

Protective structures are distinguished:

by purpose for protecting the population, placement of control bodies (command post KP, control point - PU, communication node - VZ) and medical institutions;

by location built-in, detached, underground, in mining;

by construction period built in advance, quickly built;

by protective properties the simplest shelters (open and closed gaps), anti-radiation shelters (PRU) and storages.

Shelter of the simplest type

In the system of population protection, the simplest shelters of the gap type are of particular importance. These are the most massive protective structures that can be built by the population in the shortest possible time. Gaps are built open and closed. An open gap reduces the likelihood of being hit by a shock wave (by 1.2-2 times), light radiation and penetrating radiation.

A closed gap protects: from light radiation - completely, from a shock wave - by 1.5-3 times, from penetrating radiation and radioactive radiation - by 200-300 times, and also reliably protects against fragmentation and ball bombs, from incendiary devices.

An open gap is a zigzag trench of several straight sections up to 15 m long. Its depth is 1.8 - 2.0 m; width: at the top - 1.1-1.3 m, at the bottom - 0.8 m. The construction of a crevice begins with marking and tracing, that is, determining its plan on the ground. First, they dig to the width of the bottom. As they deepen, they gradually adjust the steepness, bringing it to the desired parameters. The walls (steepness) of the crevice are reinforced with boards, poles, reeds, and other available materialsWhen there is time and if necessary, the gap is covered with logs, sleepers or small-sized reinforced concrete slabs. On top of the coating, a layer of waterproofing is arranged from roofing felt, roofing felt, PVC film or a layer of clay is tamped and a layer of soil 50-60 cm

thick is poured. An entrance is made in the covered gap from one or two sides with a door and a vestibule. An exhaust box is installed for ventilation.

The normal capacity of the gap is 10-15 people.

The simplest type of shelter

Anti-radiation shelters

Anti-radiation shelters (PRU) are non-hermetic protective structures that provide protection for people in emergency situations. PRU can include not only specially constructed structures, but also buildings for economic purposes (cellars, underground, vegetable storages) adapted for shelter, and ordinary residential buildings.

The protective properties of shelters are determined by the radiation attenuation coefficient, which depends on the thickness of the enclosing structures, the properties of the material from which the structures are made, as well as on the energy of gamma radiation. For example, the basements of wooden houses attenuate radiation by 7-12 times, and stone ones by 200-300 times.

In a PRU designed for 50 people or more, there should be at least two exits measuring 80x180 cm, and it is desirable that they be located at opposite ends of the shelter at an angle of 90° to each other. To enhance the protective properties of the room, windows and extra doors are blocked, a layer of soil is poured onto the floors and, if necessary, soil is poured from the outside near the walls protruding above the ground.

To seal the premises, cracks, gaps, holes in the walls and ceiling, near windows and doors, doors are carefully bricked up, they are upholstered with felt, door frames are sealed with a roller made of felt or other soft fabric. The shelter, which can accommodate up to 30 people, is ventilated by natural ventilation through supply and exhaust ducts. To create draft, the exhaust duct is installed 1.5-2 m above the supply duct. A canopy is made on the external outlet of the ventilation duct, and tightly fitted latches are installed in the supply duct.

In the rooms adapted for shelter, water tanks are installed at the rate of 3-4 liters per person per day, and in the toilet - a portable container or a cesspool with a cesspool is arranged. In addition, bunks (benches) for rest, shelves for food are installed in the shelter. Lighting - from the mains or portable electric lanterns.

The shelter is the most reliable protection against all damaging factors: high temperatures and harmful gases in fire zones, explosive, radioactive and highly toxic substances, collapses and debris of destroyed buildings and structures, etc., as well as weapons of mass destruction and conventional weapons. It is equipped with a complex of engineering structures that provide the necessary living conditions for a certain time.

Depending on the location, the storage facilities are built-in (in the basements of buildings) and detached (outside buildings), they are built in advance, in peacetime, but can also be built during the threat of attack or during hostilities (quickly erected).

By capacity, small storage facilities are distinguished (150-300 people), medium (300-600 people) and large (over 600 people).

The storage facilities have industrially manufactured filter ventilation units (FVU). The FVU cleans the outside air, distributes it into compartments and creates excess

pressure in the protective room, which prevents the penetration of contaminated air through cracks and gaps.

All storage facilities provide for two ventilation modes:

clean, when the outside air is cleaned of dust,

filter ventilation, when it passes through absorption filters, where it is cleaned of radioactive dust, toxic substances, radioactive waste and bacteriological agents.

The water supply system provides people with water for life and hygiene needs from the external water supply network. In case the water supply system stops working, an emergency water supply or its source is provided. Each protective structure has a sewage system for the drainage of fecal effluents. The bathroom is arranged in a room isolated by partitions from the storage sections, necessarily with an extractor hood.

The storage heating system operates from the heating network of the house under which it is located. The storage is illuminated from the city (object) power grid, in emergency cases - from an autonomous power plant, and if it is not there - from batteries or lanterns.

The food supply is made at the rate of not less than two days for each person in the storage.

Medical care is provided by sanitary posts and first-aid posts of national economy facilities.

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MATERIALS

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