Recommendations for adapting basements of buildings as shelters

PÄÄSTEAMET

CONTENTS

INTRODUCTION

This material contains the Estonian Rescue Services Agency's recommendations for improving the sheltering resilience of buildings. Due to the construction-technical characteristics of buildings, not all recommendations can be applied uniformly to every structure.

Taking shelter is addressed primarily in the context of military threat, as this poses the greatest challenges to infrastructure.

The guide consists of two parts: the first provides a brief overview of establishing shelters and the second offers a more detailed explanation.

PART 1
What is taking shelter and how to act in an immediate threat?

Taking shelter is the **temporary relocation** of a person in an area under **elevated immediate threat** to a building or other protective environment and remaining there to protect their life and health.

Taking shelter may also be necessary during extreme weather conditions, major accidents or similar situations. In such cases, we are generally referring to taking shelter indoors, and ensuring that doors, windows, and ventilation are closed.

In the event of a military conflict, **sheltering must take place in a building or part of a building with reinforced structures; the basement is the best option.**

Rooms that have been prepared and adapted for taking shelter and that meet at least the basic requirements are referred to as shelters.

Sirens and SMS alerts sent via EE-ALARM will signal the threat and the need to shelter. Behavioural guidelines are also sent by SMS.

Taking shelter is both a right and a duty for every person.

Taking shelter greatly reduces the likelihood of injury or death. The most dangerous threats to a person are objects propelled by explosions, shockwaves, air contamination, radiation, and being caught in a collapse.

In the case of apartment buildings, the Estonian Rescue Services Agency recommends taking shelter in the building's basement. If there is no basement, it is advised to take shelter on the lowest possible floor in a room with concrete or brick walls and no windows. If such a room is not available, take shelter on your own floor in a room with strong concrete or brick walls and no windows; however, staying on higher floors carries the risk of being trapped by fires on lower floors or by structural collapse.

Leaving the building during a threat is generally not advisable, as it increases the risk of exposure to hazards, except if there are no sheltering options in your building and a public shelter is located within a few hundred metres. In the case of a fire hazard, exit the building.

1.1 Basic requirements for a shelter

The most essential requirements of a shelter MUST be ensured at every location. They provide a higher chance of survival compared to remaining indoors or outdoors.

Basic requirements:

- **strong protective walling;**
- **fresh air;**
- **at least 2 exits to the outdoors;**
- **clean and dry spaces suitable for people to stay in;**
- **access to toilets;**
- **presence of the person responsible for the shelter.**

Basic requirements can be met in almost any basement relatively easily and with minimal cost.

1.2. Additional requirements for a shelter

To ensure safer and more humane conditions for people in a shelter, it is RECOMMENDED to implement the following ADDITIONAL REQUIREMENTS.

Additional requirements:

- backup power supply for equipment and lighting;
- suitable temperature;
- seating;
- ceiling bracing materials,
- medical supplies;
- stretcher or rescue mat/rescue sheet;
- sandbags and a shovel;
- signage for the shelter;
- ability to temporarily shut down technical systems;
- use of appropriate indoor materials;
- cooking facilities;
- water;
- waste management;
- facilities for childcare;
- personal protective equipment;
- basic fire-extinguishing equipment;
- CO_2 detector and smoke detector;
- information carriers;
- means of communication;
- assignment of roles for those managing the shelter;
- other necessary items.

PART 2
Detailed instructions

2.1. Why are we talking about taking shelter?

According to the foundations of Estonia's security policy, the greatest threat to the country's sovereignty is military in nature. The risk of a military conflict in Estonia is ongoing and long-term. The Estonian state aims to ensure that the population is protected. Taking shelter is essential for preserving the people and national resilience.

In a military conflict, the biggest threat comes from airstrikes across the entire territory. The means of attack may include missiles, bombs, drones or similar weapons, and there is also a risk of debris falling from explosions in the air onto buildings and the ground. In such cases, everyone is at risk, as the war in Ukraine shows that an adversary can hit a large number of civilian targets, whether by accident, inaccuracy or deliberate targeting. In frontline areas, residents are also threatened by other weapon systems, including small arms fire.

Estonia is a small country and modern missiles can reach a target anywhere within its borders in just a few minutes. Therefore, options for taking-shelter must be available in many locations and be situated close to where people live.

Estonia has only just begun to construct dedicated shelters, and developing this system will take decades. Therefore, we must also make the most of existing buildings in which people are located and adapt them to serve as shelters.

Firstly, individuals must ensure that they have options for taking shelter in their own homes. Employers must ensure that their employees have a place to take shelter at work. Companies and service institutions must ensure that they have a place to take shelter in their buildings.

2.2. Threats we face

Before adapting a shelter, it is important to understand the threats we may encounter. In a military conflict, we can distinguish between primary and secondary, immediate and indirect threats.

In a shelter, a **primary threat** includes the direct consequences of an explosion: flying debris, overpressure, heat, blast gases, penetrating radiation in the case of a radioactive explosion, light radiation, radioactive air contamination, and an electromagnetic pulse.

A secondary threat arises from the destruction of structures and collapses caused by the explosion, glass shards from broken windows, debris from construction materials or soil, dust, vibration transmitted through the ground or air that can damage buildings or structures, fires, and similar hazards.

Indirect threats to people in a shelter may include situations where exits are blocked and people become trapped; damage to communication lines within the building; intrusion of water, sewage, gas or hot heating water; or oxygen depletion in a closed space.

Thus, the person preparing a shelter can implement mitigation measures to address these threats.

2.3. Planning the location of a shelter

The presence of shelters is critically important in densely populated areas, from small villages to large cities. It is also important in scattered buildings, because even if the likelihood of a direct hit seems low, random impacts or debris from air defence operations can pose a serious danger.

Shelters should be provided in all buildings where people are present, including places where people live, work, study, shop or receive services.

If a building does not have a shelter, it must be considered whether the building can be effectively used during a military conflict.

A shelter is generally not built as a separate facility, as existing rooms are used for this purpose. These are adapted to meet the requirements for taking shelter. In normal circumstances, these rooms may continue to serve as storage areas, meeting rooms, underground garages, regular basements, stairwells or similar spaces. So there is dual use. Only during elevated threat levels must these rooms be cleared of unnecessary items and prepared for sheltering within a couple of days. There is also the option to establish standalone shelters on the building's premises. Today, quickly relocatable shelters are also available, which can be lifted into place on site using a crane.

Generally, it is recommended to plan a shelter on a building's underground floor, as these floors have the strongest structures, the ground itself provides additional protection, and the risk of a direct hit is lowest.

If the building does not have an underground floor, rooms on the ground floor should be evaluated. On the ground floor, the risk of a direct hit or collapse is lower and the best escape routes. Shelters are generally not recommended above the first floor due to the risk of direct hits, structural collapses, and fires, except in buildings with a monolithic reinforced-concrete core extending from the foundation through all floors, where the rooms meet other basic shelter requirements. For

above-ground floors, **it is recommended to follow the 'two-wall rule'**, meaning people should take shelter in a room where at least two walls stand between them and the outside environment.

A shelter can be located within a building as a single room, multiple rooms or a complex of rooms. In large buildings, it is recommended to use several separate shelters to allow for quick and easy entry and exit.

A shelter can also be a standalone, relocatable or temporary structure located a few hundred metres from where people are primarily situated.

When adapting a shelter, potential hazards in or near the building must be considered, such as above-ground fuel or gas tanks at service stations or other containers of hazardous substances that could significantly affect the safety of people inside the building.

2.4. Size of a shelter

Where possible, shelter should be provided for all people using the building. Generally, a single shelter is not planned to exceed 150 m^2. If there are more people, **multiple separate shelters should be planned within the building**. In public shelters, the capacity should account for situations where, in addition to the building's users, people from the street or neighbouring buildings may join until the maximum capacity is reached. Public shelters generally should not exceed 1,000 m^2.

If it is impossible to provide a shelter for all occupants of a building, **smaller shelters are still important**. In this case, the building owner should ensure that users are informed early about the availability and capacity limits of shelters or provide alternatives (for example, neighbouring buildings or restrictions on building use).

Since taking shelter is generally a short-term action, **a minimum of 0.75 m^2 per person should be planned**. This provides sufficient space for standing or sitting.

If space must be provided for people lying down (for example, people with mobility impairments, injured individuals or for sleeping), the area should be 2–3 times larger. Space can be used efficiently with bunk arrangements.

Areas that do not count toward shelter space include:

- rooms with a ceiling height under 1.6 m;
- bases of equipment in walls or very small spaces;
- door swing areas (floor projection);
- technical rooms containing pressurized equipment, heating units, main electrical panels or devices producing excessive noise;
- rooms storing hazardous substances (for example, fuel);
- rooms housing equipment (such as ventilation units or generators).

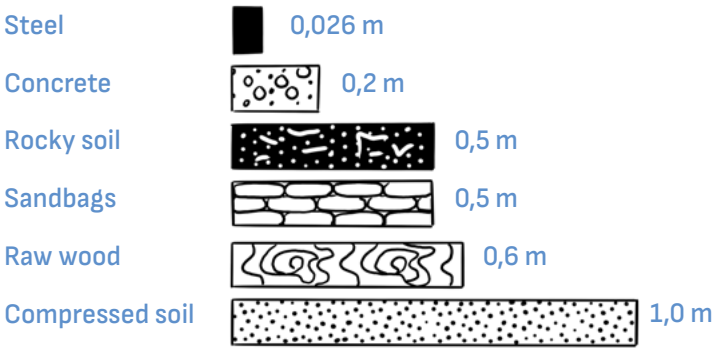
2.5. Basic requirements for a shelter

Strong protective structures

WALLS

The structural strength is based on the principle that the construction prevents, or at least resists, penetration from various types of munitions or debris toward people taking shelter and can withstand the resulting overpressure. Examples include explosions with large amounts of explosives a few dozen metres from the building, hits on upper floors, shell explosions near structures or floors, and direct contact from small arms fire.

Exterior wall: 200 mm reinforced concrete or the equivalent in other materials. Interior walls of the shelter (secondary wall): 100 mm reinforced concrete or equivalent. The resistance of walls decreases when using narrower, unreinforced masonry materials (for example, panel blocks, limestone, brick, ash blocks, etc.).



The figure is based on a combined layer providing protection against small arms fire and fragments from a 152 mm shell.

Figure 1. *Material permeability equivalents*

CEILING

A ceiling is considered safer if it is a cast reinforced concrete slab or, in the case of panels, if the width of the room between load-bearing or stone/concrete partition walls does not exceed 2 m. In basements or ground-floor rooms with reinforced concrete panel ceilings, the ceiling must be braced to prevent collapse (see additional requirements for ceiling supports). Wooden ceilings offer the weakest protection and are generally unsuitable for taking shelter. Vaulted ceilings made of fieldstone in basements may also be dangerous due to poor vibration resistance.

FLOOR

The floor must be strong, smooth, and dry. Floors made of soil or loose materials can produce dust and moisture and are uncomfortable for sitting or moving. Soft floors cannot support ceiling bracing, as supports would sink into the ground under load. Carpets or other soft coverings should not be used, as they can impede movement, retain moisture, and generate dust.

WINDOWS

Ideally, a shelter should be in a **windowless room**. If windows exist, they must be reinforced. The highest level of protection is achieved with openings (windows/doors) as strong as the walls and ceiling. Protection is weaker if windows and doors are not equivalent in strength to the walls.

Windows can also be fitted with metal shutters (minimum 26 mm steel) that can be closed in case of threat.

The simplest way to secure a window is to cover it from the outside with sandbags, which can be made of plastic or textile. Alternatively, bags filled with soil, car tyres, compacted soil, bricks, concrete blocks or crushed concrete can be used.

To support the fill material above openings, joists or other materials on hand may be used: timber boards, plywood sheets, round timber or similar. For quick, initial protection of windows against flying fragments, the panes may be taped using the strongest possible tape or a fragment catcher made of geotextile or other readily available material may be used. A stack of sandbags at least 0.5 m thick, placed directly in front of the window opening, provides protection. The overlap of the sandbag stack (extending beyond the window opening) should be at least 0.5 m on both sides and along the upper edge of the opening. A possible method for reinforcing window openings is shown in Figure 2.

It is advisable to purchase and store the materials and resources needed for covering windows in advance.

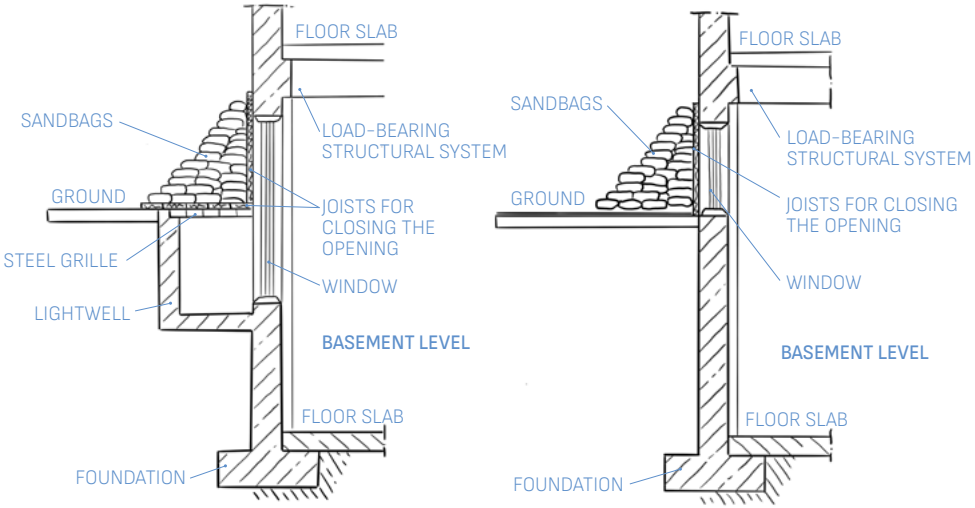


Figure 2. *Reinforcing window openings*

Window openings that have been reinforced from the outside can, if necessary, also be used to provide ventilation to the rooms or as a secondary, i.e. emergency exit. To ventilate through a window that has been reinforced externally, one may use pipes that lead out through the open window and the sandbags to the outside. If an externally protected window is intended to serve as an emergency exit, the basement must contain the necessary tools for removing sandbags and any debris (e.g. a knife, small spade, pickaxe, crowbar, bolt cutters). Even so, it is advisable to avoid remaining near windows, even when they are reinforced from the outside. If openings for reserve escape hatches are cut into the walls in advance, the lightwell should be kept as small as possible (height at least 600 mm, width at least 500 mm, and the sum of height and width at least 1,500 mm).

DOORS

Reinforced doors are installed within the boundary structures of the shelter. The best protection is provided by doors that are at least as strong as the wall and ceiling structures. Purpose-built shelters typically use an exterior door made of thick metal sheeting, but when adapting existing basements for use as shelters, blast-resistant doors can be used, and in their absence, metal security doors with fire and smoke resistance. Basement doors located along the route from the exterior entrance to the shelter should be keyed within the building's general master-key or similar lock system, ensuring that people can pass through the doors at any moment in an emergency. It is not recommended to use electrically dependent access systems. The aim is to avoid a situation where people cannot enter the basement due to a lack of electricity or unavailable keys. In a military conflict, many people may need to reach the shelter within a matter of minutes.

Fresh air

Shelters typically contain many people in close proximity and, therefore, an adequate oxygen level must be maintained. This requires continuous air exchange in the rooms where people are present. In

smaller rooms, this can be achieved through natural ventilation via walls, windows, and air shafts. In larger rooms, the shelter must be equipped with functional mechanical ventilation.

In the case of ventilation systems, air volumes are determined by experts. The general recommendation is to provide 2.5 litres of fresh air per second per square metre of room area. It is advisable to install systems in shelters that are independent of the building's main ventilation and can also be operated using electric generators.

NB: to ensure the operation of electrically powered ventilation, it is recommended to have an alternative power supply in case the main electricity fails.

Multiple exits

To ensure that people can exit the shelter even if the main exit becomes obstructed due to a partial building collapse, any room larger than 10 m^2 must have a secondary emergency exit (in small rooms with only one exit, a set of tools for breaking through must be available). Such secondary exits are used only when the main exits are blocked.

Suitable alternative exits include externally reinforced windows, pre-prepared wall hatches or doors.

Openings must be large enough to allow even larger individuals to pass through. For reinforced windows used as emergency exits, tools must be available to remove obstacles (e.g. crowbar, pickaxe, bolt cutters, small spade, knife).

NB: do not plan an emergency exit beneath balconies!

For larger buildings, it is advisable to create passageways throughout the basement level so that different stairwells can be used for evacuation or to position the secondary emergency exit on a different side of the building (preferably diagonally opposite the main entrance).

Clean and dry room

Rooms intended for taking shelter must be clean, dry, and orderly during sheltering and must not create additional hazards.

In normal circumstances, these rooms may be used for other purposes (for example, storage, utility, training or meeting rooms), but in an emergency they must be suitable for taking shelter and must be cleared of all unnecessary items (anything not needed for taking shelter).

The use of the space must ensure that all people present in the building can fit inside, that the conditions are suitable for remaining there for several hours, and that no additional risks are posed to occupants (for example, shelving units, brick partition walls or suspended ceilings may collapse onto people due to blast-induced vibration).

Person responsible

Every shelter must have a person responsible appointed by the building owner. In detached houses, the people preparing the shelter and ensuring the ability to take shelter are usually the same individuals, but in larger or publicly used buildings the building owner or the apartment association must appoint a person responsible for the shelter. This individual is accountable for both preparatory actions and all activities related to enabling sheltering (see the tasks described under 'Action plan for the person responsible for a shelter').

Toilets, paper, privacy curtains

If people must remain for several hours in confined conditions, the building must ensure that toilets are available in the shelter. As a guideline, plan for one toilet per 20 m^2 of shelter area. Depending on the circumstances, the solutions may be either water-closet type or dry toilets.

NB: when using a water closet, consider the possibility that the sewerage system may not function! The simplest and cheapest option is a bucket fitted with a toilet seat, lined with a plastic bag. In a dry toilet, peat or similar absorbent material is recommended to absorb liquids and odours. Toilets should be located either in a separate room or separated within the room, for example, using temporary partitions or privacy curtains. Where possible, place toilets on the extract-ventilation side of the shelter. If feasible, ensure the availability of toilet paper and hand-washing solutions near the toilets.

2.6 Additional requirements for a shelter

Ensuring backup power

In a military conflict, there is a high probability of frequent and prolonged power outages. Interruption of the electrical grid is one of the most likely risks to materialise during a military conflict.

The best solution to meet the minimum operational needs of a building is to provide autonomous electricity generation (generator, battery storage). The capacity of an autonomous system depends on the size of the building and the equipment that will be switched to backup power during a power outage. During a crisis, it is recommended that a generator be used to ensure the most essential functions in a building, such as heating automation and circulation pumps, water pumps, emergency lighting, smoke extraction, external door intercom locks, power outlets in the shelter for charging phones, lighting for stairwells and the shelter, and other low-power essential devices. Electricity for individual apartments should be considered a secondary priority.

The Estonian Rescue Services Agency recommends consulting a qualified electrician. Before installing an alternative power supply, a detailed electrical design plan must be prepared. If a generator is placed inside the building, it must be located in a room with a separate fire-resistant section and autonomous ventilation. Suitable solutions must be implemented to manage exhaust gases, noise, and vibration. Fuel storage for the generator must comply with Regulation No. 14 of the Minister of the Interior of 27 May 2024 'Fire safety requirements for the storage of flammable materials and hazardous substances' (for example, diesel fuel may be stored in a separate fire-resistant section up to 3 m^3 and petrol up to 5 litres per apartment in separate containers).

Lighting, including emergency lighting

Having light in a windowless room is important both for carrying out tasks and as a psychological aid. As mains electricity may fail, it is recommended that battery-powered emergency lights be installed in larger rooms. These should automatically turn on when the mains supply is interrupted and provide sufficient illumination for a few hours, allowing time to find alternative lighting solutions. People taking shelter should have portable battery lamps or the ability to use their phone's torch. Other battery-powered lighting solutions are also available today.

Electrical sockets

In a shelter, it is advisable to install more sockets than usual and distribute them around different walls, as a large number of people will wish to use them to charge phones, batteries or other small devices.

Suitable temperature

The temperature in a shelter should ideally remain between +10 °C and +25 °C. In underground levels, temperatures usually stay above +10 °C even in winter if the space is unheated. The presence of many people will also raise the room temperature through body heat. Temperatures below +10 °C or above +25 °C can create risks of hypothermia or overheating.

Air filtration

The best protection is provided by a hybrid ventilation system, which includes air filtration at the fresh-air intake (depending on the filters: air pollution, dust, smoke gases, toxic substances, radioactive contamination, etc.) and the ability to operate the unit manually (by turning a crank) if electricity is not available.

When filtering air, the room's airtightness and overpressure conditions must also be taken into account.

Seating

The need to use a shelter may last for several hours. People's physical capacity to stand varies and sitting on the floor can be very uncomfortable. Therefore, it is sensible to provide sufficient seating in the shelter. Providing sleeping spaces is also advisable, although this depends on available resources. Where possible, consider using bunk arrangements to save space. Sleeping places are generally provided for up to one-third of the occupants, with sleeping arranged in shifts.

Ceiling bracing

Additional protection against the collapse of basement ceilings is provided primarily by bracing the ceiling (see Figure 3).

Materials for ceiling bracing should be purchased and stored in the basement in a manner that does not obstruct normal evacuation. Ceiling bracing is only installed in the event of elevated risk, within 72 hours. The guidance for ceiling bracing is based on an analysis by Tallinn University of Technology (TalTech) and can be found at www.rescue.ee/et/juhend/elanikkonnakaitse/varjumine

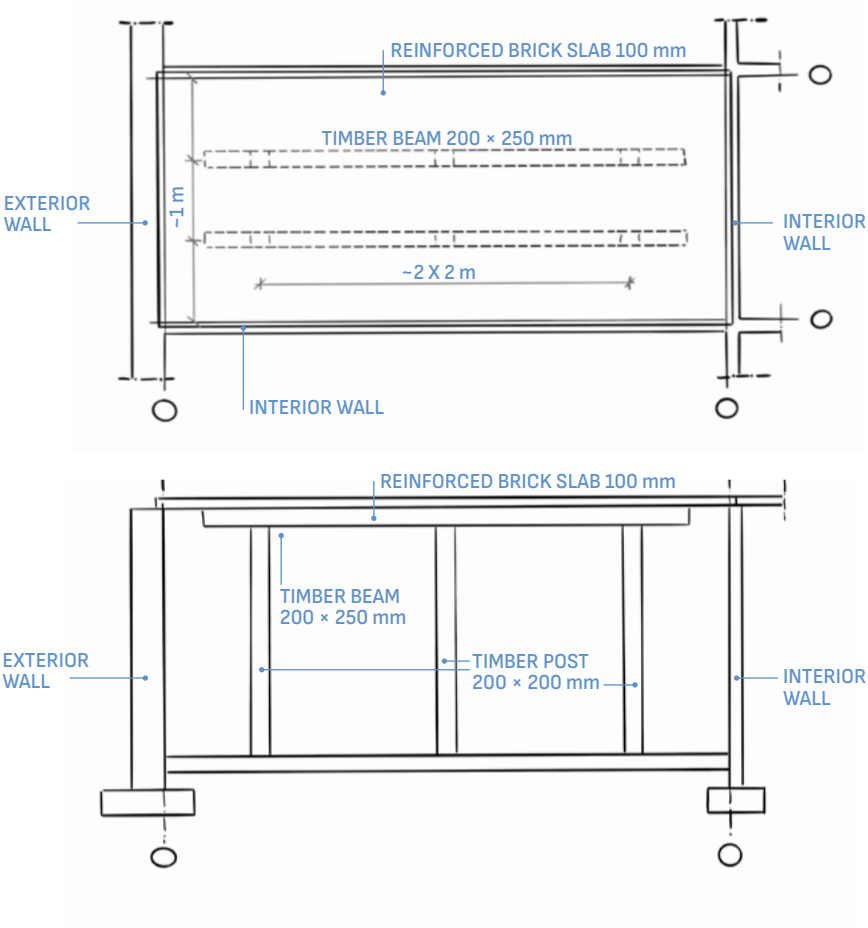


***Figure 3**. Ceiling bracing*

Medical area and first aid supplies

The shelter should have at least basic first aid supplies, even similar to kits used in vehicles. In the event of serious injuries or medical incidents, call 112 immediately. For shelters larger than 150 m^2, it is advisable, where possible, to designate a separate room or area for medical support (for placing sick or injured individuals, performing medical procedures, etc.).

Stretcher, sling or rescue mat

These are primarily needed to assist people with reduced mobility on stairs and to transport sick or injured individuals within rooms and on staircases. It is recommended to have one (1) per 50 m^2. Depending on the building layout or available budget, alternatives may include an accessible ramp or technical solutions.

Sandbags and spade

If the shelter's windows or doors need to be reinforced from the outside using sandbags, the required number of sandbags should be prepared in advance. To fill them during elevated-risk situations, spades should also be available. Sandbags can be filled not only with sand but also with other soil, even including turf.

Signage

The shelter can be identified with a shelter sign or directional indicators. Inside the shelter, movement paths should also be marked with the necessary emergency exit, evacuation or other designated signs. A shelter sign should always be placed on the entrance door. In larger buildings, it is advisable to add signs inside the building or on its grounds during the preparation stage. Additional information on shelter signs and their placement can be found on the Estonian Rescue Services Agency website.

Temporary shutdown of technical systems

In the event of air attacks, there is a risk that the building could be damaged or suffer a direct hit. The probability of a strike is higher on upper floors. Communication and utility systems may also be damaged, including heating, water, sewerage, gas or ventilation pipes, as well as electrical wiring. In central heating systems, an explosion along an external line can cause hydraulic shock, potentially damaging internal pipes. Therefore, it is highly desirable that the shelter or adjacent rooms allow for the rapid temporary shutdown of systems to prevent water or gas from entering the shelter.

Use appropriate interior finishing materials

When finishing walls, floors, and ceilings, non-combustible materials should be prioritised. Adhesives and finishing materials should remain intact even under blast conditions (for example, plastering walls should generally be avoided). The best material is plain concrete, treated with dust-repellent substances. For other finishing materials, ensure they do not absorb moisture, are easy to clean, and will not fall, sag or collapse under strong vibrations. Light colours are preferable.

Floors should be smooth and clean to prevent tripping, accumulation of dirt or other hazards.

Cooking facilities

Taking shelter may last for several hours, thus, within the limits of the shelter's conditions, it may be appropriate to provide basic cooking facilities, such as a work surface with a sink, electric kettle, microwave or portable stove. Where possible, a small kitchenette can be arranged in a separate room.

Water

Water is needed for drinking, cooking, use in toilets, and handwashing. Although the shelter is intended for short-term occupancy, this can still last several hours. When providing water, consider that if the shelter has a tap with clean water, there is no need to store large quantities in advance during elevated-risk situations; it is sufficient to have water containers ready. If no tap is available, containers should be filled with water in advance.

NB: In the event of a major power outage, please be aware that there may also be interruptions to the central water supply system! Generally, ensuring water and food is the responsibility of each individual. If supplies are provided collectively in the shelter, plan for **3 litres of water per person per day (2 litres for drinking and 1 litre for cooking)**. Assuming sheltering lasts up to 12 hours, a rough estimate is 2 litres of water per square metre of shelter floor space. Also, note that clean water cannot remain in containers indefinitely; prolonged storage may lead to contamination, making it unsuitable for drinking.

Waste management

Even in a shelter, people bring food, drinks, and packaging, which inevitably generates waste. To avoid unsanitary conditions, visual pollution, and odours, bin bags must be provided. Whether waste is sorted depends primarily on the person responsible for the shelter. When calculating the volume of containers, consider up to 5 litres per square metre of shelter floor space.

Children's area

When planning the shelter, consider the needs of children, for example, create a designated play area, a small children's corner or position some coat hooks at a lower height.

Personal protective equipment

If the shelter does not have a complete air filtration system, hazardous air pollutants (dust, explosion gases, other toxic substances or non-breathable contaminants) may enter. Therefore, occupants should have personal protective equipment, such as safety goggles, earplugs, a respirator or a full-face mask with a universal filter. Certain universal resources can also be purchased collectively. For example, earplugs and sleep masks are useful if people need to rest in a crowded space.

Primary fire extinguishers and fire detection devices

The shelter must comply with fire safety requirements. As a large number of people may occupy the shelter simultaneously, ensure smoke detectors are operational. If open flames or heating devices are used (candles, gas stoves, small heaters, etc.), carbon monoxide detectors must also be provided. When selecting fire extinguishers, carefully consider the type. For example, powder extinguishers are effective but can create problematic dust in indoors and crowded areas. CO_2, water or foam extinguishers are generally preferable. Fire blankets should also be available if stoves are in use.

CO_2 sensors

As fresh air is critically important in a confined space, modern CO_2 sensors are recommended. These sensors measure air quality continuously and either display it on a screen or signal when threshold levels are exceeded. Without them, deteriorating air quality may only become apparent when occupants experience sudden health or comfort issues.

Information carriers

During critical situations, people need access to various types of information. It is therefore advisable to display important information on the shelter's walls, such as emergency service numbers, crisis information hotlines, the contact details of the shelter's responsible person, national radio frequencies, and key behavioural instructions. It is also important to have a radio available to receive information on the emergence, progression, and nature of the threat.

Means of communication

Today, mobile phones are indispensable, particularly in crises, for receiving and transmitting information. The shelter's person responsible should ensure early on that there is sufficient mobile network coverage. If there are connectivity issues, consider installing devices to improve signal strength or provide alternative data communication options.

2.7. Organising the process of taking shelter

Shelters primarily exist for the protection of all civilians. They need to be prepared in advance, necessary works carried out, resources purchased, and building occupants informed. In many cases, this is a one-time task. However, someone must be responsible for periodically checking that essential equipment is functional, purchased resources remain available and usable, and that building occupants know if, where, and under what conditions they can take shelter.

If the national threat level rises, there must be a designated person to prepare the shelter, provide occupants with information and instructions, and organise the sheltering process. Therefore, it is extremely important that the building owner or apartment association appoints a person responsible for the shelter and assigns them specific tasks. The person responsible may be the building owner themselves or the task can be delegated.

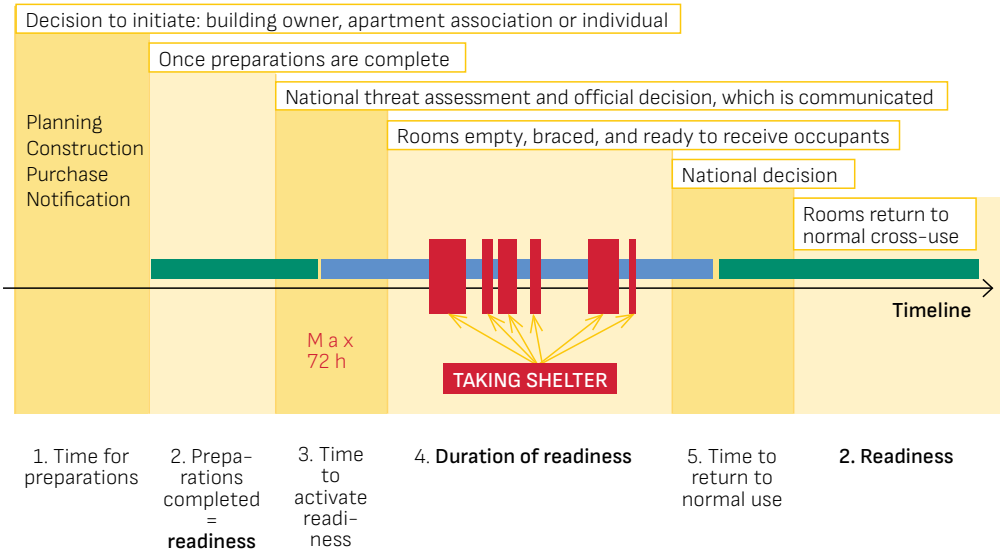


Figure 4. Stages of shelter readiness

2.8. Action plan for the person responsible for a shelter

During the preparation stage:

- develops a sheltering plan or instructions covering all stages of taking shelter;
- considers the building's location, purpose, layout, and characteristics to determine whether it can serve as a non-public or public shelter; for a public shelter, contacts with the Estonian Rescue Services Agency;
- organises any necessary construction adaptations, works or procurement required to prepare the shelter if this has not been done previously.

During the readiness stage:

- ensures that the shelter's rooms, equipment, and supplies are ready and in working order;
- organises at least one annual information day for key personnel, including necessary exercises, drills, readiness checks, and information sharing if multiple people are involved in the sheltering arrangements;
- coordinates the work of personnel involved in shelter management during a sheltering event;
- provides occupants or regular users of the building with information about the existence, use, and behavioural instructions for the shelter or public shelter;
- ensures that any shelter signage or directional indicators on the building or site remain in place and clean;
- establishes agreements with volunteers, if necessary, for larger shelters or public shelters.

During the activation of readiness stage:

- prepares the rooms for taking shelter as soon as possible, but no later than 72 hours from the time the decision is received;
- ensures, if necessary, additional shelter signage and directional indicators are installed within the building;
- organises additional external and internal protection of the shelter's perimeter openings (for example, reinforcing doors, windows or other passages with sandbags to protect against blast waves and flying debris) in such a way that no direct, unobstructed path exists for flying objects from the outside into the shelter's interior;
- restricts access to rooms not intended for sheltering (for example, locks technical rooms, storerooms);
- informs the building owner.

During the readiness stage:

- ensures continuous access to the shelter (for example, keeping doors open or unlocked, providing manned supervision where possible);
- maintains the cleanliness and security of the shelter during the readiness period, if necessary;
- provides a contact person for shelter users for the duration of sheltering;
- informs the building owner and users if the shelter is no longer safe or usable;
- handles any shelter-related issues within the scope of the building's competence as they arise.

During the return-to-normal-use stage:

- organises the necessary actions to return the shelter to its normal, non-shelter status.

NB: all building owners or apartment associations are encouraged to prepare a shelter plan, regardless of the building's size. However, under the Emergency Act, it is mandatory to prepare a shelter plan for buildings with a floor area exceeding 1,200 m^2 (gross internal area). The shelter plan must be completed by 1 July 2027, at the latest.

In addition, under the same Act, shelters must be adapted to meet the required standards by 1 July 2028, at the latest.

v3.0.0

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Emergency services **112**

State information **1247**

olevalmis.ee