Preparedness and Civil Defence Management Service Unit

18.7.2024

Civil defence instructions for clients of the Rescue Department

Grounds	Rules of operation of the Social Services, Health Care and Rescue Services Division 5 January 2023, Chapter 12.1
Scope	Helsinki City Rescue Department and its clients
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Publicity	Public
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1. Purpose of and grounds for the instructions

These instructions are intended to help persons in charge of properties. It should be noted that Finnish law and various regulations only set a minimum level for safety. This level can always be exceeded.

These instructions feature a compilation of requirements set for different civil defence shelter types. The Rescue Act (379/2011) stipulates that in connection with the construction of a new building, the owner of the building shall build in the building or in its vicinity a civil defence shelter, the size of which is considered to be sufficient for the number of persons who will reside in the building, work in the building on a permanent basis or otherwise occupy the building. A civil defence shelter shall be built for a building or a group of buildings on the same plot or construction site if it has a floor area of at least 1,200 square metres and is used as a permanent dwelling or workplace or is otherwise permanently occupied. There is no duty to build a civil defence shelter if a civil defence shelter that meets the calculated need for shelter places of the new building has already been built on the same plot or in its vicinity.

The authority granting the building permit may in individual cases, after hearing the relevant rescue authority, grant an exemption from the statutory duty to build a civil defence shelter if the costs resulting from the construction of the civil defence shelter would be substantially higher than normal

in relation to the construction costs of the building in question or if the construction of the civil defence shelter would involve substantial technical difficulties.

After hearing the relevant rescue authority, the authority granting the building permit may grant an exemption from the technical requirements for civil defence shelters or the size and location requirements pursuant to this Act if there are reasonable grounds for the exemption and the exemption will not substantially reduce the availability of protection.

After hearing the relevant rescue authority, the authority granting the building permit may grant an exemption from the construction of civil defence shelters in specific areas if it is estimated by the rescue authority that there is already a sufficient number of shelter places in the area or if the protection of the population is otherwise ensured.

The requirements set for the equipment and products used to build and equip a civil defence shelter, equipment markings and information and instructions supplied with the equipment are provided for in the Government Decree on civil defence shelter equipment and supplies (406/2011).

The general statutory requirements set for civil defence shelters are: it must be possible to ready the shelter for use within 72 hours, and the compartmentation of the shelter must not altered in a way that would undermine it. In order to ensure that it is in working order, the equipment of the civil defence shelter should be inspected and serviced at least every 10 years. An inspection record regarding the functionality of the equipment must be prepared, with device-specific entries on the inspections performed. The inspection record must be presented to the rescue authority if so requested.

Furthermore, the shelter must have the necessary materials for readying the shelter for use, for taking shelter and for digging a way out of the shelter in the event of a collapse. The emergency plan of the building must include a plan for readying the civil defence shelter for use within 72 hours. The Rescue Department recommends appointing and training a shelter manager for the civil defence shelter.

If alteration or repair work or a change in the intended use of a building with a civil defence shelter which is comparable to building construction in accordance with Section 42, Paragraph 3 of the Building Act is carried out in a building with a civil defence shelter, the civil defence shelter shall also be renovated so that it meets, as appropriate, the current requirements set for the technical details of a civil defence shelter.

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3. Shelter types

3.1 SHELTERS CONFORMING TO DECISIONS ISSUED IN 1951

According to the interpretation applied in Helsinki, civil defence shelters completed before 1951 are not regarded as civil defence shelters under the definition of the law, as their level of protection does not sufficiently meet the current requirements set for civil defence shelters and they cannot be converted to meet these requirements at a reasonable cost. Civil defence shelters were built in public buildings in Helsinki in 1951–1955, and the minimum requirements applied to them are the technical regulations of the Ministry of the Interior (2554/51).

These shelters are required to have a toilet for every 50 persons taking shelter, rounded upwards. The toilet may also be a dry toilet. If the civil defence shelter does not feature a fixed water point, it must feature backup water reservoirs that contain at least 10 litres of water for every person taking shelter.

Regulatory basis:

Technical Regulations of the Ministry of the Interior (2554/51).

3.2 CIVIL DEFENCE SHELTERS CONFORMING TO DECISIONS ISSUED IN 1954

These shelters were built between 1 January 1955 and 30 June 1959. Shelters of this type feature a fixed barrier room. In residential buildings built in accordance with the 1954 regulations, ventilation is primarily natural and therefore does not involve a separate ventilation unit. The shelter must feature a toilet, which may also be a dry toilet. If the civil defence shelter does not feature a fixed water point, it must feature a fixed water reservoir with a volume of at least 5 litres per shelter place.

Shelters built in accordance with the 1954 regulations must have the necessary materials for readying the shelter for use, for taking shelter and for digging a way out of the shelter in the event of a collapse. The shelter must be kept in such a condition that it can be readied for use within 72 hours.

Regulatory basis:

Civil Defence Act (374/1939),

Rescue Act (379/2011),

Decision of the Government on Amending the General Civil Defence Plan (342/1954), and

Decision of the Ministry of the Interior on Residential Building and Workplace Civil Defence Shelters to Be Built in Connection with New Construction (429/1954).

3.3 B AND C CLASS SHELTERS CONFORMING TO DECISIONS ISSUED IN 1959

B class shelters

These shelters were built between 1 July 1959 and 1 October 1963. The shelter is intended for 150–300 persons. Shelters of this type feature a fixed barrier room or a barrier tent that can be put to use if needed. The ventilation system of the shelter is operated by hand or foot, and it features a sand filter.

The sand filter of the shelter must contain 1 m^3 of sand per 15 m^2 of floor area in the shelter rooms and the infirmary. The thickness of the sand layer in the filter must be at least 80 cm but no more than 120 cm. The maximum size of the sand filter is 4 m^3. The sand used in the filter must be clean and dry. The sand used must be ordinary construction sand with a grain size of 1–3 mm. If the sand in the filter has hardened or become moist or is otherwise no longer suitable for filtering air, Helsinki City Rescue Department recommends emptying the filter and replacing the old sand with fresh sand. The sand can be covered with a material such as plastic to keep it dry and clean, or it can be stored in bags. It must be possible to add the sand to the filter within 72 hours when needed.

B class reinforced concrete shelters must have a number of beds calculated for 8% of the people taking shelter and a toilet for every 25 persons, rounded upwards. The shelter must also feature a water point and a floor drain in the barrier room, or backup water reservoirs containing at least 5 litres of water for each person taking shelter. The shelter must feature a drain with a shut-off valve, or there must be a sump pit outside the shelter.

The general statutory regulations (Rescue Act 379/2011) are: it must be possible to ready the shelter for use within 72 hours, the compartmentation of the shelter must not be altered in a way that would undermine it, and the equipment and supplies of the shelter must be serviced and inspected at least every ten years. The sealing of the shelter must be tested every ten years to verify the serviceability of the shelter. Furthermore, the shelter must have the necessary materials for readying the shelter for use, for taking shelter and for digging a way out of the shelter in the event of a collapse. The emergency plan of the building must include a plan for readying the civil defence shelter for use within 72 hours. **The Rescue Department recommends appointing and training a shelter manager for the civil defence shelter.**

Regulatory basis:

Civil Defence Act (438/1958),

Civil Defence Decree (237/1959),

Rescue Act (379/2011),

Decree by the Ministry of the Interior on Technical Requirements for Civil Defence Shelters and Maintenance of Equipment in Civil Defence Shelters (506/2011), and

Decision of the Ministry of the Interior on B and C Class Civil Defence Shelters (318/1959).

Helsinki City Rescue Department recommends inspecting the civil defence shelter with regard to aspects such as the condition of the floor drain on an annual basis. Furthermore, Helsinki City Rescue Department recommends refurbishing the civil defence shelter in connection with its next renovation, by means such as installing modern ventilation equipment, inspecting the condition and sealing of the doors and hatches, installing a sufficient number of overpressure valves, equipping the shelter with a barrier tent if it does not feature a barrier room, modernising the backup water reservoirs and dry toilets, equipping the water point with a hose and acquiring waste containers and bags for the shelter.

C class shelters

The C class reinforced concrete shelter is the most common shelter type built between 1 July 1959 and 1 October 1963. The shelter is intended for a maximum of 150 persons. Shelters of this type feature a fixed barrier room or a barrier tent that can be put to use if needed. The ventilation system of the shelter is operated by hand or foot, and it features a sand filter.

The sand filter of the shelter must contain 1 m^3 of sand per 15 m^2 of floor area in the shelter rooms and the infirmary. The thickness of the sand layer in the filter must be at least 80 cm but no more than 120 cm. The maximum size of the sand filter is 4 m^3. The sand used in the filter must be clean and dry. The type of sand used must be ordinary construction sand with a grain size of 1–3 mm. If the sand in the filter has hardened or become moist or is otherwise no longer suitable for filtering air, Helsinki City Rescue Department recommends emptying the filter and replacing the old sand with fresh sand. The sand can be covered with a material such as plastic to keep it dry and clean, or it can be stored in bags. It must be possible to add the sand to the filter within 72 hours when needed.

C class reinforced concrete shelters must have a number of beds calculated for 8% of the people taking shelter and a toilet for every 25 persons, rounded upwards. The shelter must also feature a water point and a floor drain in the barrier room, or backup water reservoirs containing at least 5 litres of water for each person taking shelter. The shelter must feature either a drain equipped with a shut-off valve or a sump pit outside the shelter.

The general statutory regulations (Rescue Act 379/2011) are: it must be possible to ready the shelter for use within 72 hours, the compartmentation of the shelter must not be altered in a way that would undermine it, and the equipment and supplies of the shelter must be serviced and inspected at least every ten years. The sealing of the shelter must be tested every ten years to verify the serviceability of the shelter. Furthermore, the shelter must have the necessary materials for readying the shelter for

use, for taking shelter and for digging a way out of the shelter in the event of a collapse. The emergency plan of the building must include a plan for readying the civil defence shelter for use within 72 hours. The Rescue Department recommends appointing and training a shelter manager for the civil defence shelter.

Regulatory basis:

Civil Defence Act (438/1958),

Civil Defence Decree (237/1959),

Rescue Act (379/2011),

Decree by the Ministry of the Interior on Technical Requirements for Civil Defence Shelters and Maintenance of Equipment in Civil Defence Shelters (506/2011), and

Decision of the Ministry of the Interior on B and C Class Civil Defence Shelters (318/1959).

Helsinki City Rescue Department recommends inspecting the shelter on an annual basis, focusing on aspects such as the condition of the floor drain. Furthermore, Helsinki City Rescue Department recommends refurbishing the civil defence shelter in connection with its next renovation, by means such as installing modern ventilation equipment, inspecting the condition and sealing of the doors and hatches, installing a sufficient number of overpressure valves, equipping the shelter with a barrier tent if it does not feature a barrier room, modernising the backup water reservoirs and dry toilets, equipping the water point with a hose and acquiring waste containers and bags for the shelter.

3.4 B AND C CLASS SHELTERS CONFORMING TO DECISIONS ISSUED IN 1963

B class reinforced concrete shelters

These shelters were built between 1 October 1963 and 1 July 1971. The shelter is intended for 150–300 persons. Shelters of this type feature a fixed barrier room or a barrier tent that can be put to use if needed. The shelter also features a decontamination room connected to every entrance. The ventilation system of the shelter is operated by hand or foot, or it can be electrically powered, and it features a sand filter that serves as a pre-filter for a special filter.

The ventilation systems used are divided into three classes: I, II, and III. A class I system is sufficient for a shelter with a maximum floor area of 30 m^2, a class II system is sufficient for a shelter with a maximum floor area 60 m^2, a class III system is sufficient for a shelter with a maximum floor area of 90 m^2. The amount of sand required in the sand filter is 2 m^3 for class I, 4 m^3 for class II and 6 m^3 for class III. The sand used in the pre-filter must be clean and dry. The sand used must be ordinary construction sand with a grain size of 1–3 mm. The thickness of the sand layer must be 100 cm, but at least 80 cm and no more than 120 cm. There must also be 60 cm of free space in the filter above the sand. If the sand in the filter has hardened or become moist or is otherwise no longer suitable for filtering air, Helsinki City Rescue Department recommends emptying the filter and replacing the old sand with fresh sand. The sand can be covered with a material such as plastic to keep it dry and clean, or it can be stored in bags. It must be possible to add the sand to the filter within 72 hours when needed. The shelter must feature an overpressure gauge in the vicinity of the ventilation unit.

The special filter must be such that it can easily be installed between the intake air duct and the ventilation unit. When the special filter is not being used, it must be stored in an airtight container that must not be opened unnecessarily.

The special filters and ventilation units of B class reinforced concrete shelters built after 1965 must be enclosed in a lockable protective cage.

B class reinforced concrete shelters must feature a toilet for every 30 persons, rounded upwards. The shelter must feature a technical system or phone station to facilitate the use of a mobile communication device. The system must be connected to the phone network with either its own connection or with a parallel phone connection in the building. The development of technology facilitates the abolishment of fixed telephone connections in shelters. This can be achieved by a variety of means, such as a broadband antenna that gives access to the connections provided by all operators. The general mobile phone network broadband antenna must be installed in the attic of the building or on an exterior wall at a height of approximately 5 metres. B class shelters built in accordance with the 1963 regulations feature a lead-through pipe for a backup radio antenna, which must be kept closed during times of peace.

The shelter must also feature a water point in the barrier and decontamination room, as well as backup water reservoirs containing at least 20 litres of drinking water for every person taking shelter. The shelter must feature a drain with a shut-off valve, or there must be a sump pit outside the shelter.

The general statutory regulations (Rescue Act 379/2011) are: it must be possible to ready the shelter for use within 72 hours, the compartmentation of the shelter must not be altered in a way that would undermine it, and the equipment and supplies of the shelter must be serviced and inspected at least every ten years. The sealing of the shelter must be tested every ten years to verify the serviceability of the shelter. Furthermore, the shelter must have the necessary materials for readying the shelter for use, for taking shelter and for digging a way out of the shelter in the event of a collapse. The emergency plan of the building must include a plan for readying the civil defence shelter for use within 72 hours. **The Rescue Department recommends appointing and training a shelter manager for the civil defence shelter.**

Regulatory basis:

Civil Defence Act (438/1958),

Civil Defence Decree (237/1959),

Decree on Amending the Civil Defence Decree (578/1962),

Civil Defence Decree (261/1962),

Decree on Amending the Civil Defence Decree (261/1963),

Decree on Amending the Civil Defence Decree (282/1971),

Decision of the Ministry of the Interior on B and C Class Civil Defence Shelters (291/1963),

Decision of the Ministry of the Interior on amending the Decision of the Ministry of the Interior on B and C Class Civil Defence Shelters (317/1965),

Decision of the Ministry of the Interior on amending the Decision of the Ministry of the Interior on B and C Class Civil Defence Shelters (292/1969),

Rescue Act (379/2011), and

Decree by the Ministry of the Interior on Technical Requirements for Civil Defence Shelters and Maintenance of Equipment in Civil Defence Shelters (506/2011).

Helsinki City Rescue Department recommends inspecting the civil defence shelter with regard to aspects such as the condition of the floor drain on an annual basis. Furthermore, Helsinki City Rescue Department recommends refurbishing the civil defence shelter in connection with its next renovation, by means such as installing modern ventilation equipment, inspecting the condition and sealing of the doors and hatches, installing a sufficient number of overpressure valves, equipping the shelter with a barrier tent if it does not feature a barrier room, modernising the backup water reservoirs and dry toilets, equipping the water point with a hose and acquiring waste containers and bags for the shelter.

C class reinforced concrete shelters

The C class reinforced concrete shelter is the most common shelter type built between 1 October 1963 and 1 July 1971. The shelter is intended for a maximum of 150 persons. Shelters of this type feature a fixed barrier room or a barrier tent that can be put to use if needed. The ventilation system of the shelter is operated by hand or foot, or it can be electrically powered, and it features a sand filter that serves as a pre-filter for a special filter.

The ventilation systems used are divided into three classes: I, II, and III. A class I system is sufficient for a shelter with a maximum floor area of 30 m^2, a class II system is sufficient for a shelter with a maximum floor area 60 m^2, a class III system is sufficient for a shelter with a maximum floor area of 90 m^2. The amount of sand required in the sand filter is 2 m^3 for class I, 4 m^3 for class II and 6 m^3 for class III. The sand used in the pre-filter must be clean and dry. The sand used must be ordinary construction sand with a grain size of 1–3 mm. The thickness of the sand layer must be 100 cm, but at least 80 cm and no more than 120 cm. There must also be 60 cm of free space in the filter above the sand. If the sand in the filter has hardened or become moist or is otherwise no longer suitable for filtering air, Helsinki City Rescue Department recommends emptying the filter and replacing the old sand with fresh sand. The sand can be covered with a material such as plastic to keep it dry and clean, or it can be stored in bags. It must be possible to add the sand to the filter within 72 hours when needed. The shelter must feature an overpressure gauge in the vicinity of the ventilation unit.

The special filter must be such that it can easily be installed between the intake air conduct and the ventilation unit. If the special filter is not being used, it must be stored in an airtight container and not opened unnecessarily.

The special filters and ventilation units of C class reinforced concrete shelters built after 1965 must be enclosed in a lockable protective cage.

C class reinforced concrete shelters must feature a toilet for every 30 persons, rounded upwards. The shelter must feature a technical system or phone station to facilitate the use of a mobile

communication device. The system must be connected to the phone network either with its own connection or with a parallel phone connection in the building. The development of technology facilitates the abolishment of fixed telephone connections in shelters. This can be achieved by a variety of means, such as a broadband antenna that gives access to the connections provided by all operators. The general mobile phone network broadband antenna must be installed in the attic of the building or on an exterior wall at a height of approximately 5 metres. C class shelters built in accordance with the 1963 regulations feature a lead-through pipe for a backup radio antenna, which must be kept closed during times of peace.

The shelter must also feature a water point in the barrier room, as well as backup water reservoirs containing at least 20 litres of drinking water for every person taking shelter. The shelter must feature either a drain equipped with a shut-off valve or a sump pit outside the shelter.

The general statutory regulations (Rescue Act 379/2011) are: it must be possible to ready the shelter for use within 72 hours, the compartmentation of the shelter must not be altered in a way that would undermine it, and the equipment and supplies of the shelter must be serviced and inspected at least every ten years. The sealing of the shelter must be tested every ten years to verify the serviceability of the shelter. Furthermore, the shelter must have the necessary materials for readying the shelter for use, for taking shelter and for digging a way out of the shelter in the event of a collapse. The emergency plan of the building must include a plan for readying the civil defence shelter for use within 72 hours. **The Rescue Department recommends appointing and training a shelter manager for the civil defence shelter.**

Regulatory basis:

Civil Defence Act (438/1958),

Civil Defence Decree (237/1959),

Decree on Amending the Civil Defence Decree (578/1962),

Civil Defence Decree (261/1962),

Decree on Amending the Civil Defence Decree (261/1963),

Decree on Amending the Civil Defence Decree (282/1971),

Decision of the Ministry of the Interior on B and C Class Civil Defence Shelters (291/1963),

Decision of the Ministry of the Interior on amending the Decision of the Ministry of the Interior on B and C Class Civil Defence Shelters (317/1965),

Decision of the Ministry of the Interior on amending the Decision of the Ministry of the Interior on B and C Class Civil Defence Shelters (292/1969),

Rescue Act (379/2011), and

Decree by the Ministry of the Interior on Technical Requirements for Civil Defence Shelters and Maintenance of Equipment in Civil Defence Shelters (506/2011).

Helsinki City Rescue Department recommends inspecting the civil defence shelter with regard to aspects such as the condition of the floor drain on an annual basis. Furthermore, Helsinki City Rescue Department recommends refurbishing the civil defence shelter in connection with its next renovation, by means such as installing modern ventilation equipment, inspecting the condition and sealing of the doors and hatches, installing a sufficient number of overpressure valves, equipping the shelter with a barrier tent if it does not feature a barrier room, modernising the backup water reservoirs and dry toilets, equipping the water point with a hose and acquiring waste containers and bags for the shelter.

3.5 S1 CLASS REINFORCED CONCRETE SHELTERS CONFORMING TO DECISIONS ISSUED IN 1971

S1 class reinforced concrete shelters conforming to decisions issued in 1971 were built between 1 July 1971 and 1 January 1986. The shelter is intended for a maximum of 150 persons. Shelters of this type feature a fixed barrier room or a barrier tent that can be put to use if needed, with a minimum size of 2.5 m^2. The ventilation system of the shelter is electrically powered, and it must be manually operable if needed.

The special filter must be such that it can easily be installed into the system with suitable parts. If the special filter is not being used, it must be stored in an airtight container.

S1 class reinforced concrete shelters must feature a toilet for every 30 persons, rounded upwards, at least half of which must be dry toilets. The shelter must feature a technical system or phone station to facilitate the use of a mobile communication device. The system must be connected to the phone network either with its own connection or with a parallel phone connection in the building. The development of technology facilitates the abolishment of fixed telephone connections in shelters. This can be achieved by a variety of means, such as a broadband antenna that gives access to the connections provided by all operators. The general mobile phone network broadband antenna must be installed in the attic of the building or on an exterior wall at a height of approximately 5 metres. If the building features a shared antenna, the shelter must feature an antenna socket. Additionally, S1 class shelters built in accordance with the 1971 regulations must feature a lead-through pipe for a backup radio antenna, which must be kept closed during times of peace.

The shelter must also feature a water point, a wash basin and a floor drain, as well as backup water reservoirs containing at least 20 litres of water for each person taking shelter. The shelter must feature either a drain equipped with a shut-off valve or a sump pit outside the shelter. The shelter must feature an overpressure gauge in the vicinity of the ventilation unit.

An S1 class shelter for fewer than 25 persons does not necessarily feature a water tap or basin. If the shelter does not feature a water point, it must feature backup water reservoirs containing at least 30 litres of water for every person taking shelter. If the shelter does not feature sewerage, it must feature a 10-litre waste bin with a lid for every person taking shelter.

The general statutory regulations (Rescue Act 379/2011) are: it must be possible to ready the shelter for use within 72 hours, the compartmentation of the shelter must not be altered in a way that would undermine it, and the equipment and supplies of the shelter must be serviced and inspected at least every ten years. The sealing of the shelter must be tested every ten years to verify the serviceability of the shelter. Furthermore, the shelter must have the necessary materials for readying the shelter for use, for taking shelter and for digging a way out of the shelter in the event of a collapse. The

emergency plan of the building must include a plan for readying the civil defence shelter for use within 72 hours. **The Rescue Department recommends appointing and training a shelter manager for the civil defence shelter.**

Regulatory basis:

Civil Defence Act (438/1958),

Civil Defence Decree (261/1962),

Decree on Amending the Civil Defence Decree (578/1962),

Decree on Amending the Civil Defence Decree (282/1971),

Decree on Amending the Civil Defence Decree (560/1971),

Decree on Amending the Civil Defence Decree (971/1975),

Rescue Act (379/2011),

Decree by the Ministry of the Interior on Technical Requirements for Civil Defence Shelters and Maintenance of Equipment in Civil Defence Shelters (506/2011),

Decision of the Ministry of the Interior on S1 Class Civil Defence Shelters (561/1971),

Decision of the Ministry of the Interior on amending the Decision of the Ministry of the Interior on S1 Class Civil Defence Shelters (573/1971),

Decision of the Ministry of the Interior on Allowances Pertaining to S1 Class Civil Defence Shelters Intended for no More than 25 Persons (769/1971).

Helsinki City Rescue Department recommends testing the ventilation system and the floor drain at least once a year.

3.6 S1 CLASS REINFORCED CONCRETE SHELTERS CONFORMING TO NORMS ISSUED IN 1986

S1 class reinforced concrete shelters

S1 class reinforced concrete shelters conforming to norms issued in 1986 were built between 1 January 1986 and 1 November 1991. The shelter is intended for a maximum of 150 persons. If the shelter does not feature a barrier room, it must be possible to install a barrier tent in the barrier facility. The ventilation system of the shelter is electrically powered, and it must be manually operable if needed.

The special filter must be such that it can easily be installed into the system with suitable parts. When the special filter is not being used, it must be stored in an airtight container.

S1 class reinforced concrete shelters must feature a toilet for every 30 persons, rounded upwards, at least half of which must be dry toilets. The shelter must feature a technical system or phone station to facilitate the use of a mobile communication device. The system must be connected to the phone network either with its own connection or with a parallel phone connection in the building. The development of technology facilitates the abolishment of fixed telephone connections in shelters. This can be achieved by a variety of means, such as a broadband antenna that gives access to the connections provided by all operators. The general mobile phone network broadband antenna must be installed in the attic of the building or on an exterior wall at a height of approximately 5 metres. If the building features a shared antenna, the shelter must feature an antenna socket.

The shelter must also feature a water point, a wash basin and a floor drain, as well as backup water reservoirs containing at least 20 litres of water for each person taking shelter. The shelter must feature a drain with a shut-off valve, or there must be a sump pit outside the shelter. The shelter must feature an overpressure gauge in the vicinity of the ventilation unit.

The general statutory regulations (Rescue Act 379/2011) are: it must be possible to ready the shelter for use within 72 hours, the compartmentation of the shelter must not be altered in a way that would undermine it, and the equipment and supplies of the shelter must be serviced and inspected at least every ten years. The sealing of the shelter must be tested every ten years to verify the serviceability of the shelter. Furthermore, the shelter must have the necessary materials for readying the shelter for use, for taking shelter and for digging a way out of the shelter in the event of a collapse. The emergency plan of the building must include a plan for readying the civil defence shelter for use within 72 hours. The Rescue Department recommends appointing and training a shelter manager for the civil defence shelter.

Regulatory basis:

Civil Defence Act (438/1958),

Civil Defence Decree (261/1962),

Decree on Amending the Civil Defence Decree (578/1962),

Decree on Amending the Civil Defence Decree (282/1971),

Decree on Amending the Civil Defence Decree (560/1971),

Decree on Amending the Civil Defence Decree (971/1975),

Decree on Amending the Civil Defence Decree (852/1990),

Rescue Act (379/2011),

Decree by the Ministry of the Interior on Technical Requirements for Civil Defence Shelters and Maintenance of Equipment in Civil Defence Shelters (506/2011), and

Decision of the Ministry of the Interior on S1 Class Civil Defence Shelters (295/1985).

Helsinki City Rescue Department recommends testing the ventilation system and the floor drain at least once a year.

3.7 K AND S1 CLASS REINFORCED CONCRETE SHELTERS CONFORMING TO DECISIONS ISSUED IN 1991

K class reinforced concrete shelters

K class reinforced concrete shelters conforming to decisions issued in 1991 were built between 1 September 1991 and 1 December 2001. In Helsinki, the K class shelter was intended for a maximum of 35 persons before 1 September 1999 and has been intended for 33 persons since then. The maximum floor area of the shelter is 20 m^2. The ventilation system of the shelter is electrically powered, and it must be manually operable if needed.

The ventilation system must feature a special filter that purifies the air. K class reinforced concrete shelters must feature a toilet for every 33 persons, rounded upwards, at least half of which must be dry toilets. The shelter must feature a technical system or phone station to facilitate the use of a mobile communication device. The system must be connected to the phone network with either its own connection or with a parallel phone connection in the building. The development of technology facilitates the abolishment of fixed telephone connections in shelters. This can be achieved by a variety of means, such as a broadband antenna that gives access to the connections provided by all operators. The general mobile phone network broadband antenna must be installed in the attic of the building or on an exterior wall at a height of approximately 5 metres. If the building features a shared antenna, the shelter must also feature an antenna socket.

The shelter must feature backup water reservoirs containing at least 50 litres of water per every square metre of floor area, rounded upwards, i.e. 30 litres for each person taking shelter. The shelter must feature either a drain equipped with a shut-off valve or a sump pit outside the shelter. The shelter must feature an overpressure gauge in the vicinity of the ventilation unit.

The general statutory regulations (Rescue Act 379/2011) are: it must be possible to ready the shelter for use within 72 hours, the compartmentation of the shelter must not be altered in a way that would undermine it, and the equipment and supplies of the shelter must be serviced and inspected at least every ten years. The sealing of the shelter must be tested every ten years to verify the serviceability of the shelter. Furthermore, the shelter must have the necessary materials for readying the shelter for use, for taking shelter and for digging a way out of the shelter in the event of a collapse. The emergency plan of the building must include a plan for readying the civil defence shelter for use within 72 hours. **The Rescue Department recommends appointing and training a shelter manager for the civil defence shelter.**

Regulatory basis:

Civil Defence Act (438/1958),

Rescue Act (561/1999),

Act on Amending the Civil Defence Act (304/1990),

Act on the Technical Requirements for Rescue Operation Equipment and the Fire Safety of Products (562/1999),

Civil Defence Decree (237/1959),

Rescue Decree (857/1999),

Decree on Amending the Civil Defence Decree (852/1990),

Decree on Amending the Civil Defence Decree (1533/1995),

Collection of Regulations of the Ministry of the Interior A:34 Technical Regulations for Light Civil Defence Shelters (5/1991),

Rescue Act (379/2011), and

Decree by the Ministry of the Interior on Technical Requirements for Civil Defence Shelters and Maintenance of Equipment in Civil Defence Shelters (506/2011).

Helsinki City Rescue Department recommends testing the ventilation system and the floor drain at least once a year.

S1 class reinforced concrete shelters

S1 class reinforced concrete shelters conforming to decisions issued in 1991 were built between 1 September 1991 and 1 December 2001. In Helsinki, the S1 class shelter was intended for a maximum of 150 persons before 1 September 1999 and has been intended for 120 persons since then. Shelters of this type feature a fixed barrier room or a barrier tent that can be put to use if needed, with a minimum size of 2.5 m^2. If the shelter features a barrier tent, a fixed fastening frame usually made of wood must be installed for the barrier tent. The ventilation system of the shelter is electrically powered, and it must be manually operable if needed.

The ventilation system must feature a special filter that purifies the air. S1 class reinforced concrete shelters must feature a toilet for every 20 m^2, rounded upwards, i.e. for every 33 persons. At least half of the toilets must be dry toilets. The shelter must feature a technical system or phone station to facilitate the use of a mobile communication device. The system must be connected to the phone network either with its own connection or with a parallel phone connection in the building. The development of technology facilitates the abolishment of fixed telephone connections in shelters. This can be achieved by a variety of means, such as a broadband antenna that gives access to the connections provided by all operators. The general mobile phone network broadband antenna must be installed in the attic of the building or on an exterior wall at a height of approximately 5 metres. If the building features a shared antenna, the shelter must feature an antenna socket.

The shelter must also feature a water point, a wash basin and a floor drain, as well as backup water reservoirs containing at least 50 litres of water per square metre of floor area. The backup water reservoirs of shelters built for 150 persons before 1 September 1999 or for 120 persons afterwards must contain at least 50 litres of water for every m^2 of floor area, rounded upwards, i.e. 30 litres for each person taking shelter. The shelter must feature a drain with a shut-off valve. The shelter must feature an overpressure gauge in the vicinity of the ventilation unit.

The general statutory regulations (Rescue Act 379/2011) are: it must be possible to ready the shelter for use within 72 hours, the compartmentation of the shelter must not be altered in a way that would undermine it, and the equipment and supplies of the shelter must be serviced and inspected at least every ten years. The sealing of the shelter must be tested every ten years to verify the serviceability of

the shelter. Furthermore, the shelter must have the necessary materials for readying the shelter for use, for taking shelter and for digging a way out of the shelter in the event of a collapse. The emergency plan of the building must include a plan for readying the civil defence shelter for use within 72 hours. **The Rescue Department recommends appointing and training a shelter manager for the civil defence shelter.**

Regulatory basis:

Civil Defence Act (438/1958),

Rescue Act (561/1999),

Act on the Technical Requirements for Rescue Operation Equipment and the Fire Safety of Products (562/1999),

Act on Amending the Civil Defence Act (304/1990),

Civil Defence Decree (237/1959),

Rescue Decree (857/1999),

Decree on Amending the Civil Defence Decree (852/1990),

Decree on Amending the Civil Defence Decree (1533/1995),

Technical Regulations for S1 Class Reinforced Concrete Civil Defence Shelters. Ministry of the Interior, Collection of Regulations, Regulation No 11/1991. Ministry of the Interior, Department for Rescue Services, Publication A:39,

Rescue Act (379/2011), and

Decree by the Ministry of the Interior on Technical Requirements for Civil Defence Shelters and Maintenance of Equipment in Civil Defence Shelters (506/2011).

Helsinki City Rescue Department recommends testing the ventilation system and the floor drain at least once a year.

3.8 K AND S1 CLASS REINFORCED CONCRETE SHELTERS CONFORMING TO REGULATIONS ISSUED IN 2001

K class reinforced concrete shelters

K-class reinforced concrete shelters conforming to regulations issued in 2001 were built between 1 December 2001 and 1 July 2011. In Helsinki, K class shelters are intended for a maximum of 27 person, their size being 20 m^2 at the most. However, if the property has undergone alteration or repair work, the maximum capacity allowed for a K class civil defence shelter built in the completed building is 133

persons, with a maximum size of 180 m^2. The ventilation system of the shelter is electrically powered, and it must be manually operable if needed.

The ventilation system must feature a special filter that purifies the air of toxic substances. K class reinforced concrete shelters must feature a dry toilet cubicle and furnishings for every 20 m^2, rounded upwards, i.e. for every 27 persons. The shelter must feature a technical system or phone station to facilitate the use of a mobile communication device. The system must be connected to the phone network either with its own connection or with a parallel phone connection in the building. The development of technology facilitates the abolishment of fixed telephone connections in shelters. This can be achieved by a variety of means, such as a broadband antenna that gives access to the connections provided by all operators. The general mobile phone network broadband antenna must be installed in the attic of the building or on an exterior wall at a height of approximately 5 metres. If the building features shared antenna equipment, the civil defence shelter must feature an antenna point.

A barrier space, a water tap and sewerage have been optional for K class civil defence shelters with a maximum size of 20 m^2. A shelter with a maximum size of 20 m^2 must feature backup water reservoirs containing at least 40 litres of water per square metre of floor area. Shelters for 27 persons must feature backup water reservoirs containing at least 30 litres of water for every person taking shelter. The shelter must feature an overpressure gauge in the vicinity of the ventilation unit. It must also be possible to organise waste management in the shelter.

Shelters exceeding the size of 20 m^2 feature a fixed barrier room or a barrier tent that can be put to use if needed, with a minimum size of 2.5 m^2. If the shelter features a barrier tent, a fixed fastening frame usually made of wood must be installed for the barrier tent. K class shelters must also feature a water point, a wash basin and a floor drain, as well as backup water reservoirs containing at least 40 litres of water per square metre of floor. Shelters for 27 persons must feature backup water reservoirs containing at least 30 litres of water for every person taking shelter. The shelter must feature either a drain equipped with a shut-off valve or a sump pit outside the shelter. The shelter must feature an overpressure gauge in the vicinity of the ventilation unit.

The backup water reservoirs of K class shelters built after 29 April 2005 must meet the material requirements set for food packages. Additionally, the volume of the dry toilets of the shelters must be at least 30 l. The shelter must have at least 16 bags for each dry toilet, as well as supplies for closing the bags.

The general statutory regulations (Rescue Act 379/2011) are: it must be possible to ready the shelter for use within 72 hours, the compartmentation of the shelter must not be altered in a way that would undermine it, and the equipment and supplies of the shelter must be serviced and inspected at least every ten years. The sealing of the shelter must be tested every ten years to verify the serviceability of the shelter. Furthermore, the shelter must have the necessary materials for readying the shelter for use, for taking shelter and for digging a way out of the shelter in the event of a collapse. The emergency plan of the building must include a plan for readying the civil defence shelter for use within 72 hours. **The Rescue Department recommends appointing and training a shelter manager for the civil defence shelter.**

Regulatory basis:

Rescue Act (561/1999),

Rescue Act (468/2003),

Act on Amending Section 6 of the Rescue Act (792/2009),

Act on Amending Section 6 of the Rescue Act (1331/2009),

Act on Amending the Rescue Act (1423/2009),

Act on the Technical Requirements for Rescue Operation Equipment and the Fire Safety of Products (562/1999),

Rescue Decree (857/1999),

Government Decree on Rescue Operations (787/2003),

Decree of the Ministry of the Interior on S1 and K Class Reinforced Concrete Civil Defence Shelters (947/2001),

Decree of the Ministry of the Interior on Civil Defence Shelter Equipment and Supplies (660/2005),

Decree of the Ministry of the Interior on S1 and K Class Reinforced Concrete Civil Defence Shelters (1385/2006),

Rescue Equipment Act (10/2007),

Rescue Act (379/2011), and

Decree by the Ministry of the Interior on Technical Requirements for Civil Defence Shelters and Maintenance of Equipment in Civil Defence Shelters (506/2011).

Helsinki City Rescue Department recommends testing the ventilation system and the floor drain at least once a year.

S1 class reinforced concrete shelters

S1 reinforced concrete shelters conforming to regulations issued in 2001 were built between 1 December 2001 and 1 July 2011. In Helsinki, the S1 class shelter was intended for a maximum of 120 persons. Shelters of this type feature a fixed barrier room or a barrier tent that can be put to use if needed, with a minimum size of 2.5 m^2. If the shelter features a barrier tent, a fixed fastening frame usually made of wood must be installed for the barrier tent. The ventilation system of the shelter is electrically powered, and it must be manually operable if needed.

The ventilation system must feature a special filter that purifies the air of toxic substances. The S1 class reinforced concrete shelter must feature a dry toilet cubicle and furnishings for every 20 m^2 of floor area, rounded upwards. This means that a 120-person shelter must feature at least six dry toilet cubicles with furnishings. The shelter must feature a technical system or phone station to facilitate the use of a mobile communication device. The system must be connected to the phone network either with its own connection or with a parallel phone connection in the building. The development of technology facilitates the abolishment of fixed telephone connections in shelters. This can be achieved by a variety of means, such as a broadband antenna that gives access to the connections provided by

all operators. The general mobile phone network broadband antenna must be installed in the attic of the building or on an exterior wall at a height of approximately 5 metres. If the building features shared antenna equipment, the civil defence shelter must feature an antenna point.

It must be possible to organise waste management in the shelter. S1 class civil defence shelters must also feature a water point, a wash basin and a floor drain, as well as backup water reservoirs containing at least 40 litres of water per square metre of floor area. Shelters for 120 persons must feature backup water reservoirs containing at least 30 litres of water for every person taking shelter. The shelter must feature either a drain equipped with a shut-off valve or a sump pit outside the shelter. The shelter must feature an overpressure gauge in the vicinity of the ventilation unit.

The backup water reservoirs of S1 class shelters built after 29 April 2005 must meet the material requirements set for food packages. Additionally, the volume of the dry toilets of the shelters must be at least 30 l. The shelter must have at least 16 bags for each dry toilet, as well as supplies for closing the bags.

The general statutory regulations (Rescue Act 379/2011) are: it must be possible to ready the shelter for use within 72 hours, the compartmentation of the shelter must not be altered in a way that would undermine it, and the equipment and supplies of the shelter must be serviced and inspected at least every ten years. The sealing of the shelter must be tested every ten years to verify the serviceability of the shelter. Furthermore, the shelter must have the necessary materials for readying the shelter for use, for taking shelter and for digging a way out of the shelter in the event of a collapse. The emergency plan of the building must include a plan for readying the civil defence shelter for use within 72 hours. **The Rescue Department recommends appointing and training a shelter manager for the civil defence shelter.**

Regulatory basis:

Rescue Act (561/1999),

Rescue Act (468/2003),

Act on Amending Section 6 of the Rescue Act (792/2009),

Act on Amending Section 6 of the Rescue Act (1331/2009),

Act on Amending the Rescue Act (1423/2009),

Act on the Technical Requirements for Rescue Operation Equipment and the Fire Safety of Products (562/1999),

Rescue Decree (857/1999),

Government Decree on Rescue Operations (787/2003),

Decree of the Ministry of the Interior on S1 and K Class Reinforced Concrete Civil Defence Shelters (947/2001),

Decree of the Ministry of the Interior on Civil Defence Shelter Equipment and Supplies (660/2005),

Decree of the Ministry of the Interior on S1 and K Class Reinforced Concrete Civil Defence Shelters (1385/2006),

Rescue Equipment Act (10/2007),

Rescue Act (379/2011), and

Decree by the Ministry of the Interior on Technical Requirements for Civil Defence Shelters and Maintenance of Equipment in Civil Defence Shelters (506/2011).

Helsinki City Rescue Department recommends testing the ventilation system and the floor drain at least once a year.

3.9 S1 CLASS REINFORCED CONCRETE SHELTERS CONFORMING TO REGULATIONS ISSUED IN 2011

S1 class reinforced concrete shelters conforming to regulations issued in 2011 have been built since 1 July 2011. Civil defence shelters of this type are being built in the present day. S1 class civil defence shelters are built for a maximum of 180 persons. Shelters of this type feature a fixed barrier room or a barrier tent that can be put to use if needed, with a minimum size of 2.5 m^2. If the shelter features a barrier tent, a fixed fastening frame usually made of wood must be installed for the barrier tent. The ventilation system of the shelter is electrically powered, and it must be manually operable if needed.

The ventilation system must feature a special filter that purifies the air of toxic substances. The S1 class reinforced concrete shelter must feature a dry toilet cubicle and furnishings for every 20 m^2 of floor area, rounded upwards. This means that a 180-person shelter must feature at least nine dry toilet cubicles with furnishings. The dry toilets are to be able to support themselves on the floor. The shelter must have at least 16 bags for each dry toilet, as well as supplies for closing the bags.

The shelter must feature a technical system or phone station to facilitate the use of a mobile communication device. The system must be connected to the phone network either with its own connection or with a parallel phone connection in the building. The development of technology facilitates the abolishment of fixed telephone connections in shelters. This can be achieved by a variety of means, such as a broadband antenna that gives access to the connections provided by all operators. The general mobile phone network broadband antenna must be installed in the attic of the building or on an exterior wall at a height of approximately 5 metres.

S1 class civil defence shelters must feature a water point, a wash basin and a floor drain inside the shelter, or the water point can be located outside in the immediate vicinity of the shelter. If the water point is located inside the shelter, it must be possible to store at least 15 litres of drinking water per square metre of floor area in the actual shelter. This means 20 litres for each person taking shelter. If the water point is located outside the shelter, it must be possible to store at least 40 litres of drinking water per square metre of floor area in the actual shelter. This means 30 litres for each person taking shelter.

The backup water reservoir of the civil defence shelter must meet the material requirements set for food packages and feature equipment suitable for dispensing the water. The exact requirements set for water containers can be found in Section 22 of the Government Decree on Civil Defence Shelter

Equipment and Supplies. The shelter must feature an overpressure gauge in the vicinity of the ventilation unit.

The general statutory regulations (Rescue Act 379/2011) currently in force are: it must be possible to ready the shelter for use within 72 hours, the compartmentation of the shelter must not be altered in a way that would undermine it, and the equipment and supplies of the shelter must be serviced and inspected at least every ten years. The sealing of the shelter must be tested every ten years to verify the serviceability of the shelter. Furthermore, the shelter must have the necessary materials for readying the shelter for use, for taking shelter and for digging a way out of the shelter in the event of a collapse. The emergency plan of the building must include a plan for readying the civil defence shelter for use within 72 hours. **The Rescue Department recommends appointing and training a shelter manager for the civil defence shelter.**

3.10 S2 CLASS REINFORCED CONCRETE SHELTERS CONFORMING TO REGULATIONS ISSUED IN 2011

S2 class reinforced concrete shelters conforming to regulations issued in 2011 have been built since 1 July 2011. Civil defence shelters of this type are being built in the present day. S2 class civil defence shelters are built for a maximum of 1,200 persons. The maximum capacity of a single shelter room is 250 persons. The minimum floor surface area per person is 0.75 square metres. Shelters of this type feature a fixed barrier room with a minimum size of 4 m².

An S2 class reinforced concrete civil defence shelter or bedrock shelter must feature separate ducts for exhaust and intake air installed so that the distance between the intake and exhaust air vent openings is at least 10 metres. The ventilation system of the shelter is electrically powered. The ventilation unit must be placed in an engine room. The equipment of the shelter must be able to detect and identify toxic substances in the intake air, and the system must be operable even during a power outage. In an S2 reinforced concrete shelter, engine rooms and other technical facilities must be separated from the other facilities of the shelter with light partition walls at least. The shelter must be able to maintain an overpressure of at least 50 Pa.

The shelter must feature one furnished dry toilet cubicle for every 20 square metres of floor area, rounded upwards. Waste management must be organised appropriately, and the volume of the containers must be 15 l/m².

The shelter must feature a water point, a wash basin and a floor drain. They must be located inside the shelter, and it must be possible to store 15 l of water per square metre in the shelter.

There must be a first aid room and infirmary in the immediate vicinity of the shelter facility, its floor area being at least 10% of that of the actual shelter.

The shelter must feature a technical system that facilitates the use of a mobile phone or a telephone point that is already connected to the telephone network. The shelter is not required to have its own mobile phone.

The shelter must feature a backup/emergency light that can be connected to the generator of the combustion engine of the ventilation unit. There must be electricity outlets in all facilities and the life of the accumulator must be at least 5 hours. The shelter can be equipped with a backup power system.

In addition to the entrance, an S2 reinforced concrete shelter must feature at least one emergency exit.

Regulatory basis:

Rescue Act (379/2011),

Government Decree on Rescue Operations (407/2011),

Government Decree on Civil Defence Shelters (408/2011),

Government Decree on Civil Defence Shelter Equipment and Supplies (409/2011),

Rescue Equipment Act (10/2007),

Decree by the Ministry of the Interior on Technical Requirements for Civil Defence Shelters and Maintenance of Equipment in Civil Defence Shelters (506/2011).

4. Use of civil defence shelters under normal conditions

Under normal conditions, civil defence shelters may be used for purposes detailed in the building permit, e.g. as storage facilities, gyms, club rooms, social facilities or drying rooms. Engaging in any activities that can cause permanent moisture or odour damage in civil defence shelters is prohibited. Furthermore, no interior linings may be glued onto the walls of the shelter, no flammable liquids or gases may be stored in the shelter, and no structures that hinder the use of doors or hatches and cannot be dismantled within 72 hours may be installed in the shelter. The fastening battens installed in the shelter must not be removed.

The use of the civil defence shelter under normal conditions should be such that the shelter can be serviced and inspected at any time. Representatives of the property owner and the shelter manager should have access to all facilities of the shelter containing equipment and supplies related to the operation of the shelter. This makes it easy to carry out inspections and maintenance in the shelter.

Helsinki City Rescue Department departments recommends running the ventilation units and inspecting and maintaining all seals and backflow traps annually and in accordance with the manufacturer's instructions and recommendations.

5. Guidelines regarding civil defence shelter materials

In addition to the fixed equipment, the civil defence shelter should feature recommended materials. These materials consist mainly of tools needed for readying the shelter for use and digging a way out of the shelter in the event of an emergency. Preparations should be in place for bringing various devices from people's apartments or other premises to the shelter, such as a battery-powered radio, a television, a microwave oven and other necessary equipment that does not need to be acquired for the shelter in advance.

The shelter materials typically include items such as a tool kit for the shelter. These tools can be used under normal conditions as well. However, the tools must be stored so that they are immediately available when readying the shelter for use is initiated. The tools needed for readying the shelter for

use and digging a way out: a forge hammer, a cutting chisel, a pointed chisel, lineman's pliers, a bolt cutter, a side axe, an entrenching shovel, a crowbar, a handsaw, a hacksaw + 5 spare blades, an adjustable wrench, a flathead screwdriver, a Phillips head screwdriver, a hammer, nails, a knife, a rope, a spanner set and a pipe wrench.

The shelter tool kit is designed to facilitate annual maintenance procedures, readying the shelter for use, carrying out service and maintenance procedures during sheltering, and potentially digging a way out of the shelter through the emergency exit.

The civil defence shelter should feature the following documents: instruction and service manuals for the equipment, instructions for alteration work on the ventilation system used under normal conditions when switching to emergency conditions, instructions on valve positions in different sheltering situations, including the positions of the sewer shut-off valve, instructions on necessary construction and dismantling work, instructions for installing and placing an uninstalled air intake duct, and the blueprints of the shelter.

Protection staff materials:

- a protective mask and 2 filters for it
- a safety helmet + 2 straps
- safety eyewear, 2 pcs
- a protective suit, 2 pcs
- rubber boots, 2 pcs
- protective gloves, 2 pairs
- tape for sealing sleeve and trouser leg ends
- a high-visibility vest
- a first aid kit, a protective bandage package and a first aid bandage, 2 pcs.

The shelter should also feature

- an instruction manual on using the shelter
- a marking plate set for the shelter
- a blanket or a thermal blanket
- 2 flashlights + batteries
- a stirrup pump or a portable extinguisher

- a fire bucket
- a folding stretcher and its carrying straps
- water preservative
- an iron bar.

Detailed recommendations regarding civil defence shelter tools and other tools to be acquired for the housing company and the shelter can be found on the Rescue Department's website. The Finnish National Rescue Association and the regional rescue association Helpe ry can also provide advice regarding these acquisitions.

6. General instructions for inspecting the sealing of the shelter

1. Close the door and all hatches of the shelter, seal the ventilation openings used under normal conditions with stop flanges or a temporary sealing solution, and close the drain shut-off valve.
2. Read the user instructions for the ventilation unit and make sure that there is no debris in the intake air duct.
3. Inspect the condition of the overpressure gauge and set it to the zero position.
4. Close the overpressure valves on the walls of the shelter with their manually operated locking screws.
5. Close the pressure valve of the ventilation unit with the handwheel.
6. Carry out a visual inspection of the barrier tent. Removing the tent from its package is not necessary.
7. If the air flow meter of the ventilation unit features a 'sealed' position, do as follows: Turn the lever to the sealed position. Connect the crank to the ventilation unit and turn it a few times to get the oil moving in the transmission system. Remove the crank from the unit. Press the power button of the ventilation unit to turn it on and open the pressure valve slowly until the reading of the air flow meter is 150 m^3/h. The sealing is adequate if the reading of the overpressure gauge is 100 Pa.
8. If the air flow meter of the ventilation unit does not feature a 'sealed' position, do as follows: Connect the crank to the ventilation unit and turn it a few times to get the oil moving in the transmission system. Remove the crank from the unit. Press the power button to turn the ventilation unit on and wait for the reading of the overpressure gauge to reach 300 Pa. If a level of 300 Pa cannot be achieved, all leaks must be sought out and sealed. Once a level of 300 Pa has been achieved, close the pressure valve and turn off the ventilation unit. Time how long it takes for the pressure level to drop from 200 to 50 Pa. If it takes more than 20 seconds, the sealing is adequate. If it takes less than 20 seconds, the leak must be sought out and sealed.

7. Indicative civil defence shelter commissioning plan

1. Clear the shelter of any items not needed for civil defence shelter use. The shelter must be cleared of any items stored or otherwise accumulated in the shelter under normal conditions. These items can be moved to other facilities at the property: apartments, office premises, garages or other similar places where they will cause a minimal damage risk if they catch fire.

2. Have the shelter cleaned, air the shelter out and set the heating to as low a level as possible.

3. Ensure that the doors and hatches work and are properly sealed.

4. Check and ensure that the emergency exit is useable. If the opening of the emergency exit is located above ground, make sure that there are no parked vehicles or other obstacles above it that could prevent digging a way out of the shelter or completely opening the emergency exit hatch.

5. Install the barrier tent in the shelter inside the shelter door onto its fastening frame so that it is ready for use, or ensure that the barrier room has no obstacles in it.

6. Check and ensure that there are no flammable materials in the immediate vicinity of the intake air opening outside that could prevent the shelter from receiving fresh air if ignited.

7. Close the ventilation openings used during normal conditions tightly with stop flanges.

8. Read the user and maintenance instructions for the ventilation system. Inspect the condition of the system and the operation of its components in accordance with the manufacturer's instructions.

9. Inspect the condition and fluid level of the overpressure valve.

10. Inspect the condition of the special filter to ensure that its closing lids are tightly in place and undamaged. The coverings of the special filter must only be removed when so ordered by the authorities.

11. Inspect the sealing of the shelter by following the instructions above or the manufacturer's instructions (so-called sealing test).

12. Inspect the number of backup water reservoirs and fill them with clean drinking water.

13. Install the dry toilets in their designated places in accordance with the manufacturer's instructions. The dry toilets may have been designed to be attached to separate fastening battens.

14. Inspect and ensure that the communication connections of the shelter work. If a mobile phone cannot be used in the shelter, install a general mobile phone network broadband antenna in the attic of the building or on an exterior wall at a height of roughly 5 metres.

15. Follow the authorities' instructions.

More information is available on the website of Helsinki City Rescue Department at https://pelastustoimi.fi/en/helsinki/services/civil-defence-in-helsinki. Shelter manager courses in Helsinki

are provided by Helsingin pelastusliitto (Helpe) ry. Helpe's course selection can be found in Finnish online at https://www.helpe.fi/koulutus-ja-kurssit/

Helsinki City Rescue Department recommends appointing and training a civil defence shelter manager.

8. Other considerations

More information is provided by Helsinki City Rescue Department

- Preparedness and Civil Defence Management Service Unit
  - Email: vss@hel.fi
- On-call fire inspector
  - Telephone: +358 9 310 31203 on weekdays at 9.00–11.00 and 12.00–14.00
  - Email: palotarkastaja@hel.fi on weekdays at 9.00–15.00.

Presenter: Petri Parviainen, Head of Unit

Approved by: Jani Pitkänen, Rescue Commander

Distribution Management group JLPELJoRy@hel.fi

Civil Defence Unit JLPELvss-yksikko@hel.fi

On-call fire inspector group palotarkastaja@hel.fi

Rescue Department website https://pelastustoimi.fi/en/helsinki/services/civil-defence-in-helsinki

For the information of Helsinki City Executive Office