NB: Unofficial translation,
legally binding only in Finnish and Swedish

Government Decree on Civil Defence Shelters

(408/2011)

Section 1
Requirements concerning the equipment and products in civil defence shelters

(1) In addition to what is provided in the Rescue Act (/2011), the owner of the building shall ensure that, in terms of its size, construction and location, the civil defence shelter meets the requirements laid down in this Decree.

(2) Provisions on the technical requirements for civil defence shelters and the maintenance of the equipment in civil defence shelters are laid down in the Ministry of the Interior Decree on the Technical Requirements for Civil Defence Shelters and the Maintenance of the Equipment in Civil Defence Shelters (/2011).

(3) Provisions on the requirements for the equipment in civil defence shelters, the marking of the equipment and the information and instructions supplied with the equipment are laid down in the Government Decree on the Equipment and Supplies in Civil Defence Shelters (/2011).

Section 2
Size of the shelter space of the civil defence shelter

(1) The civil defence shelter referred to in sections 71 and 72 of the Rescue Act shall have a shelter space that is at least two per cent of the combined floor area of the building in question. Buildings used as shops and as places of assembly, industrial and production buildings and storage facilities shall have a shelter space that is at least one per cent of the floor area. The civil defence shelter shall, however, have a shelter space of at least 20 square metres.

(2) The shelter space means the facility that is intended for use as a space where people can stay. The shelter space also includes the toilets and the first-aid room and the infirmary. However, the shelter space does not include the airlock room or tent or the technical facilities (plant rooms and the control room).

(3) If the civil defence shelter built for an industrial, production and storage building would otherwise be unnecessarily large for those who work in the building or on the same plot or construction site on a permanent basis or who occupy it on a permanent basis or if the civil defence shelter built for a building used as an educational or care facility would otherwise be too small with regard to the study places or care places, the size of the civil defence shelter can be determined in accordance with the average number of persons occupying the building. If the civil defence shelter is dimensioned in accordance with the number of persons referred to in this subsection, the shelter space shall amount to 0.75 square metres for each person unless a larger space is required for special reasons.

(4) The command facilities built in accordance with section 77 of the Rescue Act, shall be sufficiently large for the number of persons that is likely to work in the facilities.

(5) The protection category of the civil defence shelter shall be determined in accordance with the size of the civil defence shelter as follows:

Maximum shelter space m^2	Protection category
135	S1 as a reinforced concrete shelter
900	S2 as a reinforced concrete shelter
4,500	As a bedrock shelter

Section 3
Location of the civil defence shelter

(1) A civil defence shelter may not be located more than 250 metres from the building for which it is constructed.

(2) The authority granting the building permit may, after consulting the regional rescue authority and for special reasons and on the basis of a threat assessment, decide that the joint civil defence shelter referred to in section 71(4) of the Rescue Act may be located further away from the building than what is laid down in subsection 1 above.

Section 4
Loads

The structures of the civil defence shelter shall be dimensioned to withstand blast loads so that a category S1 reinforced concrete shelter can withstand a load of 100 kPa (1 bar), a category S2 reinforced concrete shelter a load of 200 kPa (2 bar) and a bedrock shelter a load of 300 kPa (3 bar).

Section 5
Thickness of the structures

(1) The ceiling and the walls of a category S1 civil defence shelter made of reinforced concrete shall be of reinforced concrete measuring at least 300 millimetres in thickness, and the floor, the load-bearing reinforced concrete intermediate walls and columns of the shelter and the reinforced concrete intermediate floor of a two-storey shelter shall be of reinforced concrete measuring at least 150 millimetres in thickness.

(2) The ceiling and the walls of a category S2 civil defence shelter made of reinforced concrete shall be of reinforced concrete measuring at least 400 millimetres in thickness, and the floor sections not facing the bedrock shall be of reinforced concrete measuring at least 200 millimetres in thickness.

(3) The walls of the bedrock tunnel of a bedrock civil defence shelter receiving the pressure loads shall be of reinforced concrete measuring at least 800 millimetres in thickness.

(4) The reinforced concrete walls, columns and intermediate floors inside a category S2 civil defence shelter made of reinforced concrete and a bedrock civil defence shelter shall be of reinforced concrete measuring at least 200 millimetres in thickness.

Section 6
Bedrock civil defence shelters

(1) The location, shape and wall and ceiling thicknesses, including their reinforcement structures, shall be designed on the basis of rock mechanics.

(2) The flood risk shall be considered in the design and construction of a bedrock civil defence shelter.

(3) The rock mechanical measurements of the bedrock structures may be produced using calculations or a table format.

Section 7
Reinforcements of a bedrock civil defence shelter

(1) The spray concrete coating on the shelter space ceiling shall measure at least 60 millimetres in thickness and on the walls of the shelter and the tunnels outside the civil defence shelter it shall measure at least 40 millimetres in thickness.

(2) The ceiling of the shelter shall also be reinforced with bolting.

Section 8
Splinter protection

The doors, hatches and valves of the structures surrounding the civil defence shelter shall be located so that they are provided with maximum protection against the splinter impacts of conventional weapons.

Section 9
Impact loads and other loads

The structures of the civil defence shelter shall be dimensioned so that they can withstand the loads of weapon impacts. One third of the service load of the intermediate floor shall be considered. The loads shall have a partial safety factor of 1.

Section 10
Dimensioning of the foundations

In the dimensioning of the foundations of a category S1 civil defence shelter made of reinforced concrete, one quarter of the vertical pressure and collapse loads shall be considered.

Section 11
Dimensioning of the reinforced concrete structures

(1) When the structures of the civil defence shelters are dimensioned for pressure loads or collapse loads and the corresponding recoil coefficients, or impact loads or the combined loads containing useful loads added to them are dimensioned, the partial safety factor shall be at least 1 so that the load can be considered a static load.

(2) The strength of the reinforcement and the compression strength of the concrete may exceed the characteristic strengths laid down in the regulations and the instructions on concrete and reinforced concrete structures by a maximum of 20 per cent. The partial safety factor for materials shall be at least 1 and the characteristic strengths increased in the manner referred to above shall be used as the permitted strengths.

Section 12
Entry into force

This Decree enters into force on 20 .