

HIKLU

Fire safety guide for site huts and sets of site huts on major construction sites

Usage: For the use of rescue department personnel and customers

Scope: The Helsinki City Rescue Department, the Länsi-Uusimaa Rescue Department, the Keski-Uusimaa Rescue Department and the Eastern Uusimaa Emergency Services Department

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Fire safety guide for site huts and sets of site huts on major construction sites

This guide sets out key aspects of fire safety in the siting of large sets of site huts on a construction site. The guide enters into force immediately and repeals any previous guides on the subject.

Terminology and definitions

First-aid extinguishing equipment – equipment for extinguishing small fires or fires in their initial stage that is accessible to anyone.

Automatic fire alarm system – a system that detects and automatically and immediately reports a beginning fire to the emergency response centre.

Smoke alarm system – the equipment mentioned in this guide is technically implemented as a fire alarm but is not connected to the emergency response centre. Fire bells shall be located like normal fire alarms.

Passageway – a convenient passable route from each point of the floor area leading to an exit.

Exit passageway – a compartmented area through which safe evacuation from the building can be made.

Fire load – all combustible material in a room and the total thermal energy released through their complete combustion.

Fire compartment – an interior area of the building from which the spread of fire is prevented for a stated period of time by fire-separating building elements or by some other effective means.

Emergency access road – a driveway or other means of access enabling emergency vehicles, in the event of a fire or other emergency, to come sufficiently close to the building and fire water outlets.

Fire hydrant – an underground part of the water mains in or outside the street area intended for the abstraction of fire water using a vertical pipe (fire hydrant equipment).
Volume < 1,200 l/min

Pumping station – a high-volume fire hydrant with one or more standpipes and couplings intended for use by the fire brigade. Volume > 1,200 l/min.

Building fire hydrant – a fire hydrant installed in the building, protected from freezing and intended for use by the fire brigade (not for extinguishing a fire at the initial stages)

Fire technical characteristics of the huts

Site huts are temporary structures. That said, site huts are often used for many years in their intended temporary use. This guide is based on the building regulations where applicable.

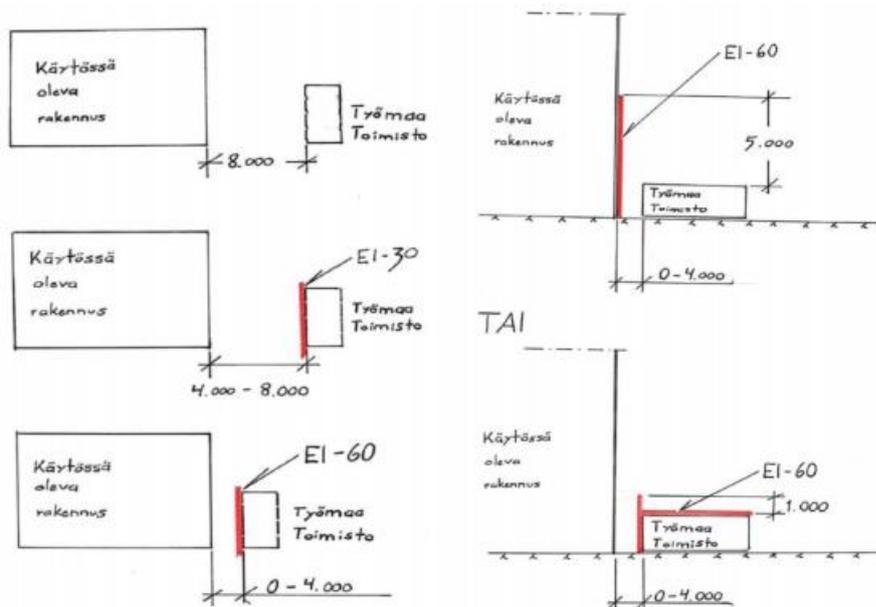
As a rule, the guide considers huts equivalent to buildings of fire class P3. In some cases, it may be necessary to erect up to three-storey high sets.

A separate site-specific fire safety report/plan must always be prepared for such sets of huts in addition to the general site fire safety plan.

Location near other buildings

Site huts should always be located at least eight metres away from other buildings in use. If there are buildings in use near the huts, the following distances must be observed even if part of the building is still under construction:

1. If the distance between the huts and the building is four to eight metres, the huts must be fire-separated by an EI 30 class element.
2. Where the distance between the huts and the building is less than four metres, the huts must be compartmented relative to the building in use into the EI 60 class. The fire-separating element must extend at least five (5) metres above the roof level of the huts.
3. An alternative implementation method is to extend the fire-separating element a metre above the highest point of the roof of the protected building. In addition, the roof of the hut must be compartmented up to the distance of eight metres.



Käytössä oleva rakennus	Building in use
Työmaa	Site
Toimisto	Office
TAI	OR

Huts stacked in three storeys or with a total area of 400–2,000 m²

In large construction sites, the hut area may exceed 400 m², and lack of space may necessitate stacking the huts in three storeys. If the number of huts stacked in three storeys is 12 or more or the area of a set with less than three storeys exceeds 400 m², the following must be observed:

- 1. All rooms in the huts shall be equipped with a smoke alarm system, which is technically equivalent to a fire alarm but is not connected to the emergency response centre. Fire bells shall be located like normal fire alarms.*
- 2. The gaps between the different storeys of huts must be sealed tight with sheet metal to prevent any flame from a window from igniting the intermediate space and any ignition sources, such as cigarettes, fireworks or additional fire load, from entering the space.*

Total area of huts exceeds 2,000 m²

Hut sets of 2,000 m² or more must be located at least eight (8) meters apart from each other or compartmented relative to each other by an EI 60 class element.

Hut evacuation arrangements

There must always be two independent escape routes from the huts. If the number of occupants on a floor is fewer than 20 persons, one door and an escape window of at least 600 mm x 900 mm is sufficient on the ground floor. In this case, the window must have a fixed handle.

If the window has bars, the bars must be detachable quickly and easily from the inside without the use of a tool. The above-mentioned window arrangement is also allowed on the second floor, provided that the distance between the lower surface of the window and the ground does not exceed 3.5 metres.

If the number of occupants on a floor exceeds 20, two separate escape routes must be arranged from each floor. Escape routes must be located such that there are no cul-de-sacs more than ten (10) metres in length. Escape routes must always be indicated and equipped with illuminated signs. The stairs of escape routes must be made of non-combustible material.



Kuva: Esimerkki piirustus työmaaparakkien poistumisjärjestelyistä

Kuva: esimerkki piirustus työmaaparakkien poistumisjärjestelyistä	Figure: An example of a site hut evacuation arrangement drawing
OLET TÄSSÄ	YOU ARE HERE
3. KERROS	3RD FLOOR
KOKOONTUMISALUE PORTTI 3	ASSEMBLY AREA GATE 3

First-aid extinguishing equipment

The need for first-aid extinguishing equipment in the huts should be considered site-specifically. The minimum requirement is one portable fire extinguisher on each floor and one portable fire extinguisher for each full or partial 300 m² such that the distance between the extinguishers does not exceed 30 m.

The minimum rating requirement for the extinguishers is 27A144BC.

Fire water for fire brigade – sets of huts

Sets of huts in excess of 2,000 m² must have fire water arranged for the fire brigade in the form of a building fire hydrant, fire hydrant, above-ground fire hydrant or pumping station. If the fire hydrant is to supply fire water for a large construction site and a set of site huts, the output of fire water must be dimensioned to meet the higher demand.

Fire water arrangements must be negotiated at a sufficiently early stage with the rescue authorities and, where appropriate, the local water company.



Kuva: Palovesiasema

Kuva: Palovesiasema	Photo: Pumping station
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