

ANNEX 6

NATIONAL ANNEX
TO STANDARD
SFS-EN 1991-1-5 EUROCODE 1: ACTIONS ON STRUCTURES
Part 1-5: General actions. Thermal actions

Preface

This National Annex is used together with standard SFS-EN 1991-1-5:2004.

This National Annex sets out the national parameters for the following paragraphs in standard EN 1991-1-5 concerning buildings where national selection is permitted.

- 5.3(2) (Tables 5.1, 5.2 and 5.3)
- A.1(1)
- A.1(3)
- A.2(2)

5.3 Determination of temperature profiles

5.3(2) (Tables 5.1, 5.2 and 5.3)

Table 5.1 Indicative temperatures of inner environment T_{in}

$T_1 = 25\text{ °C}$ (summer) and $T_2 = 23\text{ °C}$ (winter) are used as temperature values T_1 and T_2 .

Table 5.2 Indicative temperatures T_{out} for buildings above ground level

Temperature values specified in isotherm maps, set out in Annex A hereunder, are used for the maximum shade air temperature T_{max} and the minimum shade air temperature T_{min} .

For values of solar radiation effects T_3 , T_4 and T_5 in summer, $T_3 = 5\text{ °C}$, $T_4 = 10\text{ °C}$ and $T_5 = 15\text{ °C}$ are used for structural elements facing north and east, and $T_3 = 10\text{ °C}$, $T_4 = 20\text{ °C}$ and $T_5 = 30\text{ °C}$ for structural elements facing south and west or for horizontal structural elements.

Table 5.3 Indicative temperatures T_{out} for underground parts of buildings

$T_6 = 6\text{ °C}$, $T_7 = 4\text{ °C}$, $T_8 = -7\text{ °C}$ and $T_9 = -4\text{ °C}$ are used as temperature values of T_6 , T_7 , T_8 and T_9 .

Annex A

Isotherms of national minimum and maximum shade air temperatures

A.1 General

A.1(1)

The minimum shade air temperatures and the maximum shade air temperatures represent values with an annual probability of being exceeded of 0.02.

Data (isotherm maps) on annual minimum and maximum shade air temperatures is shown in Figures 1 and 2.

Shade air temperature values are adapted in accordance with the altitude above sea level by deducting 0.5 °C per altitude difference of 100 m in respect of the minimum shade air temperature, and 1.0 °C per altitude difference of 100 m in respect of the maximum shade air temperature.

A.1(3)

Unless other data is available, the value of 10 °C is used for the initial temperature T_0 .

A.2 Maximum and minimum shade air temperature values with an annual probability of being exceeded p other than 0.02

A.2(2)

The mathematical method, set out in paragraph A.2(2), may be used to determine the annual maximum or minimum shade air temperature value. Then the maximum and minimum temperature values are

determined directly from the statistics, and the coefficients k_1 , k_2 , k_3 and k_4 are derived through them. No values are given for coefficients in this National Annex.

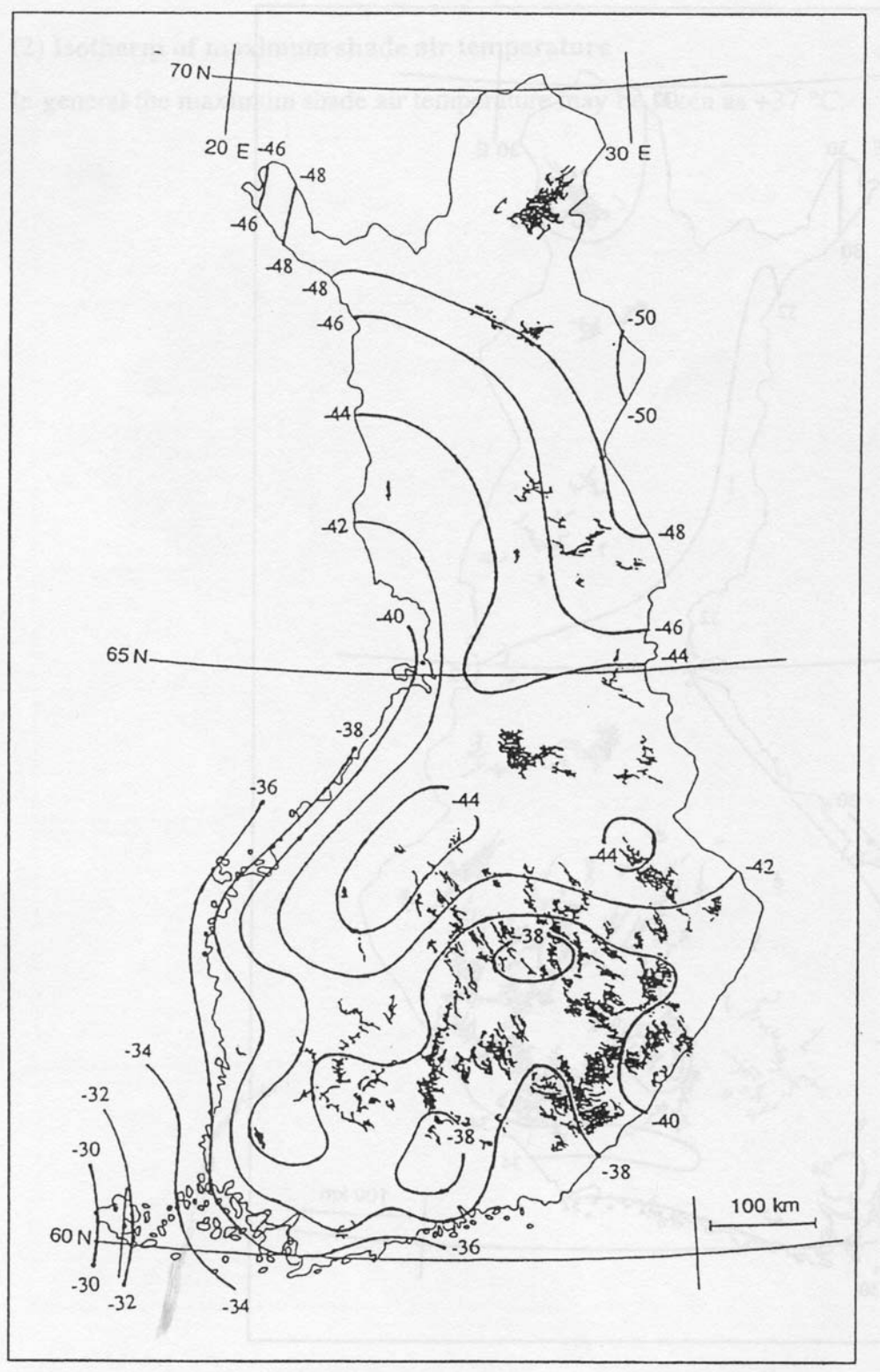


Figure 1 Isotherms of minimum shade air temperature (°C). There may be considerable local deviations depending on the topography and built environment.

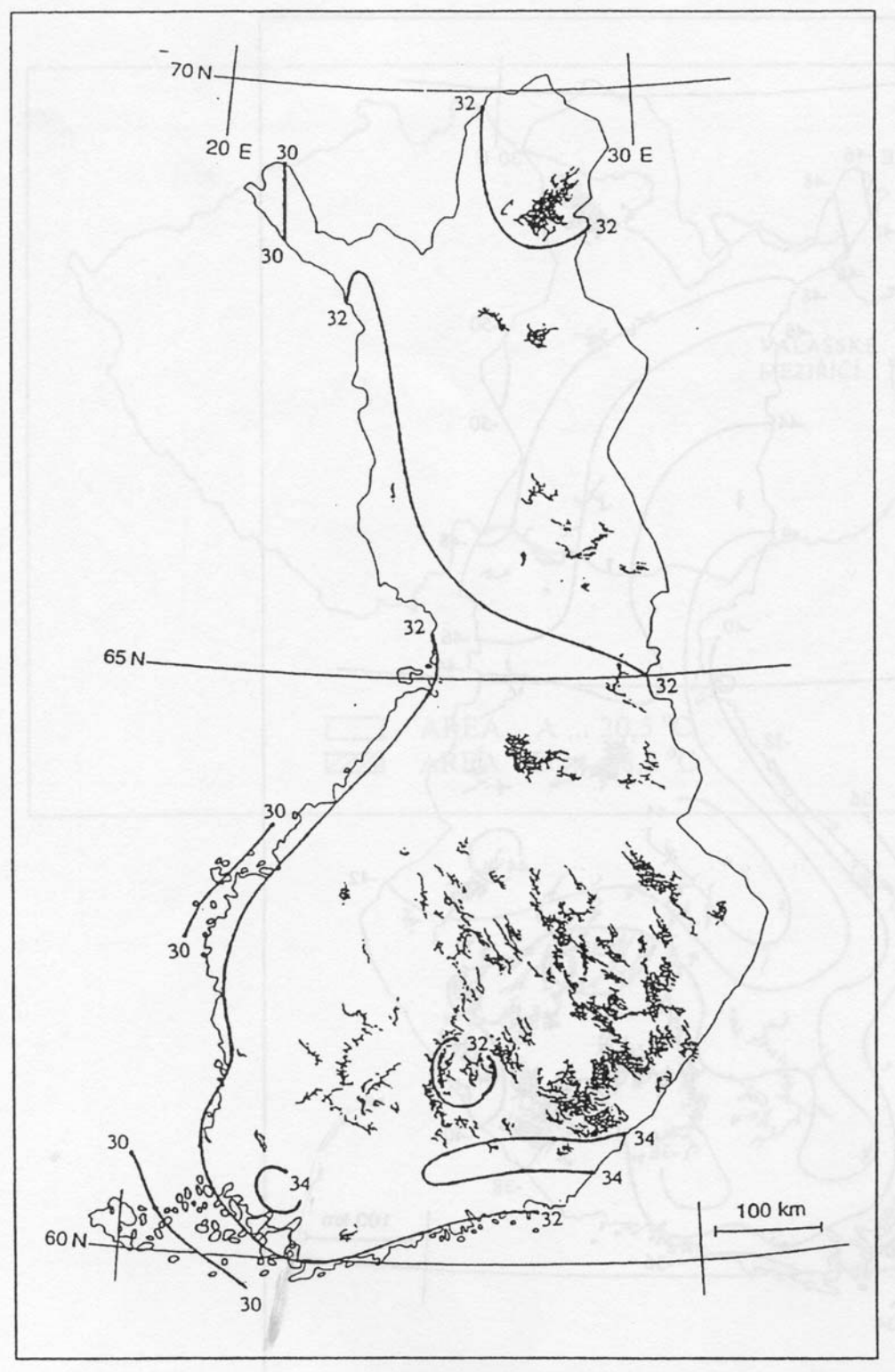


Figure 2 Isotherms of maximum shade air temperature (°C). There may be considerable local deviations depending on the topography and built environment.