

# LWS

## Wind and Snow Loads

The application program is suitable for the calculation of wind and snow actions on the following types of structures:

- Double-pitch roof
- Hip roof
- Single-pitch roof
- Flat roof with sharp-edged, bevelled, or rounded eaves or parapet

In addition:

- Snow drifts on superstructures
- Loads by down-sliding snow from abutting taller structures
- Canopies
- Wind-induced internal pressure in closed buildings
- Wind action on free-standing walls

### Standards

- DIN EN 1991
- ÖNORM EN 1991
- BS EN 1991
- UNI EN 1991 / NTC
- EN 1991
- DIN 1055-4

### Load calculation / Output

The software calculates the site-specific basic wind velocity pressure  $q_b$  and the gust velocity pressure  $q(z)$  on walls and roof surfaces with consideration of the given geographic border conditions.

The aerodynamic coefficients and the resulting wind loads, are calculated for areas = 10 m<sup>2</sup>, areas < 1 m<sup>2</sup> (uplift) and, optionally, for areas between 1 and 10 m<sup>2</sup> for upwind angles of 0°, 90°, 180° and 270°. For areas with alternating pressure and suction loads, always both values are put out.

The aerodynamic coefficients and the wind loads can be put out graphically and, optionally, in the form of tables.

The wind loads are calculated exclusively in accordance with the wind pressure coefficient method.

For structures with special geometric border conditions, such as chimneys, panels, free-standing roofs, the code stipulates that wind loads be determined in accordance with the wind force coefficient method! Therefore, the present application program CANNOT be used in these cases.

In addition to the wind loads, the software allows you to determine the ground snow loads and the resulting roof snow loads as well as the snow loads on eaves at roof overhangs.

You can put out roof snow loads in a graphical representation and, optionally, also in the form of tables.

