4.4. PRESSURE COEFFICIENTS FOR ROOFS AND OTHER STRUCTURES

The pressure coefficients for other structures and components that are not covered here (such as roofs, paraphets, sign boards, etc.) the pressure coefficients will be taken from the Eurocode [1].

5. WIND LOADS ON BUILDINGS

5.1. WIND LOADS ON BUILDINGS WITH RECTANGULAR CROSS-SECTIONS

The total wind loads, F, on a building with rectangular cross-section is calculated from the following equation:

$$F = F_{ex} + F_{in} + F_{ff}$$

with

$$F_{ex} = C_s \cdot C_d \cdot \sum_{surface\ area} q_p(z_e)\, C_{pe}\, A_{ex}$$ (5.1)

$$F_{in} = \sum_{surface\ area} q_p(z_i)\, C_{pi}\, A_{in}$$

$$F_{ff} = \sum_{surface\ area} q_p(z_e)\, C_{ff}\, A_{ff}$$

where

$F_{ex} =$ Forces on external surfaces

$F_{in} =$ Forces on internal surfaces

$F_{ff} =$ Friction forces

$C_s =$ Load correlation coefficient

$C_d =$ Dynamic resonance coefficient

$q_p(z_e) =$ Peak pressure at external height z_e

$q_p(z_i) =$ Peak pressure at internal height z_i

$C_{pe} =$ External pressure coefficient

$C_{pi} =$ Internal pressure coefficient

$C_{ff} =$ Friction coefficient

$A_{ex} =$ External reference surface area

$A_{in} =$ Internal reference surface area

$A_{ff} =$ External surface area parallel to the wind (friction surface area)