# Calculation of wind pressure on surface according to EUROCODE

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Now, we need to find qb and ce

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To calculate vb, we have to do following procedure.

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**cdir and cseason are taken as 1, to be conservative.**

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**Roughly, the fundamental value of basic wind velocity was chosen to be 25 m/s**

So, **vb0= 25 m/s** and also **vb=25 m/s**

Now, to use equation 4.9 we need ce(z)

Diagram

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To use this graph we have to specify our terrain category, and reference height and it was decided to choose as category I, as worst condition. And the elevation is 13m from mean sea level.

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Now, as soon as we know vb , we are able to compute qb and qp



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ce(z)=3

qb=390,625 kg/m3\*m2/s2=390.625N/m2

qp=1.17 kN/m2

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Now, to compute pressure on our surface, we have to find preffusure coefficient. First of all, we shouldn’t forget that our roof is multipitch roof.

Diagram

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In this case, coefficients of duopitch roof is used but according to this scheme.

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Our angle is 21 degrees.

Diagram

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Table

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The coefficient that we need are -0.9 and -0.5 for H and I parts of roof. But in some regions of roof there may arise high uplifting forces, so to be conservative, for upwind face -2.5 and for downwind face -1 was taken.

So, at the end we have:

We (for upwind face)= -2.93 kN/m2

We (for downwind face)=-1.17 kN/m2

To be conservative!