

27.10.2005

2 + 5 pages

Kontio's European Resellers,

(Copy to other resellers)

Loads according to Eurocode

As we informed in connection of CE-mark, ETA (European Technical Approval) provides that all the loads has been informed according to Eurocode;

Snow load, Imposed (live) load, wind load and seismic load if needed

Information about loads must come from you. Enclosed you can find instruction how to inform.

1. Snow load (App 1)

According to Eurocode European has been divided to different kind zones with snow load. You have to inform Kontio the zone number where the building site is situated and altitude from the sea level. In enclosed form you can see zones of Iberian Peninsula, but you will get specified for your own European country

2. Wind load (App 2, 2 pgs)

You have to give Kontio the Basic wind velocity (m/s), determinate the Terrain category where the building site is situated and if the building site is on a place where unusual hard wind is you have to give more specified information.

Eurocode is so new that we couldn't find yet any ready made tables for wind load of your country. We really appreciate if You could check from your side if there are already exists any clarified tables in your country.

In Finland wind load table has already made. You can see it enclosed. (App 4)

3. Imposed (live) load (App 1)

For normal residential house imposed load is 2 kN/m². If the load deviates from the load of normal residential house Your duty is to inform it to Kontio. It means that all exceptional loads must take into consideration in planning.

4. Seismic load (App 3)

You have to inform if there are seismic loads in an area where the building site is situated.

Please check carefully the enclosed pages and if (when) any questions do not hesitate to contact.

From now on you have to give the load information for each of your coming houses separately, latest when making the contract.

Kindly remember that enclosed forms can be used only in European countries, where is demanded to use Eurocode in planning calculations.

With Best Kontio Regards,

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Sales Manager
(Spain, France, Greece and Italy)*

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App 1

BACKGROUND INFORMATION ABOUT LOADS

SPAIN

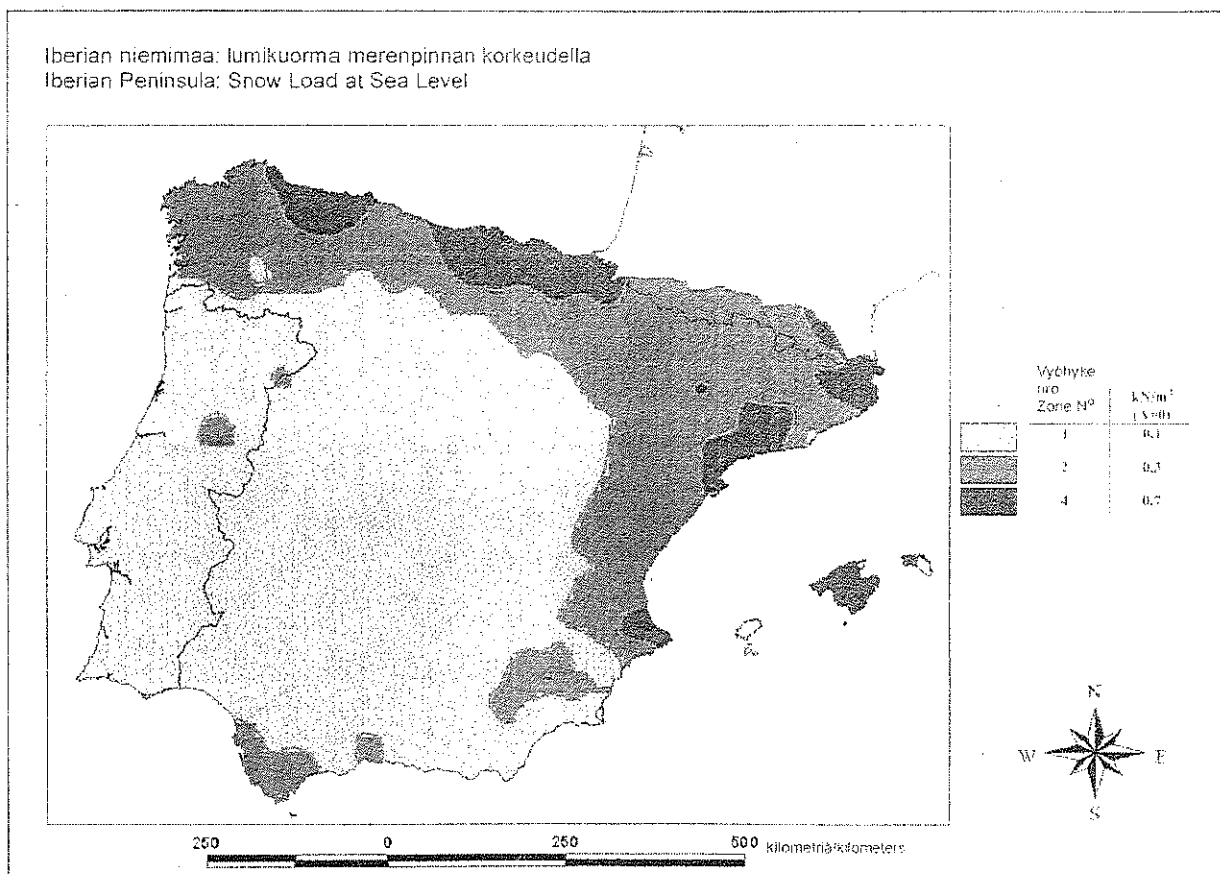
Contract/offer number _____

1. Snow load according to Eurocode 1

The location of building site/the Zone number (the map below) _____

The altitude of the building site, above sea level (m) _____

Tick off the building site to the following map!



2. Wind load according to Eurocode 1

Specification attached (2 pgs)

3. Imposed (live) load according to Eurocode 1

- Normal residential house

2 kN/m²

If the imposed (live) load deviates from the normal load for residential house,
the load must be informed to Kontio.

4. Seismic loads according to Eurocode 8

NO

YES

☐
☐

Specification attached

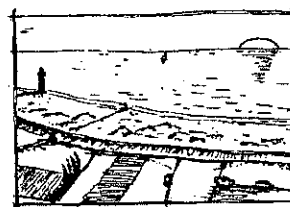
WIND LOAD ACCORDING TO EUROCODE 1

Basic wind velocity v_b (m/s) _____

Terrain category (tick off one of the following alternative):

Terrain category 0: ☐

Sea, coastal area exposed to the open sea.



Terrain category I: ☐

Lakes or area with negligible vegetation and without obstacles.



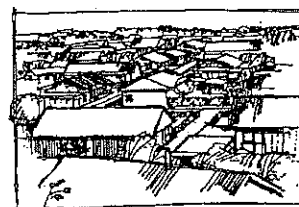
Terrain category II: ☐

Area with low vegetation such as grass and isolated obstacles (trees, buildings) with separations of at least 20 obstacle heights.



Terrain category III: ☐

Area with regular cover of vegetation or buildings or with isolated obstacles with separations of maximum 20 obstacle heights (such as villages, suburban terrain, permanent forest).



Terrain category IV: ☐

Area in which at least 15 % of the surface is covered with buildings and their average height exceeds 15 m.



UNUSUALLY HARD WIND

YES

☐

NO

☐

Hills and ridges situated on any of terrain category explained above are the places, where the wind is unusually hard.

If the building site situates on the place where the wind is unusually hard, the special clarification must be made to Kontiotuote Oy. The special clarification is explained on the next page.



KONTIO
LOG HOUSES

WIND LOAD - SPECIAL CLARIFICATION

(Must be completed, if the building site situates the place where is unusual hard wind):

Select the hill/ridge type
(see the pictures follow)

TYPE A ☐

TYPE B ☐

Give the next information about the hill/ridge

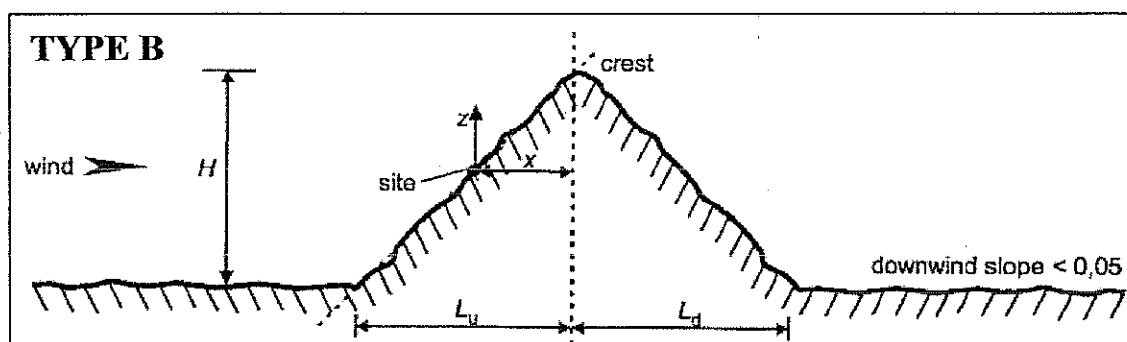
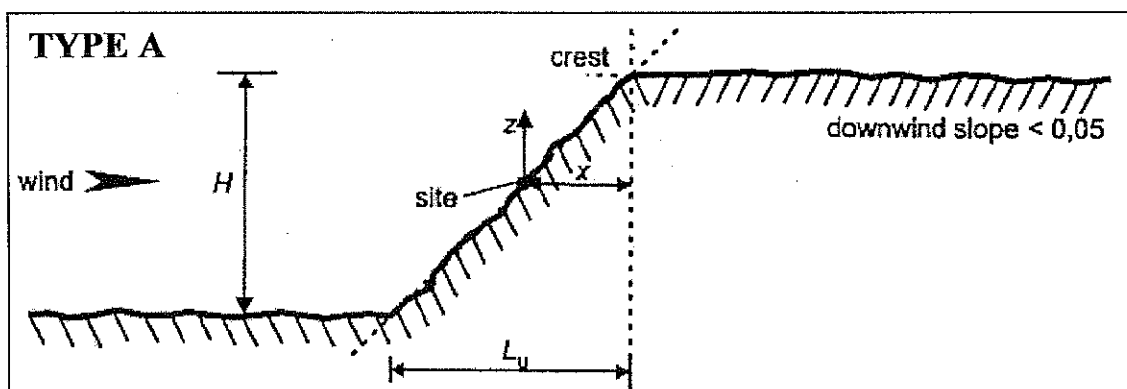
The effective high of hill/ridge, H (m) _____

The actual length of the upwind slope in the wind direction, L_u (m) _____

Horizontal distance of the site from the top of crest, x (m) _____

The height of the building, z (m) _____

The actual length of the downwind slope in the wind direction, L_d (m) _____ (type B)



SEISMIC LOAD ACCORDING TO EUROCODE 8

Fill up the following information

The subsoil class according to the local ground conditions

CLASS A

☐

CLASS B

☐

CLASS C

☐

Subsoil class A: Rock or firm deposits of sand, gravel or over-consolidated clay at least several tens of meters thick. Shear wave velocity v_s at least 800 m/s or 400 m/s at a 10-m depth.

Subsoil class B: Deep deposits of medium dense sand, gravel or medium firm clay. Shear wave velocity v_s at least 200 m/s at a 10-m depth increasing to 350 m/s at a 50-m depth.

Subsoil class C: Loose cohesionless soil deposits with or without some cohesive soil layers. Shear wave velocity v_s below 200 m/s in the uppermost 20 m.

Peak ground acceleration value

_____ m/s^2

WIND LOAD, SECOND ALTERNATIVE

App. 4

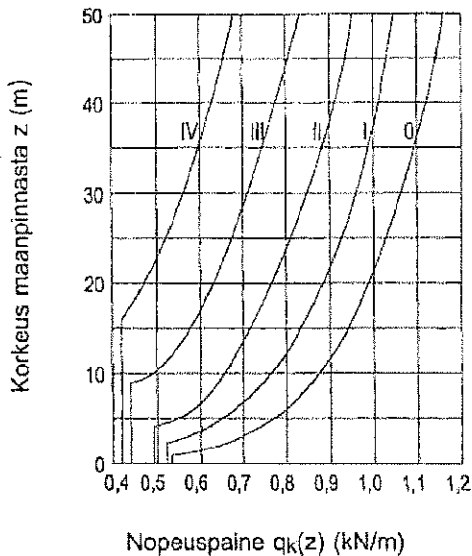
Second and little bit easier alternative to inform Wind load

According to Eurocode all European countries must make following table to determinate the wind load. We just afraid that table has not been made yet in every country because Eurocode is so new. We couldn't find information from our side, from Finland, but maybe you could check from your side.

Below shown table has made for Finland

- With the height of house and Terrain category (0, I, II, III or IV) can we define needed velocity pressure (kN/m^2) more easily.

Could you please check from your side what kind information you can get for wind load in your country? It should been made according to Eurocode 1.



Korkeus maanpinnasta = Height of the house

Nopeuspaine = $q_p(z)$ peak velocity pressure (kN/m^2)



KONTIO
LOGHOUSES

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28.9.2005

Kontio Resellers,

EC-CERTIFICATE OF CONFORMITY

Kontio as a second log house factory in the world has got CE-approval...Five years work is behind.

You will receive soon the European Technical Approval (ETA) of Kontio log building kit by post. Here very shortly the main information about the CE-mark, but for you to understand more deeply, it's better to read the whole approval.

European Technical Approval ETA 05/0119

The kits covered by this ETA consist of the main building parts such as walls, suspended floors and roof structures described in the ETA. The main load-bearing construction of the houses is made by log frame. In addition to log frame it including also glulam constructions, timber frame construction, roof trusses and frames, balconies, windows and doors, thermal insulation, air and moisture control layers, linings, claddings, roofing and fixings. All those have been determined in ETA.

Log building kit

In CE-approval it used to speak about **Log Building Kit** not log house, because the ready house is not CE-marked, but materials of Kontio's delivery.

CE-approved Kontio log building kit providing, that all structural parts of log building kit have planned according to ETA 05/0119. In approval, there have been defined all the allowed structures, materials and details what can be use in CE-approved delivery.

1. Structures of house are according to ETA 05/0119

Kontio has included all the current structures to ETA. (Annex 2)

If you use special, undefined structures in your delivery, we cannot deliver building kit as CE-approved and possible new structures must be approved again and it takes time...

2. Materials and components are according to ETA 05/0119

In Annex 1 more detailed information about materials and components of Kontio's log building kit have been determined.

If you don't buy all the materials which are integral parts of the structure from Kontio, you must follow indicated properties in Annex 1.

Some of the properties and components (for example windows and doors) have not been determined. They are marked as NPD (no performance determined).



3. Structural planning according to ETA 05/0119

When **log building kit** will be delivered as CE-approved must Kontio make complete structure planning according to ETA; using approved structures, materials and details. All the details are determined in Annex 4.

4. Loads

ETA provides that all structural calculations are made according to Eurocode. For CE-approved house we need all the loads informed according to eurocode; snow, wind and live loads. Also seismic load must inform if needed.

We will send more information how you must inform the loads to Kontio.

Defective contents of Kontio's delivery

CE-approval is not only for Kontio materials but for total planned log **building kit**!

- CE- approval provides that house is completely planned according to ETA. Kindly remember that if the all main structural parts do not include to Kontio delivery, we cannot make complete structural planning which is demanding for CE-approval. Then the house cannot be CE-approved.
- If you leave out any materials which are integral parts of the structure (panels, vapour barrier etc) from the delivery, you must follow indicated properties in Annex 1 when supplying replacing materials. Some of the components (for example windows and doors) or properties have not been determined; they are marked as NPD (no performance determined).

Shortly

- You have to buy minimum all load bearing structures (log frame, roof rafters, laminated beams, suspending floor joists) from Kontio; so that we can plan all needed structures.

CE-approved log building kit

When Kontio **log building kit** is going to countries of European Union and log building kit fills all the requirements which have given in ETA 05/0119, Kontio can deliver log building kit as CE-approved.

Purchase Contract

CE-approved delivery must mention in our purchase contract between You and Kontio "*Log building kit H10... is CE-approved...*". After it Kontio can mark all the packages of delivery as CE-marked.

SUMMARY

1. Contract
 - CE-approved has to be mentioned in our Purchase Contract
2. Contents of delivery & Structures
 - we/you have to choose structures from ETA approval and Kontio's standard structures
 - we have to mark in contents of delivery in purchase contract, which materials including Kontio's delivery, which excluding.
If excluding, you have to take care that those materials which you buy from your own country are according to ETA
3. Plans
 - You have to inform loads to Kontio according to Eurocode.
 - After your 'load' information Kontio can calculate and plan Log building Kit according to ETA.
4. Materials and packages
Only after all these we can mark all packages as CE-approved.

REMEMBER!

Only Kontio's delivery is CE-marked from our side, not ready house.
(Remember in marketing...)

If any questions, do not hesitate to contact. It is new thing also for us, but we will clear up!

With Kind Kontio Regards,

Kaarina

Kaarina Turunen
Export Manager

Kirsi Isomursu

Kirsi Isomursu
Sales Manager

