Low energy buildings - Case Study: **Massive Passive House concept of Recticel Insulation**

Category / year of construction or renovation	New construction: nearly zero energy building or better / 2009
Address of the building	Belgium, Bottelare (near Gent)
Pictures	

Description of the building

Type of building:
Small residential (1-2 family houses)

Detailed description:
The massive passive house in Bottelare is a family house built for 6 people. The building has the official passive house certificate 'Passiefhuiscertificaat' ('Passiefhuisplatform vzw') and was the launch of many other massive passive house buildings in Belgium. Now they are for example building a massive passive hotel and a massive passive sports centre.

Building envelop:
Pitched roof insulation: 160 mm PU insulation
Cavity wall insulation: 164 mm PU insulation
Ground floor insulation: 200 mm PU insulation
Windows: triple glazing

Renewables:
In the design of the massive passive house, 33 photovoltaic solar panels of 78 Wp and 36 photovoltaic solar panels of 81 Wp were installed.
33 x 78 Wp = 2 574 Wp - in Belgium (1 000 Wp - 850 kWh/year) - 2 188 kWh/year - according to the orientation (96 % of the optimal orientation) = 2 100 kWh/year
36 x 81 Wp = 2 916 Wp - in Belgium (1 000 Wp - 850 kWh/year) - 2 487 kWh/year - according to the orientation (70 % of the optimal orientation) = 1 735 kWh/year

Energy consumption

Energy values:
15 kWh/m²/year heating demand
34 kWh/m²/year final energy demand
(far below the required 42 kWh/m²/year instructed by the Belgian 'Passiefhuis-Platform')

No RES for hot water production / no RES for cooling

Links

Websites illustrating the building:
www.massiefpassief.be
www.recticelinsulation.be
www.passiefhuisplatform.be (Passiefhuis Platform vzw)
www.maisonpassive.be (Plate-forme Maison Passive asbl)

Promotional material online:
http://www.recticelinsulation.be/topic/het-massief-passiefhuis (video available behind this link)

✉ Contact details

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