

# very INSULATED DOORS

Udoor 0,23 W/m<sup>2</sup>.°C...

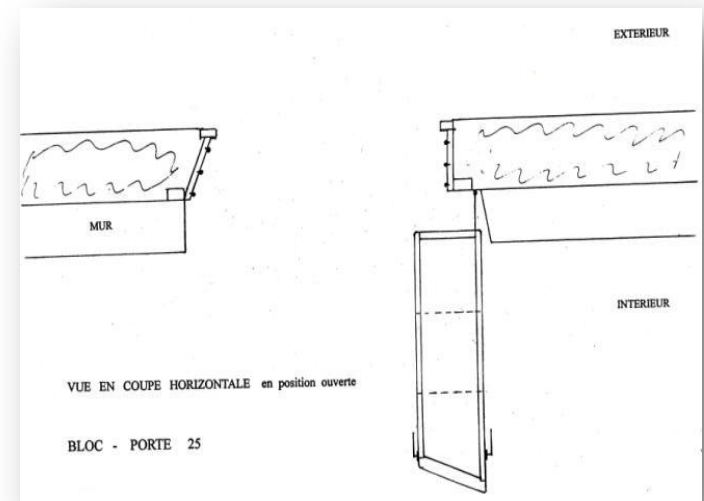
*varmaj* <sup>(1)</sup>



It is accepted practice to build very well insulated walls and roofs (for example with 40cm of straw, or 35cm polystyrene) with U wall less than 0.15 or 0.1, but it seems to us deplorable not to have doors insulated to the same level. Using two doors takes up valuable space and only slightly reduces the energy loss.

That is why we developed an insulated door from wood, within which is 25-26cm wool (and a quadruple glazing). Its manufacturing is complicated. In well insulated houses, the thermal loss from a "normal" door is proportionally very high.

The challenge is to reduce heat loss not only through the door but also around it, and with better air-tightness. Because the insulation uses organic fibers, the door also reduces noise.





### Description :

We deliver the doors complete with their fixed sashes. They are assembled from oak and fir, reinforced inside, and swung on 3 hinges.  
The weight is about 70-80kg, depending on the glass and the decoration around it. 70-80kg is the same as a typical good door made from solid oak.  
The lock is already fitted, with 3 bolts.  
The quadruple glazing (Ug around 0,5W/m2.°C) is available in a large choice of shapes: ellipse, circle, heart, tree, sun, or rectangle...  
Wood and wool come from nearby sources.

Outside sizes are a thickness of 296mm, and a height of 2,06m (headroom is around 2m), width 1m (with a passage around 0,95m).  
Ud (Udoor) is about 0,23W/m2.°C ! 20 times better than a non-insulated wooden door (dependent on the glass).  
The door needs a wall aperture of 2210mm high and 1220mm wide.  
The door sill is expanded cork, and the doorstep is aluminium or stainless steel.  
The joints are continuous around the door.  
The design of the inner structure of the door reduces thermal bridges.  
We use hardly any chemical products for making the doors. The wood is covered with an ecological varnish (for example Biopin or Biofa).  
We calculate that our doors save around 20 litres of heating fuel per year. Hence, over 50 years, the total saving is about 1000 litres of oil, or its equivalent (around 10 000kWh).

(1) Varmaj, in esperanto, mean warm, animated, cordial...



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