

Basic requirements for Energy Effectiveness for a new housing in Finland have been stipulated in Building Code part D3

In application for a new Building Permit, following matters are to be concerned:

- Basic Data from the Building
- heat loss calculations D3 2.2
- used electricity for air-conditioning D2 4.1.1
- heating capacity for building D3 2.4 and 2.5
- estimate for average room temperature during the summertime D3 2.8
- used energy D3 2.9
- Energy Certificate

ORIGIN INFORMATION CALCULATION OF ENERGY CERTIFICATE

The extent information of building

Gross Volume of the building	163brm ²	The volume of air	382m ³
Floor space	522rak-m ³	People	4
	147hum ²		

Constitutions

Construction materials	Area (m ²)	U-value (W/m ² K)		
External walls				
Wooden frame with brick veneer, 175mm mineral wool	90	0,24		
Lightweight concrete blocks 150mm, insulation material EPS	23	0,24		
Roof				
Pitched roof, 100mm mineral wool bats + 200mm blowing wool	147	0,15		
Bottom floor				
REinforced concrete 70mm, ESP 100mm	147	0,24		
Doors				
Wood aluminum frame, ESP	8,2	1,4		
Windows				
			g	F
North MSE -wood aluminum, frame 170 selective glass	8,8	1,4	0,55	0,75
East MSE -wood aluminum, frame 170 selective glass	1,3	1,4	0,55	0,75
South MSE -wood aluminum, frame 170 selective glass	11,1	1,4	0,55	0,75
West MSE -wood aluminum, frame 170 selective glass	3,2	1,4	0,55	0,75
The effective heat capacity C	Wh/(brm ² K)	70		

Ventilation

The building air leakage figure n50	4	1/h
Ventilation exhaust airflow	0,053	m ³ /s
Ventilation, heat recovery efficiency of the annual	30	%

Water consumption

Hot water consumption 73 m³/year

Apartment-specific water metering and billing Yes No

Heating systems

Heat Yes No

Division of heat Heat from the external source includes hot water

Heat accumulators Floor heating with water circulation, 40/35 °C

The calculating of energy efficiency

Heating energy consumption	28 010 kWh/year
Appliance energy consumption	8 150 kWh/year
Cooling energy consumption	kWh/year
The building's total energy consumption	36 160 kWh/year
Building energy efficiency figure	222 kWh/year

ENERGY CERTIFICATE

Building
Building type: Family house Completion: 1979
Address: Kotikatu 1 Building character: 427-403-2-17 D 001
00100 Helsinki
Amount of apartments: 1

Energy certificate is based on computational consumption and it's been given

- When building permit has been approved
 Separate research

ET- count	Less consuming	Building ET-class
- 150		
151 - 170		
171 - 190		
191 - 230		
231 - 270		
271 - 320		
321 -		
More consuming		

Building energy efficiency figure (ET-count, kWh/brm²/year) :

222

Energy efficiency rating scale: Small residential buildings

Performance rating is based on the calculated energy consumption.
Actual consumption depends on the location of the building,
number of people and way of living.

Approver certificate:

Pekka Pääsuunnittelija

Signature:

Client:

Matti Meikäläinen

Date of issue:
23.1.2008

Expiration day:
22.1.2018