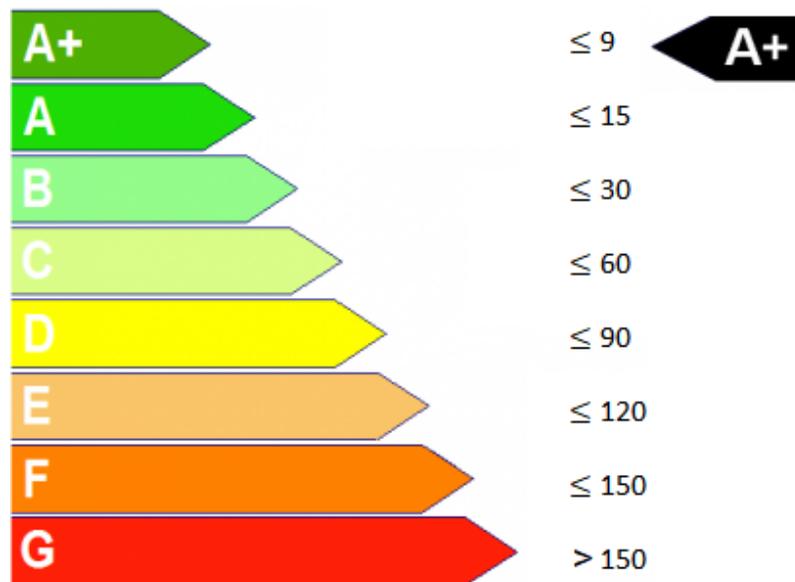


## Calculating the average monthly consumption of the boiler.<sup>1</sup>



**Figure 1.** Graphic representation of the energy performance for new buildings with multiple dwellings, expressed in kWh/m<sup>2</sup>a

Calculation of "A+" energy performance building with heated area of 100 m<sup>2</sup>:

$$AMC = \frac{NHP \cdot HA}{M} - 45\% = \frac{9 \cdot 100}{12} - 45\% = \mathbf{41.25} \frac{\text{kWh}}{\text{month}}$$

Description of units:

AMC [ $\frac{\text{kWh}}{\text{month}}$ ] – Average monthly power consumption of the boiler;

NHP [ $\frac{\text{kWh}}{\text{m}^2 \cdot \text{a}}$ ] – Necessary heating power in building per square meter;

HA [m<sup>2</sup>] – Heated area;

M [-] – Number of months;

% - Energy savings of a boiler from our production in relation to standard heaters.

As the average boiler consumption is obtained for each month during the year and the heating season is considered to last six months a year, the value obtained above will be multiplied by two to obtain the average electricity consumption per month during the heating season:

$$AMC = 2 \cdot 41.25 = \mathbf{82.5} \frac{\text{kWh}}{\text{month of heating season}}$$

<sup>1</sup> Rulebook on conditions, content and method of issuing certificates on the energy performance of buildings - ("Sl. glasnik RS", No. 61/2011) – Ministry of Energy.

Please, understand that this as an example of calculation, it is not an official calculation of monthly consumption. The number received above is applied for the building with highest energy performance. In most developed countries, the most common energy performance of buildings are "B" and "C", less often "A" or "A+".

For detailed calculation, it is necessary to consult heating planner, respectively, thermal engineer. Among other things, the data you need for a more detailed calculation are: thermal insulation of the building, location, built-in carpentry, heated area and net building volume, user count, technical documentation of building, etc.

For two buildings with identical heated area, consumption isn't necessarily equivalent, in fact, higher odds are that it is different. The thermal engineer must also come at the scene in order to determine whether there are cracks, moisture, etc., because those factors affect the heat energy consumption.

Professional team,

Ekoterm2001