

PASSIVE HOUSE

A. A. Galagan – Sumy State University, group SU-02

V. S. Kurochkina – E L Adviser

The present condition of environment and high cost of power resources force mankind to search for more non-polluting and energy-saving variants of all things that surround us. Passive houses are designed to solve this problem in field of our habitation.

The Passive house standard originated from a conversation in May 1988 between Professors Bo Adamson of Lund University, Sweden, and Wolfgang Feist of the Institute for Housing and the Environment, Germany. Their concept was developed through a number of research projects, aided by financial assistance from the German state of Hessen. This standard means that for this kind of house it is necessary to spend much less thermal and electric energy for normal functioning.

The measurements in the Passive House in Darmstadt Kranichstein confirmed: with presently available technology, the electrical consumption for household appliances can be reduced to one third of its current average value. The additional gas consumption for appliances which need heat amounts to less than 15% [Ebel/Feist 1997]. Also these savings due to efficient technology have been historically proven to be stable.

In the year of 1990 the first Passive house residences were built in Darmstadt, Germany, and in the following year they were occupied by the clients. Since that time passive houses have started to develop and have earned wide popularity nowadays.