



INFRAHEATING – HEAT OF FUTURE

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ABSTRACT

This article deals with reducing the cost of heating using infra heat. Infra heating is produced a very pleasant climate and has many advantages opposite traditional heating.

1. INTRODUCTION

Our Earth is generous, but its resources are not endless. One of the modern ways of heating is infraheating. The energy prices are grown for ever on the present and therefore are given out the various measures. The houses are heat cladding, hydraulically regulated, a measure of heat through the ratio dividers heating of costs, they used us unconventional sources of energy. All these steps lead to a reduction in energy consumption, thereby reducing costs. This allows infra heating.

1.1. Infra heating

Substantial part of solar radiation consists of infrared (heat) radiation, that is electromagnetic radiation of wavelength longer than visible light but shorter than microwave radiation. We produce ourself this energy for purpose of heat from the time when human began to serve the fire. From the fire unsealing and burning stones through the tiled oven break we through present the type of wall and space emitter. This type of heating is the most favorable to man, embrace it more than one million years. Thermal effect of infrared radiation is able to describe using physical laws to roughly 100 years.

In 1967 came the first Dr. Tadishi Ishikawa of Japan with a model of infrared thermal cabin. This system was used only for medical purposes. [1] Since 1981 was launched infrared thermal cabin generally applied. Since then, it is used as in the private domain, than the different specialists - doctors and therapists at clinics, as a support tool for a wide variety of therapeutic methods in treatment and so on. Last but not least, the infrared heating system use incubators for newborns too.

All types of infrared heating systems are based on the same principle, but are differed from each other in some detail.



Figure 1 – Infraheating [2]

Differences are in the structure and type of heating element and the carrier material, having an impact on the internal and surface temperature of the radiant heater. This has an weight on the wavelength of radiation produced in the range of the infrared spectrum. The higher the temperature is the shorter wavelength radiation. Consequently, some systems are better suited to space heating in large accumulations, if they amount to at least the recommended standard width (45 cm full brick) and some are suitable for areas with smaller storage capacity, but with good insulation. Correctly combination of infrared heating systems allows to heat most buildings infrared waves.

Carbon plate is a fundamental structural element used in the product:

Cut panel:

1. active layer of radiant
2. calorific carbon plate
3. insulating layer

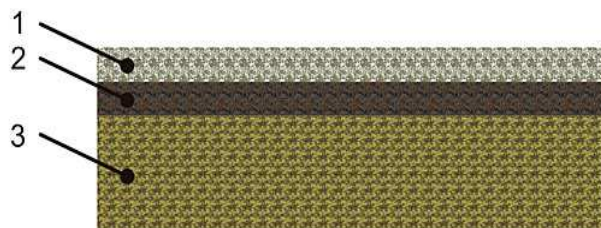


Figure 2 – Infraheating - Cut panel [2].

The infrared energy is a form of thermal energy, which in contrast to other forms of energy not used as a transport medium of ambient air. Due to the characteristics of infrared radiation heats more than 80% directly to the surrounding solids and only less than 20% of the ambient air. The biggest advantage of this method lies in the heat rays penetrate to a depth of the human body and other solid. As a consequence of the penetration of heat into the human body and the surrounding areas is a nice warm feeling of warmth in people, which are located in the following space heating. Stimulation of the human body infra-red rays have beneficial effects on the human body.

- providing thermal comfort
- minimum air circulation – lower dust whirling – convenient for allergists
- dry and warm walls (comparing to conventional heating)
- low consumption of electricity comparing to direct-heating electric convectors
- reasonable purchase costs
- interior decoration – individual design of panels
- long service life

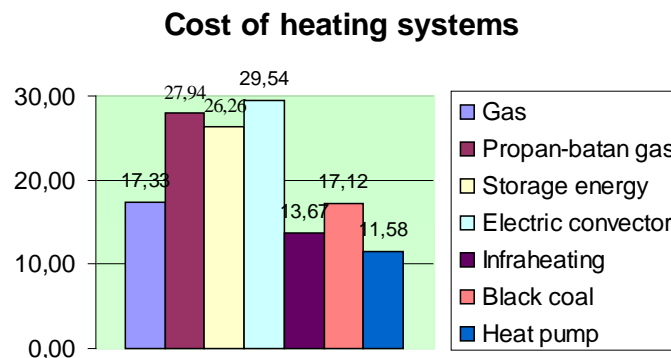


Figure 3 – Cut panel [3].

50% of the current rates are due to this method of heating spared. Heat wave function as the sun's rays - heat waves heat objects and solids in the room and not the surrounding air - the heat is immediately secured as required. Other systems heat the air to circulate after heating begins. The result is winter in the floor and heat in the ceiling. The air temperature can be reduced due to the heat waves of 2-4 degrees in the same sense of heat. Heat to heat waves is also healthier. Shall not be any articles or substances from which emerged black, or other nuisances, which would adversely affect the human body. With heat waves, there is no swirl of dust.

2. CONCLUSIONS

With heat wave heating can be temperature of ambient air, compared to other modes of heating, to reduce. Feeling the heat is nice and at a lower temperature of ambient air. Heat is spread evenly throughout the room. Heat wave heating systems supplied heat immediately without any initial losses. This saves energy. When is used infrared heating, than can be saved up to 60% of energy. In this manner we can contribute to environmental protection.

REFERENCES

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