

Heat Radiation (Indoor).

When the solar radiation hits the window of a room, the glass (around 90% of the window surface) lets a large part of the electromagnetic radiation pass through unaltered. Depending on the glass characteristic, a part of the solar radiation is reflected, a small part is absorbed, increases the temperature of the glass (the heat is then slowly released to the outside and inside depending on the difference in temperature), and the rest of it is transmitted.

For any given glass it is possible to measure:

- ▶ transmissivity (radiation transmission),
- ▶ reflectivity (radiation reflected)
- ▶ absorptivity (radiation absorbed).

The radiation entering the room will then hit the floor, a solid volume with a thermal mass that will start absorbing the heat of the solar radiation. According to radiation and conduction laws (heat transmission), the air of the room will heat up.

A secondary effect is caused also by the reflection of the sun rays that hit the floor in the first place: a part of the electromagnetic radiation is deflected toward the walls of the room and the ceiling, which will act as the floor absorbing radiation and then releasing heat during a longer period of time.