

DESIGN OF A SOLAR FLOOR HEATING SYSTEM FOR A HOUSE

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SUMMARY

The purpose of the project is to design a solar floor heating system for a house.

The approach followed for the completion of this project is as follows:

a. A suitable system for the distribution of low-temperature heat into the rooms by means of piping embedded into the floor slab is firstly designed.

b. A suitable system for the collection and storage of low-temperature solar energy satisfying the heat requirements of the building is then designed.

c. An auxiliary energy source will be used, since solar energy alone cannot overcome the heat requirements of the building, together with the solar energy source.

d. Afterwards, the determination of the size of solar collectors, storage unit, pumps, piping and other equipment and accessories involved in the system, including all necessary instrumentation and controls is done.

A compromise between the two sources of energy is found and optimum conditions are available.

e. Next, a cost-estimate is provided showing the total cost of the system together with the cost of each component used in the system.

g. Finally, detailed drawing showing the system layout and components are prepared.

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