

Free object description report example

[Food & Diet](#), [Cooking](#)



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MEMORANDUM

This memorandum gives a description the extended description of how solar heat is generated for cooking. This description will include sections as follows: purpose of the concept, principles of heat, materials requirements, design principles, operation of solar cooking device, and future development. With this information, the basic description of the concept of solar cooking shall have been described.

Purpose of the concept

Solar cooking is a technology that is utilized in using the solar energy to generate heat for cooking. This is a technology that has been seen to help many users utilize solar energy for cooking. With this technology, energy from the solar system has been tapped for constructive use.

Principles of generating heat

Heat is generated in a solar cooker because the internal part of the device gets heat by the energy from the sun. Rays of the sun get absorbed in the box through the plastic/glass top and is absorbed by the dark sides of the box. This absorbed heat will increase the heat inside the box until the heat that is gained by the box is equal to the heat that is lost. With this, the temperature that is enough for cooking is achieved by the box.

Materials requirements

There are requirements that will be needed in order for the solar box to work efficiently. There is the need to have structural and insulation materials, the ability to retain moisture, and material which is transparent. The structural materials are required in order to give the solar cooker the shape that is required. Good materials that can be used for structural setting include cardboard, metal, and wood. The interior materials should have the ability to retain heat and increase the heat that is generated from the solar rays. There is a need to have insulating materials from the internal part of the box. Good materials for insulation include aluminum foil, spun fiberglass, and down feathers.

One of the surfaces of the device should be transparent and should be placed to face the sun. This is so that it is able to allow the rays of the sun to enter the box. This will generate the greenhouse effect. The materials should also be able to retain the water migration process that comes as a result of food that has been cooked. Most food content has water which will evaporate.

Design proportion

The size of the cooker box should be designed with a number of factors taken into consideration. One of the factors includes the purpose of the cooking. It will be important to understand for what purpose the cooking will be done. The mobility of the box should also be taken into consideration. Boxes which are moved often should be designed so that they are easily moved from one place to another. The cookware that is normally used for cooking should be included in the box. This will enable the box to be able to accommodate any materials that have been used to aid cooking (Panwar, Kaushik, & Kothari, 2012).

The proportion of the open space for collecting solar should be desirable. The bigger it is, the higher the heat energy that will be generated from the box. It is important to understand this principle so that the design takes into consideration this issue. The design of the angle of elevation to the sun should also be put into consideration so that the optimum energy from the sun is obtained from the box. As the sun rays change due to changes in the sun, there is a need to have the box designed to make the most out of the hottest time of the day. There are also deflectors which have been designed to direct the extra heat to the system.

Operation of the cooking device

Solar devices are able to operate because they have dark surfaces which are able to absorb heat. This light is converted to heat. The transparent top surface of the box is able to let sunlight enter and retain the heat. Once the sunlight enters the box, they are retained in the box. It is one of operating principles of the solar cooker because of the role it plays in the whole

process. There is also the reflection of the extra heat to the spot which will increase the generation of heat. With this, extra heat will be directed for use in the process of cooking.

Future developments

Solar cookers have been used on a small scale for a long time. There is little effort that has been done to tap the enormous energy that the solar system provides. Future developments will see solar cookers used for commercial purposes. It will be important to understand the working of the solar cooker and take advantage of this technology in a commercial setting. This should be researched and implemented so that the technology can be implemented in a commercial environment.

Reference

Panwar, N. L., Kaushik, S. C., & Kothari, S. (2012). State of the art of solar cooking: An overview. *Renewable and Sustainable Energy Reviews*, 16(6), 3776-3785.