

عنوان مقاله:

An Experimental Study on the Effect of Thermal Shield on Energy Saving in Cooking Pot

محل انتشار:

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خلاصه مقاله:

The present study aims at reducing the energy consumption in the cooking process by using a simple technical method, a thermal shield around the cooking pot. The research has conducted experimentally and the effect of the thermal shield on the thermal efficiency was investigated regarding the geometric parameters of the pot (diameter and height) and the amount of fluid in the pre and post-boiling stages. The results showed that the thermal shield has a positive effect on pre-boiling stage leading to an average amount of 20% energy savings independent of geometry and the amount of fluid. It was also shown that effect of thermal shield in the boiling stage is a function of liquid height inside the container. Also, for a constant value of thermal energy, the effect of thermal shield increases with the container height without limitation. It was also shown that the effect of the thermal shield in boiling stage is a function of the height of liquid inside the container. Finally, an economic investigation for Iranian households showed that utilization of a thermal shield in cooking process will save energy consumption equivalent to 12.5 million barrels oil per year.

کلمات کلیدی:

Cooking Pot Energy Energy Consumption Energy Saving Fossil Fuel

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