SOLAR DESALINATION-EFFECT OF CEMENT ABSORBER IN DOUBLE SLOPE SOLAR STILL

P. U. SUNEESH[1], R. JAYAPRAKASH[2] & SANJAY KUMAR[3]

[1]Research & Development Centre, Bharathiyar University, Coimbatore, Tamil Nadu, India

[2]Solar Energy Laboratory, Department of Physics, Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore, Tamil Nadu, India

[3]Department of Physics, BR Ambedkar University, Muzaffarpur, Bihar, India

ABSTRACT

Performance analysis of two segment "V" type solar still with cement block absorber is presented in this paper. The internal heat transfer modes are studied. The efficiency of the still is estimated in two ways. The overall efficiency of the still is 20% without cement blocks and 24% with cement blocks. Heat absorption property of cement is used for better output. The efficiency of the still, variation of internal heat transfer, variation of distillate yield are presented. The experimental properties of the still is estimated and compared under similar climatic conditions. The solar still experimentally tested on typical summer days in Coimbatore (11°.00 N, 77°.00 E), in particular, and India's climatic conditions. Hourly inner as well as the outer glass temperature, ambient air temperature and solar radiations were recorded during the sunny days.

KEYWORDS: Solar Still, Fresh Water, Glass, Cement Block