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# THERMAL SCIENCE

## International Scientific Journal

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### SOLAR EQUIPMENT FOR PREHEATING BITUMEN

#### ABSTRACT

This paper presents results of the research and development of the process for preheating bitumen using solar energy obtained at the Polytechnic University of Timișoara. The aim of the research was examination of the opportunity to use solar energy for preheating bitumen and to optimize connection between several solar collectors. Results of the investigation were tested in real industrial conditions by organizing slow process of the solar exposure in passive regime on the roof of the building where the bitumen is stored. In present paper laboratory installation using solar energy for heating bitumen in close to real conditions is described. The experimental results indicates an efficiency about of 2 - 30% and the temperature level of 54-57°C. In second part of the paper the results obtained at the industrial installation for bitumen heating in large reservoir containing 30 t of material were analyzed. Paper is addressed to the specialists' aiming to extend use of solar energy in different fields of application.

#### KEYWORDS

[passive use of solar energy](#), [solar heating](#), [bitumen](#), [warm-up](#), [thermal efficiency](#)

PAPER SUBMITTED: 2006-04-20

PAPER REVISED: 2007-02-20

PAPER ACCEPTED: 2007-02-22

DOI REFERENCE: [TSCI0701127L](#)

CITATION EXPORT: [view in browser](#) or [download as text file](#)

THERMAL SCIENCE YEAR 2007, VOLUME **11**, ISSUE **1**, PAGES [127 - 136]

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