

## Accepted Manuscript

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PII: S1359-4311(16)33639-0

DOI: <http://dx.doi.org/10.1016/j.applthermaleng.2017.05.058>

Reference: ATE 10369

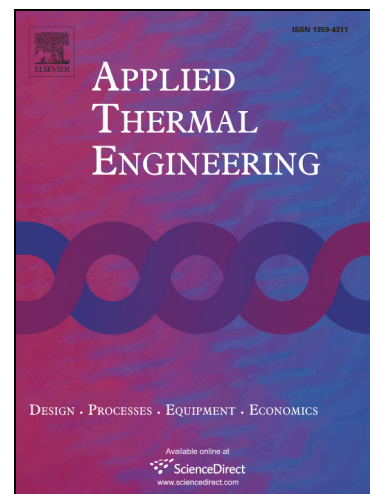
To appear in: *Applied Thermal Engineering*

Received Date: 25 November 2016

Accepted Date: 11 May 2017

Please cite this article as: Chandrashekara, A. Yadav, An Experimental study of the effect of Exfoliated graphite solar coating with a sensible heat storage and Scheffler dish for desalination., *Applied Thermal Engineering* (2017), doi: <http://dx.doi.org/10.1016/j.applthermaleng.2017.05.058>

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# An Experimental study of the effect of Exfoliated graphite solar coating with a sensible heat storage and Scheffler dish for desalination.

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## Abstract

The high-temperature solar coatings and heat transfer fluids play a key role in increasing the performance of concentrating solar power (CSP) / desalination plant. In this paper, the performance of a new type of exfoliated graphite (EG) solar coated on the receiver with sensible heat storage and Scheffler dish is evaluated. The results show that using of exfoliated graphite coating on absorber plate, the system enhances performance up to 40%, thermal stability of 643.9 °C on a rough surface with an absorptivity of more than 97% of the solar incident. The several experiment trials conducted in microwave oven show that, EG has high thermal stability even upto 750 °C and observed no significant degrading of thermal properties. The outcome of this research confirms the suitability of such a system for the cavity, volumetric air and surface receivers used for the various solar thermal applications.

*Keywords:* Scheffler reflector, Exfoliated graphite coated absorber, Sensible heat storage, Desalination.

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