

Accepted Manuscript

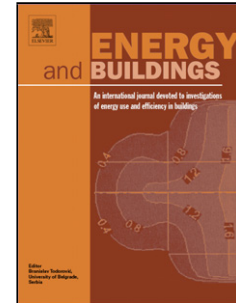
Title: Performance assessment of an ice rink refrigeration system through advanced exergoeconomic analysis method

Author: Gulcan Ozel Erol Emin Açikkalp Arif Hepbasli

PII: S0378-7788(16)30946-X
DOI: <http://dx.doi.org/doi:10.1016/j.enbuild.2016.12.025>
Reference: ENB 7204

To appear in: *ENB*

Received date: 24-9-2016
Revised date: 3-12-2016
Accepted date: 8-12-2016



Please cite this article as: Gulcan Ozel Erol, Emin Açikkalp, Arif Hepbasli, Performance assessment of an ice rink refrigeration system through advanced exergoeconomic analysis method, Energy and Buildings <http://dx.doi.org/10.1016/j.enbuild.2016.12.025>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Performance assessment of an ice rink refrigeration system through advanced exergoeconomic analysis method

Gulcan Ozel Erol^a, Emin Açikkalp^{a*}, and Arif Hepbasli^b

^a*Department of Mechanical and Manufacturing Engineering, Engineering Faculty, Bilecik S.E. University, Bilecik, Turkey*

^b*Department of Energy Systems Engineering, Engineering Faculty, Yasar University, Izmir, Turkey*

***Correspondence to:** Emin Acikkalp, Department of Mechanical and Manufacturing Engineering, Engineering Faculty, Bilecik S.E. University, Bilecik, Turkey.
E-mails: eacikkalp@gmail.com, emin.acikkalp@bilecik.edu.tr
Tel: +90 (228) 2160061 / 1351
Fax: +90 (228) 216 05 88

Highlights

- Advanced exergy analysis is applied to an ice rink refrigeration system first time.
- Advanced exergy and exergoeconomic analysis are combined.
- Refrigeration system is investigated comprehensively in economic aspect.

Abstract

Advanced exergy analysis has gained great importance as a comprehensive evaluation tool for energy conversion systems in recent years. In this regard, splitting the exergy destruction into avoidable/unavoidable parts has enabled us to identify the improvement potential of component while endogenous/exogenous parts of the exergy destruction have been detailed studied to get more information about interactions among the components. An ice rink refrigeration system was investigated using both conventional and advanced exergoeconomic analyses in this paper. The ice rink refrigeration system has a cooling load of 300 kW and ammonia was chosen as refrigerant.

Download English Version:

<https://daneshyari.com/en/article/4919427>

Download Persian Version:

<https://daneshyari.com/article/4919427>

[Daneshyari.com](https://daneshyari.com)