

Author's Accepted Manuscript

The enhanced thermal and mechanical properties of graphite foams with a higher crystallinity and apparent density

Ji-Hyun Kim, Hyung-Ik Lee, Young-Seak Lee



PII: S0921-5093(17)30530-0
DOI: <http://dx.doi.org/10.1016/j.msea.2017.04.071>
Reference: MSA34972

To appear in: *Materials Science & Engineering A*

Received date: 19 September 2016
Revised date: 6 April 2017
Accepted date: 17 April 2017

Cite this article as: Ji-Hyun Kim, Hyung-Ik Lee and Young-Seak Lee, The enhanced thermal and mechanical properties of graphite foams with a higher crystallinity and apparent density, *Materials Science & Engineering A* <http://dx.doi.org/10.1016/j.msea.2017.04.071>

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 galley proof before it is published in its final citable 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.

The enhanced thermal and mechanical properties of graphite foams with a higher crystallinity and apparent density

Ji-Hyun Kim, Hyung-Ik Lee^a, Young-Seak Lee^{*}

Department of Chemical Engineering and Applied Chemistry, Chungnam National University,

220 Gung-dong, Yuseong-gu, Daejeon 34134, Korea

^aThe 4th R&D Institute-4, Agency for Defense Development,

Daejeon 34186, Korea

*Corresponding author. Tel.: +82 42 821 7007; Fax: +82 42 822 6637.

E-mail address: youngslee@cnu.ac.kr (Y.S. Lee)

Abstract

Graphite powder, which has a highly graphitic structure, is used as filler material in the preparation of graphite foams (GFms) and enhances the foams' thermal-mechanical properties. GFms are prepared using the hydrogel template method with mesophase pitch, polyvinyl alcohol-acrylic acid (PVA-AAc) solution and graphite powder. GFms containing 0.3 w/w% added graphite exhibit as much as an 11.18% increase in crystalline thickness (Lc)

Download English Version:

<https://daneshyari.com/en/article/5456004>

Download Persian Version:

<https://daneshyari.com/article/5456004>

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