

Close

Web of Science™
Page 1 (Records 1 -- 1)

Print

◀ [1] ▶

Record 1 of 1

Title: Experimental determination of mechanical properties of aluminium foams using Digital Image Correlation**Author(s):** Voiconi, T (Voiconi, Tudor); Linul, E (Linul, Emanoil); Marsavina, L (Marsavina, Liviu); Kovacik, J (Kovacik, Jaroslav); Knec, M (Knec, Marcin)**Edited by:** Marsavina L**Source:** PROCEEDINGS OF THE 14TH SYMPOSIUM ON EXPERIMENTAL STRESS ANALYSIS AND MATERIALS TESTING **Book Series:** Key Engineering Materials **Volume:** 601 **Pages:** 254-+ **DOI:** 10.4028/www.scientific.net/KEM.601.254 **Published:** 2014**Times Cited in Web of Science Core Collection:** 3**Total Times Cited:** 3**Usage Count (Last 180 days):** 0**Usage Count (Since 2013):** 5**Cited Reference Count:** 13**Abstract:** This paper presents an experimental characterization of three different types of closed-cell aluminium alloy foams (AlMg1Si0.6, AlSi12Mg0.6 and AlMg0.6Si0.3) under static compressive loading. This study was carried out on half-cylindrical specimens with skin. The influence of foam density on compressive behaviour was investigated for densities ranging from 430 kg/m(3) to 935 kg/m(3). The compression tests were performed at room temperature (23 degrees C) with a constant crosshead speed of 0.5 mm/min. Strain distribution, yield stress and compressive modulus values were recorded using Digital Image Correlation. Experimental results show that the mechanical properties (Young's Modulus, yield stress and plateau stress) increase with density.**Accession Number:** WOS:000343792400059**Language:** English**Document Type:** Proceedings Paper**Conference Title:** 14th Symposium on Experimental Stress Analysis and Materials Testing**Conference Date:** MAY 23-25, 2013**Conference Location:** POLITEHNICA Univ Timisoara, Timisoara, ROMANIA**Conference Sponsors:** AQUATIM SA, ASOCIATIA ROMANA DE TENSOMETR, CONTINENTAL AUTOMOT ROMANIA SRL, FUNDATIA POLITEHNICA TIMISOARA, INICAD SRL, KATHREIN SA, MICRONIX PLUS SRL, PRIMARIA MUNICIPIULUI TIMISOARA, REGIA AUTONOMA DE TRANSPORT TIMISOARA, SELFMED CLINIQUE SRL, SPECTROMAS SRL, STANDARD SERV 2000 SRL, UNIVERSITATEA POLITEHNICA TIMISOARA, ZOPPAS INDUSTRIES ROMANIA SRL**Conference Host:** POLITEHNICA Univ Timisoara**Author Keywords:** Aluminium foams; closed-cell; density; compression tests; DIC; mechanical properties**KeyWords Plus:** 2D CELLULAR STRUCTURES; DEFORMATION; BEHAVIOR; NEAT**Addresses:** [Voiconi, Tudor; Linul, Emanoil; Marsavina, Liviu] POLITEHN Univ Timisoara, Mech & Strength Mat Dept, 1 Mihai Viteazu Ave, Timisoara 300222, Romania.

[Kovacik, Jaroslav] Slovak Acad Sci, Inst Mat & Machine Mech, Bratislava, Slovakia.

[Knec, Marcin] Tech Univ Lublin, Fac Civil Engn & Architecture, Civil Engn Lab, Lublin, Poland.

Reprint Address: Voiconi, T (reprint author), POLITEHN Univ Timisoara, Mech & Strength Mat Dept, 1 Mihai Viteazu Ave, Timisoara 300222, Romania.**E-mail Addresses:** tudor_2015@yahoo.com; linul_emanoil@yahoo.com; lmarsavina@yahoo.com; ummsjk@savba.sk; m.knec@pollub.pl**Author Identifiers:**

Author	ResearcherID Number	ORCID Number
Knec, Marcin	N-7991-2015	0000-0002-1974-7345
Kovacik, Jaroslav	K-2556-2013	0000-0002-6970-0406
LINUL, Emanoil		0000-0001-9090-8917

Publisher: TRANS TECH PUBLICATIONS LTD**Publisher Address:** KREUZSTRASSE 10, 8635 DURNTEN-ZURICH, SWITZERLAND**Web of Science Categories:** Materials Science, Characterization & Testing**Research Areas:** Materials Science**IDS Number:** BB5FQ**ISSN:** 1013-9826**29-char Source Abbrev.:** KEY ENG MATER**Source Item Page Count:** 2**Funding:**

Funding Agency	Grant Number
	PN-II-ID-PCE-2011-3-0456

This work was supported by the grant PN-II-ID-PCE-2011-3-0456. The testing specimens were manufactured at the Institute of Materials & Machine Mechanics, Slovak Academy of Science, Bratislava, Slovakia.

Close

Web of Science™
Page 1 (Records 1 -- 1)

Print

◀ [1] ▶