
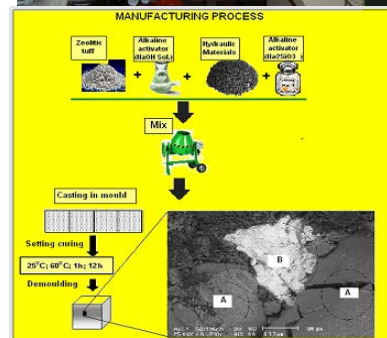


MATERIALS SCIENCE AND ENGINEERING RESEARCH CENTER

Contact details

Name	Materials Science and Engineering Research Center
Acronym	MSERC
Logo	
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Areas of expertise

Nonferrous Alloys

-Casting of nonferrous alloys, metallic powders, Characterization mixtures, heat treatment

Heat and Cold Deformation

Attempts heat and cold deformation by traction and compression for aluminum alloys, extrusion, forging

Surface Engineering

Thin film layers, electroplating, anodizing, corrosion and anticorrosive protection

Analysis Techniques

Determination of physical, chemical and mechanical properties of materials, metallographic analysis of materials (optical microscopy), X-Ray diffraction, SEM

Environmental protection

Environmental protection of industry, Risk assessment

Team

Prof. Dr. Eng. Vasile Hotea, Assoc. Prof. Dr. Eng. Elena Pop, Assist. Prof. Dr. Eng. Gheorghe Iepure, Assist. Prof. Dr. Eng. Jozsef Juhasz, Assist. Prof. Dr. Eng. Aurica Pop, Sing. Loredana Hutira

Representative projects

"**Preventing and removing environmental impacts using geosynthetic materials**", Grant CNCSIS, (2007-2009) Romanian Authority for Scientific Research (Joint Applied Research Project), http://frmm.ubm.ro/index_rom.htm
LEXIN, "**Applied research on green heating technology and biogenetic type LEXIN**", LEXIN Group (AGDE RUITER BEHEER BV, LEXIN HOLDING BV, LEXIN International B.V.), LEXIN Produktion GMBH, http://frmm.ubm.ro/index_rom.htm (2008-2009)

Significant results

The most representative publications of the past 5 years:

1. M. M. Chicos, Gh. Damian, D. Stumbea, N. Buzgar, T. Ungureanu, V. Nica, Gh. Iepure, Mineralogy and geochemistry of the tailings pond from straja valley (Suceava county, Romania). factors affecting the mobility of the elements on the surface of the waste deposit, Carpathian Journal of Earth and Environmental Sciences, Vol.1, No.1, 2016, pp. 265-280
2. V. Hotea, „Clean Technology of Lead Recovery from Spent Lead Paste”, in *Recent Researches in Applied Economics and Management, Economic Aspects of Environment*, vol. 2, august 27-29, 2013, pp. 263-270
3. J. Juhasz, „Modern Systems for Processing of Brasses and Bronzes with Gas Filtration”, in *Recent Researches in Applied Economics and Management, Economic Aspects of Environment*, vol. 2, august 27-29, 2013, pp. 259-263

4. Pop, I. Vida-Simiti, G. Damian, G. Iepure, "Removal of Heavy Metals from Wastewaters by Using Zeolitic Tuff", in *Carpathian Journal of Earth and Environmental Sciences*, vol. 7, no. 1, 2012, pp.239-248
5. E. Pop, N. Băncilă, V. Hotea, A. Pop, R. Pop, "The use of the geosynthetic materials for the antierosional protection of the metallurgical tailing", in *Metalurgija*, Croatia, vol. 48, no. 1, 2009, pp. 55-59
6. Juhasz, "Experimental researches on the copper electrolyte purification", in *Metalurgia International*, vol. 14, no. 6, 2009, pp. 5-10
7. Juhasz, V. Hotea, E. Pop, I. Smical, "Experimental researches concerning nickel precipitation on the copper electrolyte purification", in *Metalurgia International*, vol. 14, no. 7, 2009, pp. 72-76
8. Gh. Iepure, I. Vida-Simiti, N. Jumate, M. Ciurdas, V. Hotea, I. Juhasz, "Effect of ZrO₂ particles upon Cu-ZrO₂ material used for the spot welding electrodes", in *Metalurgia International*, vol. 14, no. 6, 2009, pp. 21-25
9. V.Hotea, I. Smical, G. Bădescu, "Thermodynamical considerations regarding the residual concentration calculation of impurities within the copper oxidative refining", *Revista Metalurgia International*, vol.XIII (8), 2008, pp. 28-33
10. Juhasz, I. Constantin, V. Hotea, E. Pop, M. Podariu, "Researches on the electrolyte purification and the useful elements recovery in the copper electrolytic refining process", in *Revue Roumaine de Chimie*, vol. 53, no. 5, 2008, pp. 369-377
11. M. Buzatu, P. Moldovan, D. Bojin, M. Buțu, I. Juhasz, E. Pop, "Characterization of the Products and by-Products Obtained in the Electrolytic Refining of Copper Using Scraps", in *Revista de Chimie*, vol. 59, nr. 6, 2008, pp. 664-668

Patents

- V. Hotea, G. Bădescu, J. Juhasz, The Plant of Removing Carbon Dioxide from Waste Gases, Patent No. RO 127080/30.10.2015
- V. Hotea, The plant for Capture of Sulfur Dioxide and Carbon Dioxide in the Flue Gases, Patent No. RO 125756 B1 29.11.2012
- J. Jozsef, Process of obtaining from the concentrates of cupric oxide pellets, Patent No. RO125453B1, 2010
- V. Hotea, Installation of a Continuously Supply of Cold Materials Processed Through Melting, Patent No. RO 122230/27.02.2009

The offer addressed to the economic environment

Research & development	Initiative in attracting funds pre-competitive research projects in public-private partnership initiated, especially those that involve collaboration with our university. The objective of these projects is to create new products and technologies with potential commercial exploitation. Focus of research efforts of our team to clearly identified problems to businesses through involvement in research and development projects representatives demand, especially that coming from regional multinational companies (Universal Alloy Corporation-USA) in the field of Materials Engineering, and national public authorities.
Consulting	Attracting customers (public and private agencies) with little experience in Materials Engineering to acquisition technologies underlying our research excellence for the the correct choice of materials, electrochemical coating technologies, fault analysis, development ferrous alloys, environmental protection industry.
Applied engineering services	Analysis and characterization of metallic materials, metallographic analysis, mechanical characterization, thermal shock, mechanical and corrosive behavior.
Training	Applications on courses, informal training type, indirect training, community integration, knowledge management in the field of Engineering Materials practical activities training.