KNOW-HOW IN METAL MATRIX COMPOSITES

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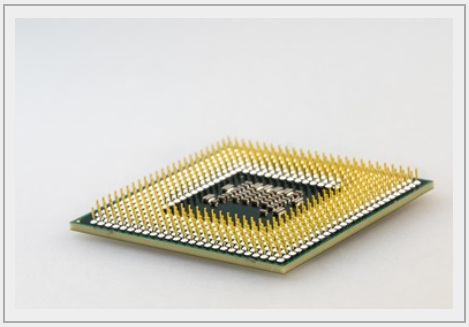
ABSTRACT

The research group of Condensed Matter Physics possesses the know-how necessary to develop composites metal-ceramic. It obtains these materials by means of liquid aluminium mixed with other particles, or by means of infiltration to low pressure of particles.

These materials possess interesting properties for diverse industries (automotion, electronic, microelectrónica, etc.).

The research group looks for partners to establish technical projects to develop new compound materials ceramic/metal with diverse applications.



TECHNICAL DESCRIPTION

The Metallurgy Group of the Applied Physics Department at the University of Alicante has the know-how to develop metal matrix composites. Two types of Metal/ceramic interfaces are mainly investigated:

1) Materials produced by liquid metal (mainly aluminium) and ceramic particles direct mixture (less than 25% of particles).

2) Materials produced by low pressure infiltration process of particles or fibres (up to 70% of reinforcement).

ADVANTAGES AND INNOVATIVE ASPECTS

New materials with interesting properties for several industries are being developed.

CURRENT STATE OF DEVELOPMENT

Several laboratory tests have been carried out. Nowadays we are able both to manufacture and to evaluate technical properties on the mentioned materials. Two crucible machinery (3 and 60 Kg.) are available.

MARKET APPLICATIONS

The application of these metal matrix composites could be of interest to automotive and microelectronic industries.

COLLABORATION SOUGHT

Partners to establish technical projects to develop new metal matrix materials are sought.

MARKET APPLICATION (3)

Materials and Nanotechnology
Chemical Technology
Transport and Automotive