

Think Magnetic Alloy, Think IMPHY Alloys. *Frédéric BLOCH - Imphy.*



The Imphy Alloys company (ARCELOR group) sales Iron-Nickel and Iron-Cobalt alloys under the form of precise laminated products, as well as nanocrystalline alloys under ribbon form. These products are also sold under the form of core or cut pieces by Mecagis, sister company of Imphy Alloys. These alloys have more often very interesting magnetic characteristics especially when you want to increase volumic and mass power for electrical actuators, in order to decrease their electric consumption, to transform signal with low noise or even to efficiently protect from electromagnetic disturbances.



Moreover, these alloys may present some interesting thermal, mechanical or distension properties.

The great part played by soft magnetic alloys in the functioning of modern electric system has been boosted these last years. The progressive electrification of sectors such as automotive or aeronautic shows it exactly, such as the more and more use of shielding solutions to satisfy norm constraints due to electromagnetic disturbances.

When using modelling, it is really important to know precisely material characteristics to have modelling results closer to reality. It is in this view that collaboration between Cedrat and Imphy Alloys has been engaged. A part of materials commercialised by Imphy Alloys has been characterised with great care, and integrated to the FLUX material database of FLUX V9.1. It is therefore possible to simulate electromagnetic systems involving Iron-Cobalt alloys (AFK1, AFK18 and AFK502), Iron-Nickel (Supra 36, Supra 50, MUMETAL, Supermimphy etc.) or na-

nocrystallines (Nanophy). It is well known that magnetic material characteristics depend on the type of realised magnetic anneal after shaping magnetic pieces. It appears important to us to show in the database the influence of the magnetic anneal for some useful materials.



More than the database, Imphy Alloys proposes its technical competences in electrical engineering and in metallurgy to help you in your choice of magnetic alloys the most adapted to your device, as well as the optimisation of using conditions to use this alloy (thermal treatment, thickness) taking into account of external conditions (temperature, field, frequency, corrosion, constraints, ...).

You have the possibility to find the main characteristics of our standards materials on our Web site: www.imphyalloys.com

Great success of Users Meeting 2004.

Marc VILCOT - Cedrat.

The last Users Meeting took place in Grenoble, at the Centre Paul Louis Merlin, the 14th and 15th October 2004. You were more than a hundred gathered to get informed on the last developments on CEDRAT software and to share your experience in using our products. We thank all of you for this interest that makes us progressing.



Users meeting at Schneider Electric.

We would like especially to thank all speakers, starting from Mr Claude RICAUD, Technical and Scientific Senior VP of Schneider Electric. Mr Ricaud underlined the importance of innovation within the Schneider Electric strategy as well as the necessity of cooperation for scientific progress. *"Modelling is essential to understand what is really happening inside the equipment. This makes the difference as we push the technology to the limit"* said Mister Ricaud.

We would like to underline the extreme quality of all external publications made by Applied Magnetics, LEG, LEM, Motor Design, Romande Energie, Schneider Electric, Ugimag, University of Sheffield and Valeo. All these presentations covered various subjects as actuators, breakers, EMC, materials, motors, sensors, transformers and optimisation techniques.

At last, we would like to thank our sponsors who enabled to offer you once again a free of cost User Meeting:

- Schneider Electric : www.schneider-electric.com/: High performance electrical devices.
- UGIMAG : www.ugimag.com/: High performance ferrite magnets.
- Self Car : www.location-voiture-vehicule.com/: Our favourite rental car agency.
- Les caves de la chartreuse : www.chartreuse.fr/: Liquor to taste absolutely!
- CINRA : Our documents printer.

The answers to the final questionnaire showed us you have appreciated this meeting. You are looking forward to seeing you at the next Users Meeting on 2005.



Part of FLUX development Team.