

## International conference Deformation and Fracture in Structural PM Materials

### DF PM 2002

The international conference **Deformation and Fracture in Structural PM Materials - DF PM 2002**, was held in the hotel Academia congress center in Stará Lesná during September 15-18, 2002. The main conference organizers were the Institute of Materials Research of the Slovak Academy of Sciences (IMR SAS) in Košice and Vienna University of Technology, Institute for Chemical Technologies and Analytics. The conference took place under the auspices of the European Powder Metallurgy Association (EPMA). The main conference sponsor was Höganäs AB, Höganäs, Sweden, producer of metallic powders. Also Pramet Slovakia, spol. s r.o., Žilina (commercial representative of Pramet Tools, s r.o., Šumperk), Metalsint, a.s., Dolný Kubín, MIBA Slovakia, s r.o., Dolný Kubín and Elektrokarbon a.s., Topoľčany shared in the sponsoring. The conference was organized in co-operation with Technical University of Košice, Association of Metallurgy, Mining Industry and Geology SR, Slovak Metallurgical Society and Society for New Materials and Technologies. The conference was dedicated by Dr. V. Rušin, a member of the SAS Presidium.



The conference programme was divided into some technical sessions dealing with ferrous materials, non-ferrous materials, gradient materials, new materials, tribology and modelling. The range of materials mentioned included sintered simple steels, steels alloyed by chromium and manganese, tool steels, tungsten, ceramics, intermetallics and, of course, composites. The main goal, on the basis of achieved basic knowledge, was a contribution to the increase of utility properties, and in this way to the possibility of material industry applications for specific components.



In the first parts of the conference the introduction lectures were presented from the above mentioned areas (J. R. Moon, Great Britain, A. Bergmark, Sweden, S. A. Firstov, Ukraine, M. Rosso, Italy, M. Šlesár, SR, J. M. Torralba, Spain, S. T. Mandziej, Netherland, J. Kübarsepp, Estonia). In the session *Mechanical Properties, Deformation and Fracture - Ferrous PM Materials* 9 lectures were presented, in the session *Mechanical Properties, Deformation and Fracture - Non-Ferrous PM Materials* 4 lectures were presented, in the session *Mechanical Properties, Deformation and Fracture - Gradient Materials* 4 lectures were presented, in the session *New Materials* 7 lectures were presented and in the session *Tribology, Modelling* 5 lectures were presented. Together 37 lectures (9 of them from

Slovakia) and 31 posters were presented during the conference. The individual sessions were chaired by specialists from abroad and from Slovakia. The conference language was English.

110 specialists from 21 countries (Austria, Belorussia, Bulgaria, Czech Republic, Estonia, Finland, Germany, Great Britain, Hungary, Iran, Israel, Italy, Netherlands, Poland, Rumania, Russia, Slovak Republic, Spain, Sweden, Ukraine and Yugoslavia,) took part on the conference.



The participants took advantage of the conference stay for establishing new contacts. Also, a social programme also for the accompanying persons (a lecture of the High Tatras Mountain Rescue Service member, a visit of High Tatras, Spišská Belá, Levoča and Spiš castle) contributed to the conference's successful course. The conference participants highly appreciated the professional level and organizational preparation of the conference.

The two-part proceedings of lectures and posters from the conference *Deformation and Fracture in Structural PM Materials - DF PM 2002* were issued (edited by Ľ. Parilák and H. Danninger) in English. The first part covering 354 pages contains 42 lectures, and the second one of 235 pages involves texts of 49 posters. The proceedings were issued as CD-ROM, too. The participants obtained the proceedings in both versions upon registration.

In connection with the DF PM 2002 conference, the following three relevant meetings took place in Stará Lesná:

- meeting of the members of the Advisory Board (Editorial Board and International Advisory Board), the Editorial Office, and of the co-editors for the new PM journal *Powder Metallurgy Progress*, held on September, 16, 2002;
- Industrial Symposium - Fifth Framework Programme - of the project *High Efficiency Forming Technology of Light Weight MMC Components for Automotive and Household Applications*, held on September 14-15, 2002;
- Twice yearly project meeting of the NATO SfP972395 Project *Development of Powder Metallurgy Manganese Steels for Structural Components*, held on September 19-21, 2002.

The journal *Powder Metallurgy Progress* has been edited by the Institute of Materials Research of SAS in Košice from December 2001. Its co-publishers are Institute of Materials and Machine Mechanics of SAS Bratislava, Metalsint, a.s., Dolný Kubín, MIBA Slovakia, s.r.o., Dolný Kubín and Elektrokarbon a.s., Topoľčany. The journal is issued in English 4x per year.



On the wide-spread meeting 8 members of the Editorial Board took part, 15 members of the International Advisory Board from 12 countries, all members of the Editorial Office, and three representatives of co-editors. The IMR SAS director Prof. Ľudovít Parilák presented the members of the Editorial Office. The Editor-in-Chief Dr. Marcela Selecká informed as to actual editorial office activities

and future plans. In discussion chaired by the IAB chairman Prof. Herbert Danning, the goals were accepted and the members of the IAB promised active collaboration mainly in obtaining the scientific and technical articles and the journal's publicity.

Within the 5<sup>th</sup> Framework Programme "AluSiForm G5RD - CT2000 – 00341" the Industrial Symposium was held, in which participated scientists from Finland, Netherland, Spain, France, Poland, Hungary and Slovakia. The symposium was organised by the project researchers from IMR SAS Košice under the supervision of team leader Dr. Juraj Ďurišin. The scientific results of the project research "High Efficiency Forming Technology of Light Weight MMC Components for Automotive and Household Applications" were presented, the exchange of information and knowledge among the research and industry partners was realised with the aim of improving PM AlSiNiFe material, and possibility its application in industry. As guests the representatives of industry took place on symposium, too. The project co-ordinator Prof. S. Kivivuori from Helsinki University of Technology, Finland expressed his satisfaction with the achieved research results as well as with the symposium course. A visit of the High Tatras connected with a trip to Lomnický Peak was a part of the symposium.

Taking part in the regular bi-annual assessment of the project NATO SfP972395 (1999-2003), were Dr. S. C. Mitchell and Prof. A. S. Wronski (University of Bradford, Bradford, UK), Dr. M. Stoytchev (Institut of Metal Science, BAS, Sofia, Bulgaria) and the research team of IMR SAS Košice - Dr. M. Selecká, Dr. A. Šalak, Dr. E. Dudrová, Dr. R. Bureš and PhD students R. Bidulský, V. Simkulet in the presence of Dr. O. Grässel, the NATO consultant. The main aim of the project is the development of sintered manganese steels for structural components, which could replace sintered steels alloyed with expensive and carcinogenic nickel used up to this time. The project researchers reported the properties of developed Fe-Mn-C and Fe-Cr-Mn-C systems achieved under laboratory conditions, as well as the development of specific components. The obtained knowledge was highly appreciated, which, according to Dr. Grässel's statement, is a guarantee for successful project finishing. As part of the social meeting programme, there was a visit to the Red Monastery (Červený Kláštor), and rafting on Dunajec.

I believe that the conference achieved its aims. It is necessary to express the wish that all scientific knowledge and personnel contacts be utilized without delay, pro bono the research institutions and PM industry in European society. In conclusion, I would like to express my thanks to main conference chairmen Prof. Danninger and Prof. Parilák, all conference sponsors, collaborating organisations, the members of the International Advisory Board, and the members of the Programme Committee and Organizing Committee for their support and conference representation.

Dr. Marcela Selecká, PhD.  
Chairperson of the Organizing Committee

## For Sale

### **Deformation and Fracture in Structural PM Materials DF PM 2002**

Proceedings of the International Conference held in the Congress Center Academia,  
Stará Lesná, Slovak Republic, September 15-18, 2002  
Edited by L. Parilák and H. Danninger



Papers dealing with ferrous, non-ferrous, gradient and new PM materials, tribology and modelling. The range of materials mentioned included sintered simple steels, steels alloyed by chromium and manganese, tool steels, tungsten, ceramics, intermetallics and composites. Papers focused on mechanical and physical properties and on deformation and fracture of above mentioned materials, and on application of PM materials. The second volume of the proceedings includes the contributions presented in the poster sessions.

IMR SAS Košice , 2 volume (Vol.1 – 354 pages, Vol.2 – 235 pages), hardcover, 2002  
CD – DF PM 2002  
ISBN 80-968543-1-3

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