

Technological Developments in Cold Forging

This Workshop was provided by Dr. Diane Mynors of Brunel University reporting on two recent conferences she had attended in Turkey, Dr. Peter Standring presenting an overview on the biannual forging conference held in Stuttgart in May and an invited presentation by Roy Woodward of the Aluminium Federation on their recently published Foresight Report.

International Cold Forging Group (ICFG) Simulation Group Meeting, 3 - 4 May 2001, Ankara, Turkey

The ICFG (www.lft.uni-erlangen.de/icfg), through its invited members, forms working sub groups which collect and disseminate knowledge on matters relevant to the cold forging process e.g. ICFG - Tool Life Sub Group http://femlab/me.metu.edu.tr/icfg/literat/literat_index.html. At the ICFG Plenary Meeting in Nuremberg, September 2000, it was agreed that the ICFG would start a new sub group concerned with the numerical simulation of cold forging. The event, reported by Diane Mynors, was the launch of this new ICFG sub group.

The meeting attended by 40 delegates from 20 organisations and 11 countries began with presentations from industrial users including: Hilti International, Krupp Presta, Hatebur and others. These showed the significance of the technique to both large and small companies for the development of new products and the cost reduction of existing ones. Subjects covered included: advanced CAD, elastic and elastic-plastic tool analysis, preform design and process route simulation. Further information can be obtained from sub group Chairman Prof. Tekkaya email: tekkaya@metu.edu.tr.

2nd International Conference on Design and Production of Dies and Moulds, 21-23 June 2001 Kuadasy, Turkey (www.me.metu.edu.tr/diemould)

Information presented at the above included: die design, sheet metal forming, cutting tools, die and mould manufacture, electrodischarge machining, manufacturing features and dimensioning, finite element applications, extrusion, heat treatment, life cycle, cost analysis and production management.

New Developments in Forging Technology, Stuttgart, 14-16 May, 2001

Peter Standring reported that ~ 400 delegates from around the world had attended the event (only five from the UK). The first day included a works visit to the Daimler Chrysler engine plant and forge at Unterturkheim. Of 32 presentations over half were from industrial companies either involved in forging or serving the forging industry. Scene setting papers were from Bosch, "Tendencies in the Automotive Industry OEM - Systems - Components"; Daimler Chrysler, "The Challenge of Car Manufacturing in the 21st Century"; and Hirschvogel, "Forging Technology in Europe and in the United States - Technical or Cultural Difference?"

Presentations on forging developments in ferrous and light metal alloys were given by representatives of the following companies/organisations: Rauchle (lateral extrusion); Daimler Chrysler (cold forging of automotive components); ZI-Kaltumformung (orbital forging); Otto Fuchs (forging of titanium); Fraunhofer Institute Chemnitz (lightweight hollow gear shafts by cross rolling and spin extrusion); Lieber (forging of high-quality components in aluminium) Timminco (properties of extruded and forged Mg-alloys); Audi AG (functional lightweight construction in automotive engineering through the massive forming of magnesium).

Press manufacturers were represented by presentations from: Muller Weingarten, Hatebur, Schuler, Eumuco, Aida Bliss and the Manzoni Group.

Academic and related papers were also given on: numerical modelling, thixoforging and innovative developments of materials and process technology.

Aluminium Federation

Roy Woodward presented a brief overview of the main findings of the recently published Alfred Foresight Report (www.alfed.org.uk). Roy also suggested areas of mutual interest between the Alfred and BCFG. These and other items raised during the previous presentations were discussed at length by members.