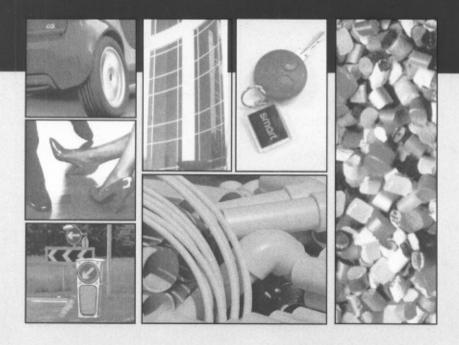
Joining Plastics 2006

Second International Conference on Joining Plastics 25-26 April 2006, London, England

Conference Proceedings







25-26 April 2006 National Physical Laboratory, London, UK

Contents

SESSION 1.	ADHESIVES
Paper 1	Bonding Plastics? Stuck for a solution? Dr Ewen Kellar, TWI Ltd., UK
Paper 2	Joining of plastics by adhesive bonding in automotive engineering Dr Hartwig Lohse, Ashland – Drew Ameroid Deutschland GmbH, Germany & Stephen Pitman, Ashland UK Ltd., UK
Paper 3	New silicone reactive hot melt for plastic bonding Dr Patrick Vandereecken (Belgium), Dr Loren Lower (USA), Dr Klaus Kunz (Germany) & Ross Noel (USA), Dow Corning
Paper 4	Industrial applications bonding plastics with cyanoacrylates and UV curing adhesives Bob Goss, Henkel Loctite Adhesives Ltd., UK
SESSION 2.	ADHESIVE TESTING
Paper 5	A guide to adhesive testing Dr William Broughton, National Physical Laboratory, UK
SESSION 3.	INFRARED WELDING, RESISTANCE WELDING AND HOT PLATE WELDING
Paper 6	An infrared radiation welding of natural thermoplastics using a solid heat sink without causing surface thermal damage Prof Yasuo Kurosaki, University of Electro-Communications, Tomoya Matayoshi, Mitsui Chemicals Inc. & Kimitoshi Sato, Hiroshima Institute of Technology, Japan
Paper 7	Innovations and potentials of high-speed hotplate welding Prof Dr Helmut Potente, Dr Joachim Schnieders & Maik Büssing, University of Paderborn, Germany
SESSION 4.	COMPOSITE JOINTS
Paper 8	Composite bolted joints behaviour: Effects of hole machining defects Gina Gohorianu, Robert Pique & Frédéric Lachaud, ENSICA & Jean-Jacques Barrau, Paul Sabatier University, France
Paper 9	Single-bolt tension joints in pultruded GRP plate - effects of elevated temperature on failure loads, failure modes, load orientation and joint efficiency Dr Geoff Turvey, Lancaster University, UK & P Wang, Schlumberger, UK
Paper 10	Energy absorbing joints between fibre reinforced plastics and metals

SESSION 5. RESISTANCE WELDING Paper 11 Resistance welding of thermoplastic composites using metal mesh heating elements Dr Ali Yousefpour, Marc-André Octeau & Mehdi Hojjati, Institute for Aerospace Research, Canada SESSION 6. PRETREATMENT Paper 12 Vacuum plasma pre-treatment enhances adhesive bonding of plastics in an environmentally friendly and cost effective way Paul Lippens, Europlasma NV, Belgium Paper 13 Surface treatment & engineering of plastics by online atmospheric plasma for industrial applications Dr Bhukan Parbhoo, Surface Chemistry Performance, UK & Dr Thierry Sindzingre, Mr Mathieu Thomachot & Ms Eva Jouvet, AcXys Technologies, France SESSION 7. **BONDING FLUOROPLASTICS** Paper 14 Adhesion to Fluoropolymers Dr Derek Brewis & Dr Ralf Dahm, Loughborough University, UK ULTRASONIC WELDING AND VIBRATION WELDING SESSION 8. Ultrasonic & linear vibration welding of plastics - process selection & part design Paper 15 Peter Wells, Branson Ultrasonics, UK Paper 16 Innovative component and joint designs for successful ultrasonic welding and joining of thermoplastics Dr Frank Rawson & Sue Osborne, FFR Ultrasonics Ltd., UK HEATED TOOL WELDING SESSION 9. Paper 17 Influence of internal properties to the weld seam quality Prof. Dr.- Ing. Schmachtenberg, Dr.-Ing. Reiner Luetzeler & Dr.-Ing. Carsten Tuechert, Aachen University of Technology, Germany SESSION 10. LASER WEI DING Paper 18 Application studies using through-transmission laser welding of polymers Dr Marcus Warwick & Marcus Gordon, TWI Ltd., UK Paper 19 Laser welding of plastics - process and production technology Dr Dirk Hänsch, ProLas GmbH, Germany Creating transparent laser weldings on thermoplastic components Paper 20 Dr-Ing Rolf Klein & Dr Gareth McGrath (UK), Gentex Corporation, USA Paper 21 Engineering plastics for laser welding Eric van der Vegte & Dr Marnix van Gurp, DSM Engineering Plastics & Hans Hoekstra & Dr Alexander Stroeks, DSM Research, The Netherlands Paper 22 Laser transmission welding of plastics in medical device manufacturing - how to choose the right laser additive Dr Arno Boehm, BASF Aktiengesellschaft, Germany Paper 23 Colorants and special additives for laser welding Dr Sibylle Glaser, Treffert GmbH & Co.KG, Germany Paper 24 Process monitoring methods in laser welding of plastics Ian Jones & John Rudlin, TWI Ltd., UK