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## **Preliminary Program EURADH '92**

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## EURADH '92

### EUROPEAN ADHESION CONGRESS AND EXHIBITION

Karlsruhe, Germany, 21–24 September 1992

Apart from the preliminary scientific program given below, the congress will comprise a poster exhibition where companies will present their manufacturing program and/or equipment related to the subject. Interested companies are requested to contact DECHEMA (see address at end of program).

The Congress fee is DM980, including congress card, preprints, congress dinner and drinks during breaks.

#### TECHNICAL PROGRAM

##### Monday, 21 September 1992

- 17.00 Opening-Session  
Bürgermeister, Karlsruhe  
W. Brockmann, Kaiserslautern  
J. Schultz, Mulhouse/F  
17.30 L. H. Sharpe, Hilton Head, SC/USA *Interphases and "Adhesion"*  
18.00 Informal Get-Together

##### Tuesday, 22 September 1992

- 9.00 Plenary Lecture  
A. N. Gent, Akron, OH/USA *Fracture energy for adhesive bonds*  
9.30 Plenary Lecture  
K. Tsutsumi, Toyohashi/J *Application of calorimetry to surface and interface characterization*  
10.00 Break
- Session A: Surface Science, Chemistry and Durability**
- 10.30 R. J. Pugh, Stockholm/S *Acid-base sites on mineral fillers*  
F. Garbassi, M. Morra, E. Occhiello, Novara/I *Properties influencing adhesion in polymer surfaces*  
M. Fischer, H.-P. Haerri, A. Mühlebach, G. Dietler, S. Nowak, Fribourg/CH *Surface properties of polypropylene and their relevance in adhesion*  
L.-H. Lee, Webster, NY/USA *Molecular bonding mechanism for solid adhesion*  
V. Granier, A. Sartre, M. Joanicot, Aubervilliers/F *An atomic force microscopy study of the wetting of an inorganic surface by latex particles*  
M. A. Romero, Voreppe; B. Chabert, A. Domard, Villeurbanne/F *I.R. spectroscopy approach for the study of interactions between an oxidised aluminium surface and a poly(propylene-g-acrylic acid) film*

**Session B: Testing, Fracture Mechanics and Design**

- 10.30 M. Schlimmer, Paderborn/D *Modelling of fracture mechanics in shear-stressed joints*  
 V. Weissberg, H. Leibowitz, Tel Aviv/IL *Evaluation of adhesives fracture resistance—a practical method*  
 A. B. Silberman, Kazan/SU *Locus of failure and relaxation properties of polymer surface layers in adhesive joints*  
 T. G. Maciá-Agulló, J. C. Fernández-García, N. Pastor-Sempere, A. C. Orgilés-Barceló, J. M. Martín-Martínez, Alicante/E *Adhesion between synthetic rubber and polyurethane adhesives containing silica*  
 B. Hüsgen, O. Hahn, Paderborn/D *Influence of the bonding parameters on the properties of bonded joints*  
 Xia Wen Gan, Han Yen Hun, Xian/PRC *Study on single component medium temperature cured epoxy adhesive*

**Session C: Industrial Aspects**

- 10.30 H. Kleinert, W.-D. Kaiser, S. Berger, H.-J. Tiller, Dresden/D *Silicate deposition on metal surfaces by pyrolytic methods—surface treatment for steel and aluminium for industrial application*  
 T. Bercé, M. Kornmann, J. Vermot-Gaud, Genève/CH *High speed curing activated by a frequency field*  
 R. Wefringhaus, W.-D. Beiersdorf, H. Scheer, Düsseldorf/D *Aqueous adhesives for rubber and metal as an alternative to solvent containing systems*  
 R. Steiner, Mannheim/D *Natural stone as a light building material of high strength—adhesion technology opens new ways*  
 A. Ball, Cambridge/GB *Advances in adhesives and core fill (syntactic) materials in aerospace applications*  
 H. Stockburger, G. Helwig, Friedrichshafen/D *Adhesive bonding in space technology illustrated by the satellite carrier of Ariane 5*

14.00 Plenary Lecture

H. von Voithenberg, Hamburg/D *Pressure sensitive adhesives*

14.30 Plenary Lecture

J. Cognard, Neuchâtel/CH *Chemical aspects of durability*

15.00 Break

**Session A: Surface Science, Chemistry and Durability**

- 15.30 A. J. Kinloch, G. K. A. Kodokian, London; J. F. Watts, Guildford, Surrey/GB *The adhesion of thermoplastic fibre-composites*  
 M. Brogly, M. Nardin, J. Schultz, Mulhouse; J. Komornicki, M. Bourrel, Artix/F *Influence on tack of the interfacial and rheological properties of the hot-melt adhesives*  
 W. Brockmann, H. Jopp, Kaiserslautern/D *The influence of mechanical pretreatment on adhesion to metals and polymers*  
 L. M. Pritykin, Dnepropetrovsk/SU *Prognosis of the adhesion strength of metals by means of surface energies of cyanoacrylate adhesives*

**Session B: Testing, Fracture Mechanics and Design**

- 15.30 A. Zosel, Ludwigshafen/D *The effect of crosslinking on the adhesion performance and the mechanical behaviour of polymers for the use as pressure sensitive adhesives*  
 B. De Nève, M. E. R. Shanahan, Evry/F *Evolution of mechanical and physicochemical properties of an epoxy adhesive at elevated temperature and humidity*  
 St. Koch, G. Habenicht, K. Dilger, München/D *The properties of glue lines produced with adhesives and sealants with elastic deformation properties under bond*  
 E. V. Pisanova, S. F. Zhandarov, V. A. Dovgialo, Gomel/SU *Reinforcing fibre-thermoplastic matrix interfacial shear strength measurements by three-fibre and SFC methods*

**Session C: Industrial Aspects**

- 15.30 R. Bischoff, Berlin; H. Lohse, Hamburg/D *Adhesion-oriented design and adhesives selection for the example of a washing machine component*  
 H. Beenken, J. Zentgraf, Dortmund/D *Adhesive joining of sheet piling connections for shear stress transmission*  
 J. Jagt, Eindhoven/NL *Adhesive bonding of electronic components*  
 P. A. de Regt, Schiphol/NL *Adhesive bonding of aircraft interior parts*

16.50 Break

**Meet the Experts:**

- Chairman: O.-D. Hennemann, Bremen/D
- 17.00 1. Quality Control  
N.N.
2. Surface Treatment, Durability and Life-Time Prediction  
J. Cognard, Neuchâtel/CH
3. European Standardization in the Future  
B. Smerecki, Paris la Defense/F
- 19.00 End of the Session

**Wednesday, 23 September 1992**

- 9.00 Plenary Lecture  
H. Schreiber, Montreal, QUE/CDN *Adhesion—a vital link in the performance of polymer systems*
- 9.30 Plenary Lecture  
J. P. Langeron, Vitry sur Seine/F *The role of surfaces in industrial application*
- 10.00 Break
- Session A: Surface Science, Chemistry and Durability**
- 10.30 F. Gaillard, H. Hocquaux, M. Romand, Villeurbanne/F *Study by FTIR spectroscopy of the interfacial zone between zinc-coated steels and epoxy adhesives*  
K. Nakajima, Kanagawa/J *The effect of acid-base interaction in coating process*  
M. M. Pastor-Blas, M. S. Sánchez-Adsuar, R. Torregrosa, J. M. Martín-Martínez, J. C. Fernández-García, Alicante/E *Chlorination of synthetic rubber studied by contact angle measurements, infrared spectroscopy and scanning electron microscopy*  
G. A. Nitowski, K. Wefers, Alcoa Center, PA/USA *Experimental evidence for primary bonding and substrate stabilization mechanisms*  
B. R. Guidotti, W. R. Caseri, U. W. Suter, Zürich; W. Saur, Freienbach/CH *New reactions on SiO<sub>2</sub> surfaces in order to bond glass*  
R. Lüschen, Bremen/D *Chromatographical investigations of adhesives*
- Session B: Testing, Fracture Mechanics and Design**
- 10.30 A. Roche, J. Dumas, M. Romand, Villeurbanne/F *Young's modulus determination of bilayered materials by a three point fixture test. Application to adhesive or paint layers on metallic sheets*  
L. Dorn, N. Salem, Berlin/D *Relaxation, creep and long-term strength of bonded joints*  
J. Li, A. Lodini, Reims; M. Perrin, Salay/F *Measurement of the mechanical stresses around glue line in a bonded joint*  
B. Charon, Ph. Tryoen, Artix/F *Investigation of model dynamic cracking of bonded joints*
- Session C: Industrial Aspects**
- 10.30 K. Jud, U. Rempfler, Romanshorn/CH *Semistructural bonding of plastic car body shells*  
P. Spartacus, J. Fonfride, Meudon/F *Determination of the applicability of adhesives on the car production line by rheological analysis*  
M. Hirthammer, M. Schumann, Heidelberg/D *New single-component adhesives for easy application in bonding glass-shields into car-bodies*  
E. Cordes, B. Voigt, Bremen/D *Investigation on the bondability of EPDM-sealing profiles*  
N. S. Rogov, M. W. Kryssin, Moskau/SU *Development of bonding techniques in the Soviet air- and space industry*
- 12.30 Break
- 14.00 Plenary Lecture  
H. Brockmann, Bielefeld/D *Chemical aspects in developing new adhesion promoters*
- 14.30 Plenary Lecture  
J. Lamon, Pessac/F *Fracture mechanics of fibre-matrix interfaces and ceramic composites*
- 15.00 **Introduction into Poster Sessions**  
Session A: Rapporteur: F. Garbassi, Novara/I  
Session B: Rapporteur: A. J. Kinloch, London/GB  
Session C: Rapporteur: H.-G. Cordes, Hamburg/D

**Session A: Surface Science, Chemistry and Durability****15.45 Poster Discussions at the Posters**

- W. Possart, Teltow/D; V. Schlett, Bremen/D *XPS and external reflection FTIR studies on the interaction of PMMA with metals*
- A. Cardon, L. Schillemans, L. Tiny, G. von Vrückenroy, I. Daeden, Brussels/B *Interphase control for long term behaviour*
- E. Rapinese, B. Haidar, A. Vidal, Mulhouse/F *HNBR/Steel: Study of the polymer to metal adhesion*
- H.-J. Tiller, Jena/D *Improvement of adhesion at metal-polymer interfaces through silicate deposition—Theoretical and experimental aspects*
- U. H. Emmerich, Aachen/D *Characterization of surface treatment by laser*
- A. Carré, J. Vial, Avon/F *Simple methods for the prediction of surface energy and its components. Application to polymers*
- C. Bischof, N. Springwald, Teltow/D *Formation and structure of the interface layer in the metal-polymer composite of denture*
- W. Brockmann, R. Hüther, Kaiserslautern/D *Nature of adhesive bonding in adhesives*
- H. Haidara, M.-F. Pinhas, E. Gerard, J. Schultz, Mulhouse/F *Assessment of acid-base interactions at solid-liquid interface through temperature dependent wetting measurements*
- S. Bistac, M. F. Vallat, J. Schultz, Mulhouse/F *Polymer-metal adhesion: Influence of the surface properties of the metal*
- L. Deshayes, M. Charbonnier, M. Romand, Villeurbanne/F *Carbon-plasma films deposited onto metal surfaces—adhesion properties*
- S. Jährg, B. P. Redkov, O. F. Pozdnyakov, M. Bauer, W. Possart, Teltow/D *Investigation of thin polycyanurate layers on metal substrates by mass spectroscopy*
- D. Maccarinelli, M. Mantel, B. Baroux, Uguine; N. S. Prakash, M. Charbonnier, M. Romand, Villeurbanne/F *Adherence of EVA polymer to thermally oxidised 304 stainless steel*
- Schäfer, Th. Gesang, O.-D. Hennemann, H. van Eys, Bremen/D *AEM-investigations of interfaces in electrical conductive bonded joints*
- V. N. Chernin, O. M. Lazebnaya, P. A. Kudryashov, Shebekino/SU *Paint adhesion. Effect of aqueous paint remover components*
- L. M. Pritykin, O. V. Razumova, S. M. Antonov, V. I. Bolshakov, Yu. A. Sokolova, Dnepropetrovsk/SU *The quantitative influence of concentration of new fillers on the adhesion of epoxy compositions*
- D. Verchere, H. Hocquais, Firminy; T. Marquais, Montataire; G. Gaillard, Villeurbanne/F *Adhesion between galvanized steel and epoxy resin*
- D. Dhaller, A. Pouchelon, L. Vovelle, Saint-Fons/F *Adhesive properties of silicone surfaces: mosaic effect*
- C. Aiguillon, D. Sage, Villeurbanne; Ph. Blanchard, Bordeaux/F *The use of plasma treatment to improve the wettability of polyolefin nonwoven fabrics by potassium hydroxide*
- C. Germain, D. Sage, Villeurbanne; P. de Saint-Romain, Bourg-lès-Valence/F *Adhesion prediction of inks and polymers through surface characteristics*
- A. I. Kuzawkow, N. I. Egorenkow, Gomel/SU *Thermooxidative interfacial reactions in relation to the adhesion of polymers to metals*
- R. Cuff, G. Baud, J.-P. Besse, M. Jacquet, Aubiere/F *PET-treatment and modification of its surface energy*
- O. W. Cholodilow, A. Ja. Grigorjew, Gomel/SU *Assessment of the real surface area of rough surfaces*
- Y. Grohens, A. Kadmiri, J. Vebrel, Besançon/F *Influence of the thermoplastic matrix on the reactivity of saturated polyester and epoxy-based cross-linkable hot-melts*
- C. Cluzel, G. Baud, J.-P. Besse, M. Jacquet, Aubiere/F *Aluminium deposition on stainless steel: optimized adhesion*
- V. Schmidt, O. Selaff, Hamburg/D *Adhesion prediction through contact angle measurements*
- J. F. Silvain, Talence/F; Q. T. Le, R. Caudano, Namur/B *Influence of the annealing on the AI/PET: TEM and XPS studies*
- C. Boiziau, M. Defranceschi, G. Lecayon, J. Del Halle, Gif-sur-Yvette/F *Molecular engineering of the polymer-metal bond*
- W. Brockmann, Kaiserslautern/D; M. Bremont, Ort ??? /B *The improvement of the durability of steel/epoxy joints in the presence of moisture*

- A. Groß, B. Gerlach, W.-D. Stohrer, Bremen/D *Adsorption experiments as a contribution to the understanding of molecular interaction during adhesion*

**Session B: Testing, Fracture Mechanics and Design**

**15.45 Poster Discussions at the Posters**

- B. Motzko, O. Hahn, Paderborn/D *Investigation of the influence of chemical and physical surface treatment processes on the properties of adhesive joints with zinc-coated thin sheets*
- A. Roche, F. Gaillard, M. Romand, Villeurbanne; J. C. Laout, Lyon/F *Adherence measurements of industrial paints on cold-rolled steels*
- M. Halioui, D. Francois, H. P. Lieurade, Ph. Charbonnet, Chatenay Malabry/F *Fatigue damage in structural bonded joints*
- Y. Baziard, D. Amara, J. Y. Paris, J. A. Petit, Tarbes/F *Adherence and morphology of rough surfaces*
- R. Blomsma, E. H. P. Logtenberg, Delft/NL *Adhesive bonding of metals to concrete*
- L. M. Pritykin, Y. V. Emelyanov, V. L. Vakula, Dnepropetrovsk/SU *The effect of molecular weight of some elastomers on the rubber-to-metal adhesive joints strength*
- A. L. Zaitsev, P. V. Sysoev, Gomel/SU *Chemical process and strength of epoxyphenolic adhesive joint with metal*
- G. K. Hu, M. Halioui, D. Francois, Chatenay Malabry/F *Fracture mechanics for structural adhesive bonded joints*
- J. L. Lataillade, C. Keisler, Talence; Ph. Charbonnet, Montataire/F *Effect of the substrate on the adhesion of a steel-to-steel-bonded joint at high bonding rates*
- B. Charon, Ph. Tryoen, Artix; Ph. Charbonnet, Talence; C. Kreisler, D. Grapotte, Montataire/F *Static and dynamic characterization of the failure of bonded joints*

**Session C: Industrial Aspects**

**15.45 Poster Discussions at the Posters**

- G. Krüger, O.-D. Hennemann, Bremen/D *Painted polymer surfaces—Influence of surface treatment on the adherence of paint*
- R. Heucher, B. Becker, Düsseldorf/D *Water-resistant electronical equipment for cars*
- H. Schuh, Weingarten/D *PUR-hotmelts used in window production*
- M. Kohl, M. Krebs, Heidelberg/D *New rubber-based adhesives for metals in the car-building industries*
- A. Wern, Aachen/D *Measurement of adhesive flow for adhesive application*
- D. Oosting, E. H. P. Logtenberg, Delft/NL *Alternative pretreatment methods for metal surfaces*
- H. Potente, V. Schöppner, Paderborn/D *Adhesion of molten polymers on solid surfaces during welding using heating elements*
- P. Wunderli, Freienbach/CH *BETABRACE—a high performance composite for stiffening body parts*
- H. Sitt, J. Prandy, Anaheim, CA/USA; V. Altstädter, T. Weber, Ludwigshafen/D *METLBOND 1146: A new-generation toughened 120°C curing film adhesive for the aerospace industry*
- G. W. Kötting, Ingolstadt/D *Assessment of adhesion durability by the wedge test*
- W.-M. Kulicke, Hamburg/D *Rheological characterization of adhesives*
- H. Lohse, Hamburg; W. Meier, Wolfsburg/D *Adhesive joining of the supporting structure in modern automotive technology—the example of the new Volkswagen transporter*
- B. Schröder, Reutlingen/D *Collaboration of industry and research institutes in the project “new bonding techniques”*
- J. Jay, Th. Jeggy, Saint-Etienne/F *Expert systems for adhesives and adhesive joints*
- G. Simon, Bremen/D *Industrial application of melt adhesives*
- Merquinsa Company, Barcelona/E (Autor????????) *Special features of polycaprolactone based P.U. for adhesives*
- M. Rasche, Berlin/D *Is there an interrelation between adhesion and wetting*
- K.-M. Rau, Weingarten/D *Custom-made reactive polyurethane melt*
- M. Rasche, Berlin/D *Knowledge of the mechanical properties of adhesives as a prerequisite for correct adhesives selection*

17.30 End of Poster Discussion

20.00 Congress Dinner

**Thursday, 24 September 1992**

- 9.00 Plenary Lecture  
R. D. Adams, Bristol/GB *Testing of adhesives and joints: What is the value?*
- 9.30 Plenary Lecture  
Th. Rice-Jones, London/GB *The European Adhesive Market: Latest trends and figures*
- 10.00 Break

**Session A: Surface Science, Chemistry and Durability**

- 10.30 M. Bauer, Teltow/D *Polycyanurates—an innovative class of materials*  
S. S. Pessezkiy, W. J.W. Starshinskiy, Gornel/SU *Contact processes and adhesion of thin films of hetero-chain thermoplastic materials to metals*  
J. G. Dillard, B. L. Holmes, J. C. Wells, K. L. Wolfe, B. Thompson, Blacksburg, VA/USA *Durability and surface characterization in adhesive bonding of composites*  
R. J. Davies, M. Ritchie, Birmingham/GB *The development of pretreatments for the adhesive bonding and surface protection of continuous fibre reinforced aluminium metal matrix composite components*

**Session B: Testing, Fracture Mechanics and Design**

- 10.30 J. L. Lataillade, B. Charon, D. Grapotte, Talence, Artix/F *Study of the adhesive strength of bonded joints under dynamic testing*  
J. Bischoff, Bremen/D *Dynamic-mechanical thermoanalysis of adhesives*  
M. Halioui, H. P. Lieurade, D. Francois, F. Goncalves, Chatenay Malabry/F *Study of fatigue cracking of lapped joints*  
K. Ikegami, H. Kyougoku, T. Sugibayashi, Yokohama/J *Application of adhesive bonding to shaft joints*

**Session C: Industrial Aspects**

- 10.30 H. Poulis, E. H. P. Logtenberg, Delft/NL *Adhesive bonding of microstructures in artificial hands*  
H. Beenken, Dortmund/D; S. Singh, Ingolstadt/D *Dynamic behaviour of adhesive bonded joints*  
W. Hilla, G. W. Kötting, Ingolstadt/D *Spot welding-adhesive joining: fabrication and medical aspects*  
G. W. Kötting, M. Friedrich, Ingolstadt/D *Car body adhesives, properties of adhesives and components*

11.50 End of Session A, Session B, and Session C

**Closing Session**

- 12.00 J. P. Wightman, Blacksburg, VA/USA *Surface chemical aspects*
- 12.30 Closing

For further information, contact:

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