

Programme of AB2023

Author underlined → presenting author

* Plenary lecture

Thursday 13 July 2023			
8:40	AB 2023 Opening (Room A101, also called ‘Auditorium’)		
	Room A101 (Auditorium)		
9:00*	Simulation of adhesive flow and hardening (AB23_108) <u>T Vallée</u> (Fraunhofer IFAM, Germany), H Fricke, F Flaig, M Müller, M Kaufmann, J Wirries, M Rütters		
	Session 1A – Modelling (Chair: A Akhavan-Safar and RDSG Campilho)	Session 1B – Adhesion and surface treatments I (Chair: CSP Borges and J Holtmannspötter)	Session 1C – Adhesives development I (Chair: F Koch and F Aran-Ais)
	Room A101 (Auditorium)	Room B032	Room B035
9:40	A new finite thickness/width rate-dependent cohesive zone model (AB23_21) <u>M Planas Andrés</u> (ISAE SUPAERO, France), E Paroissien, F Lachaud, Pierre Gérard	Alternative solution for developing adhesive surfaces on metal parts joined by adhesive technique in automotive industry (AB23_5) <u>C Baykara</u> (Sakarya University of Applied Sciences, Turkiye)	Development of a biosourced wood adhesive from a chitosan derivated polysaccharide (AB23_1) <u>J Silvestre</u> (Université Clermont Auvergne, France), P Michaud, H de Baynast, C Delattre
10:00	Viscoelastic pull-off of a sphere with a Maugis-Dugdale model (AB23_57) <u>M Ciavarella</u> (Politecnico di Bari, Italy), A Papangelo	Interfacial fracture behavior of cold-sprayed Cu coatings on PEEK and Cu substrates (AB23_6) I Goda, <u>T Zhang</u> (Université de Technologie de Belfort Montbéliard, France), E Padayodi, RN Raelison	Poplar bark adhesive: a sustainable alternative for particleboard manufacturing (AB23_114) <u>RA Fernandes</u> (ARCP – Associação Rede Competência em Polímeros, Portugal), N Ferreira, S Lopes, J Santos, I Ferreira, C Vieira, FD Magalhães, JM Martins, LH Carvalho
10:20	On the influence of modelling hypotheses on strength prediction of CFRP stepped repair (AB23_102) <u>JB Orsatelli</u> (ISAE-SUPAERO, France), E	Application of micrometer-scale digital image correlation to adhesively bonded CFRP joints (AB23_10) <u>JG Diez</u> (Bundeswehr Research Institute for	Bio-based wood adhesives for interior particleboard productions (AB23_63) <u>S Oktay</u> (Kastamonu Entegre Ağaç San. Tic. A.Ş., Türkiye), B Bengü, N Kızılcın

	Paroissien, F Lachaud, S Schwartz	Materials, Fuels and Lubricants (WIWeB), Germany), J Holtmannspötter, E Arikan, P Höfer	
10:40-11:00	COFFEE BREAK (Room under the Auditorium)		
	Session 2A – Joint design I (Chair: RD Adams and D Thévenet)	Session 2B – Adhesive application and joint fabrication (Chair: D Castagnetti and A Bernasconi)	Session 2C – Adhesion and surface treatments II (Chair: R Créac'headec and J Holtmannspötter)
	Room A101 (Auditorium)	Room B032	Room B035
11:00	Electromagnetically assisted adhesive joining (EAAJ): A novel hybrid joining method (AB23_8) <u>D Kumar</u> (IIT Guwahati, Assam, India), SD Kore, A Nandy	Mixture control of 2K adhesives using Electrical Capacitance Tomography (AB23_89) S Voß, <u>M Voß</u> (Fraunhofer IFAM, Germany)	Enhanced mechanical interlocking of adhesive-bonded joints via tailored serrated patterns manufactured with laser ablation (AB23_20) <u>F Musiari</u> (Università di Parma, Italy), F Moroni, A Lutey
11:20	Enhanced interlaminar performance and impact resistance of novel carbon fiber magnesium laminates (AB23_22) <u>X Zhou</u> (Dalian University of Technology, China), SL Xiang, GH Qu	Use of polymer optical fibre fabrics for curing UV adhesives between non-transparent joining parts (AB23_70) <u>R Seewald</u> (RWTH Aachen University, Germany), M Lingemann, J Kallweit, M Pätz, A Schiebahn, T Gries, U Reisgen	The effect of different surface treatments on short-, mid- and long- term zirconia bond strengths (AB23_105) D Shen, H Wang, Y Shi, Z Su, M Hannig, <u>B Fu</u> (Zhejiang University School of Medicine, China)
11:40	Numerical modelling and experimental validation of squeezing flows in the automobile production (AB23_11) <u>M Huf</u> (BMW AG, Germany), <u>H Fricke</u> (Fraunhofer IFAM, Germany)	How adhesives flow during joining (AB23_109) <u>M Kaufmann</u> (Fraunhofer IFAM, Germany), F Flaig, M Mueller, H Fricke, T Vallée	The effect of carbon nanotubes on the mechanical properties of polyurethane paint coating on oak wood (AB23_156) <u>K Brzozowska</u> (Wrocław University of Science and Technology, Poland), A Chowaniec-Michalak, P Niewiadomski, Ł Sadowski
12:00	Failure of architected interfaces (AB23_30) <u>MK Budzik</u> (Aarhus University, Denmark), MA Dias, M Hedvard, A Athanasiadis	Consideration of air pockets and non-newtonian fluids for adhesive squeeze flows (AB23_110) <u>M Müller</u> (Technische Universität Braunschweig, Germany), F Flaig, M	High pressure cold spraying of a systematic series of powders on carbon fiber reinforced thermoplastic composites (AB23_53) <u>T Zhang</u> (University of Technology of Belfort

		Kaufmann, T Vallée, H Fricke	Montbéliard, France), E Padayodi, JC Sagot, RN Raelison
12:20	Experimental identification of cohesive laws for structural adhesive joints in mixed-mode I+III (AB23_84) <u>S Marzi</u> (TH Mittelhessen, Germany)	Optimized adhesive application (AB23_111) <u>M Kaufmann</u> (Fraunhofer IFAM, Germany), F Flaig, M Mueller, H Fricke, T Vallée	Interlaminar bond strength and flexural properties of hybrid woven carbon-flax thermoplastic composites (AB23_54) <u>M Bahrami</u> (Universidad Carlos III de Madrid, Spain), JC del Real, M Mehdikhani3, Y Swolfs, J Butenegro, MA Martínez, J Abenojar
12:40	The fracture behavior of hybrid CFRP laminates reinforced by thin-ply (AB23_50) <u>F Ramezani</u> (INEGI, Portugal), RJC Carbas, EAS Marques, AM Ferreira, LFM da Silva	Optimization strategies to determine ideal application patterns (AB23_112) <u>F Flaig</u> (Technische Universität Braunschweig, Germany), M Müller, M Kaufmann, T Vallée, H Fricke	Influence of high-performance thermoplastic composite manufacturing process on structural adhesive bonding strength (AB23_64) <u>O Pelz</u> (Universität der Bundeswehr Hamburg, Germany), E Arikan, S Abdul, M Fette, J Wulfsberg, J Holtmannspötter
13:00-14:00	LUNCH BREAK (Room under the Auditorium)		
	Room A101 (Auditorium)		
14:00*	Adhesion mechanisms of polymers and the role of surface of chemistry and macroscopic wetting (AB23_26) <u>J Holtmannspötter</u> (WIWeB, Germany), E Arikan, F Zimmer		
	Session 3A – Adhesive properties I (Chair: E Dragoni and EAS Marques)	Session 3B – Joint design II (Chair: C Sato and G Stamoulis)	Session 3C – Adhesion and surface treatments III (Chair: T Vallée and RJC Carbas)
	Room A101 (Auditorium)	Room B032	Room B035
14:40	A torsion specimen for fatigue testing of pressure-assisted bonded interfaces (AB23_56) <u>D Castagnetti</u> (University of Modena and Reggio Emilia, Reggio Emilia, Italy), E Dragoni	Micromechanics of architected interfaces (AB23_32) <u>MA Dias</u> (The University of Edinburgh, UK), AEF Athanasiadis, DN Fernando, MK Budzik	A study on surface treatment methods of metal surface for metal fiber laminates (AB23_141) <u>R Sahu</u> (Chhattisgarh Swami Vivekanand Technical University, India), GK Gupta, PK Ghosh, M Jaiswal
15:00	Cure-shrinkage modeling of two-part adhesives using finite element method (AB23_182)	A coupled adhesion-friction model and its application to 3D gecko spatula peeling (AB23_175)	Experimental and analytical investigation of chemical bonding between laser-treated titanium alloy amorphous surface and epoxy

	<u>M Schiel</u> (Henkel AG & Co., Germany), A Goyal	S Gouravaraju, RA Sauer, <u>SS Gautam</u> (IIT Guwahati, India)	adhesive (AB23_78) <u>S Li</u> (Tongji University, China), J Lin, J Min
15:20	Development of the extended rotational rheometer for the determination of stress- relevant adhesive properties (AB23_72) <u>J Wirries</u> (Fraunhofer IFAM, Germany), T Vallée, M Rütters	Mechanical behavior of peeling for local load on polyimide sheet adhesively bonded to curved surface (AB23_62) <u>A Maesaka</u> (Sony Semiconductor Solutions Corporation, Japan), Y Kakei, T Osaka, M Kuribayashi, Y Kudo, C Sato	Durability of the effectiveness of atmospheric plasma treatment applied to a thermoplastic Styrene-Butadiene-Styrene (SBS) rubber (AB23_85) <u>C Ruzafa-Silvestre</u> (INESCOP, Spain), VM Serrano-Martínez, F Arán-Ais, E Orgilés-Calpena
15:40	High throughput preparation and testing of butt shear joint (BSJ) adhesive bonds (AB23_77) <u>C Kang</u> (Tokyo Institute of Technology, Japan), JJM Machado, Y Sekiguchi, M Ji, C Sato, M Naito	Mechanical behaviour of bonded glass-to-glass SLJs with transparent epoxy adhesive at elevated temperature for load-bearing elements (AB23_74) <u>Y Boutar</u> (Czech Technical University in Prague, Czech Republic), M Eliášová, M Zikmundová	Experimental study on improving interfacial bonding performance between steel and CFRP by laser surface treatment (AB23_160) <u>H Teng</u> (Tongji University, China), HL Wan, FZ Sun, JP Lin, JY Min
16:00-16:20	COFFEE BREAK (Room under the Auditorium)		
	Session 4A – Adhesion and surface treatments IV (Chair: A Akhavan-Safar and EAS Marques)	Session 4B – Adhesive properties II (Chair: T Vallée and A Pironi)	Session 4C – Repair and recycling (Chair: A Chiminelli and JG Broughton)
	Room A101 (Auditorium)	Room B032	Room B035
16:20	In-situ destructive testing of additively manufactured parts on extrusion level (AB23_113) <u>R Welker</u> (WIWeB, Germany), E Arikian, F Zimmer, J Holtmannspöetter	Modeling adhesive behavior under reversed cyclic loading (AB23_9) Y Chen, <u>LV Smith</u> (Washington State University, USA)	A model for the prediction of scarfing parameters for bonded repairs of CFRP layers with automated vacuum suction blasting (AB23_4) <u>L Brieskorn</u> (Fraunhofer IFAM, Germany), W Hintze, S D Rajanna
16:40	Effect of laser pretreatment for long-term stabilization of adhesion and evaluation of interfacial strength using mechanoluminescence (AB23_116) <u>N Terasaki</u> (National Institute of Advanced	Mechanical characterization of a novel silane based polyurethane hybrid flexible adhesive (AB23_28) <u>VC Rodrigues</u> (INEGI, Portugal), EAS Marques, RJC Carbas, M Youngberg, A	Using low melting alloys to separate adhesively bonded joints for repair and recycling (AB23_65) <u>PL Geiß</u> (University of Kaiserslautern, Germany)

	Industrial Science and Technology, Japan), Y Fujio, Y Sakata, K Houjo, K Shimamoto, H Akiyama, K Yase, K Kawasaki, S Horiuchi	Dussaud, LFM da Silva	
17:00	Understanding the transfer between pulsed lasers for surface preparation (AB23_106) <u>S Kirchner</u> (IRT Saint Exupéry, France), J Lecomte, L Ferres, T Balutch, C Debras, M Péron, N Cuvillier	Physico-chemical characterization of protein sunflower meals and their chemical modification for wood board panel adhesion (AB23_98) <u>C Casenave</u> (LCPO UMR 5629, France), S Grelier, H Cramail, C Mangeon Pastori	Reversible bonding of adhesives for non-destructive testing of composites (AB23_90) M Eppmann, <u>M Voß</u> (Fraunhofer IFAM, Germany)
17:20	Comparison of the mode I fracture toughness of 3d printed metal-composite co-bonded joints with and without surface treatment (AB23_12) <u>M Gulino</u> (University of Parma, Italy), F Moroni, A Pironi, P Jerrard	Analyzing the fracture properties of structural adhesives considering material non-linearity (AB23_2) <u>G Stamoulis</u> (Université de Bretagne Occidentale, France), N Carrere	Use of intumescent flame-retardant systems in epoxy adhesives for debonding purpose (AB23_60) <u>O Kachouri</u> (Luxembourg Institute of Science and Technology, Luxembourg), J Bardon, D Ruch and A Laachachi
17:40	Surface treatment of thin stainless steel foils for adhesive bonding (AB23_129) <u>CJA Beier</u> (RWTH Aachen University, Germany), K Prinz zu Löwenstein, MK Heym, V Ginster, A Schiebahn, U Reisgen	Enhanced peel-off and shear strength of thermoplastic adhesive tapes modified with sacrificial defects (AB23_7) <u>A Wagih</u> (King Abdullah University of Science and Technology, Kingdom of Saudi Arabia), G Lubineau	Evaluation of in-situ surface preparation methods for composite patch repair of corroded steel pipes (AB23_120) <u>JG Broughton</u> (Oxford Brookes University, UK), R Offer, D Johnson, P Hill
18:00	Development of bonding technology for aluminium alloys with various mechanical, chemical and laser beam surface treatment processes (AB23_152) <u>F Tajti</u> (John Von Neumann University, Hungary), B Körömi, M Berczeli	Development of a unified specimen for adhesive characterisation: Numerical study on the mode I (mDCB) and II (ELS) fracture components (AB23_45) <u>DS Correia</u> (INEGI, Portugal), ID Costa, EAS Marques, RJC Carbas, A Akhavan-Safar, LFM da Silva	Analysis of the influence of basalt powders on the mechanical properties of epoxy coatings (AB23_154) <u>A Chowaniec-Michalak</u> (Wroclaw University of Science and Technology, Poland), S Czarniecki, Ł Sadowski

19:00	Poster session and RECEPTION (Room under the Auditorium)	
Adhesion and surface treatments		
Poster 1	The influence of sandblasting on the strength of aluminium alloy–glass adhesive joints (AB23_34)	<u>J Ogrodniczek</u> (University of Life Sciences in Lublin, Poland), A Rudawska
Poster 2	Synergetic effect of metal-ceramic composite coatings and metal-polymer composite bond coating on LPCS metallization of CFRP composite structures (AB23_55)	<u>T Zhang</u> (University of Technology of Belfort Montbéliard, France), E Padayodi, JC Sagot, RN Raelison
Poster 3	Plasma treatment effects on the wettability and adhesion of commercial rubber (AB23_61)	<u>J Abenojar</u> (Univ Carlos III de Madrid, Spain), MA Martinez, J Butenegro, M Bahrami, D Garcia-Pozuelo
Poster 4	Adhesion of chosen single and multi-layer hard coatings to replaceable cutting inserts made of sintered carbides after laser heating (AB23_101)	<u>MJ Kupczyk</u> (Poznan University of Technology, Poland)
Poster 5	An attempt to verify the theoretical models describing scratch adhesion test (AB23_161)	<u>MJ Kupczyk</u> (Poznan University of Technology, Poland)
Poster 6	The effectiveness of impregnation of building materials of cellulose origin and its impact on mechanical properties (AB23_155)	P Niewiadomski, A Karolak, M Olesiak, <u>A Chowaniec-Michalak</u> (Wroclaw University of Science and Technology, Poland)
Poster 7	Surfactant contamination on the surface of aluminum substrates and its effect on the adhesive and adhesive joint (AB23_38)	<u>CSP Borges</u> (INEGI, Portugal), R Brandão, A Akhavan-Safar, EAS Marques, RJC Carbas, C Ueffing, P Weissgraeber, LFM da Silva
Poster 8	Improvement of automotive joining technologies by surface treatment processes (AB23_166)	<u>M Berczeli</u> (John von Neumann University, Hungary), F Tajti, Z Weltsch
Poster 9	Eco-friendly surface treatment and properties of AA 6061 surface for adhesive bonding (AB23_167)	<u>DG Kang</u> (Sungkyunkwan University, South Korea), J-H Kim, S-B Jung
Poster 10	Laser-induced topological surface structures investigated by 3D elemental analysis by STEM-EDX tomography (AB23_170)	<u>S Horiuchi</u> (National Institute of Advanced Industrial Science and Technology, Japan), K Yase, T Hanada, M Arai, N Terasaki
Poster 11	Adhesion of biobased composite patches (AB23_176)	<u>MA Tazi</u> (CESI LINEACT, France), M Jebli, S Teixeira de Freitas, P Casari, S de Barros
Poster 12	Resin coating concept with less environmental impact (AB23_178)	<u>Ł Kampa</u> (Wroclaw University of Science and Technology, Poland), Ł Sadowski
Adhesives development		
Poster 13	Analysis of acoustic absorption coefficients and characterisation	<u>I Miturska-Barańska</u> (Lublin University of Technology, Poland.), A

	of epoxy adhesive compositions based on the reaction product of bisphenol A with epichlorohydrin modified with fillers (AB23_158)	Rudawska, L Sobotova, E Olewnik-Kruszkowska, M Müller, M Hromasová
Poster 14	Silicone pressure-sensitive adhesives modified with halloysite of increased thermal resistance (AB23_180)	<u>K Mozelewska</u> (West Pomeranian University of Technology in Szczecin, Poland), AK Antosik, P Miądlicki, M Musik
Adhesive properties		
Poster 15	Mechanical properties of unmodified and montmorillonite-modified epoxy compounds - Part II tensile test (AB23_33)	<u>A Rudawska</u> (Lublin University of Technology, Poland)
Poster 16	Comparative analysis of compressive strength and structure of epoxy adhesive compounds containing fillers with good thermal conductivity (AB23_35)	<u>J Ogrodniczek</u> (University of Life Sciences in Lublin, Poland), A Rudawska, M Müller
Poster 17	Effects of strain rate and temperature on mixed mode fracture behaviour of polyurethane adhesives (AB23_43)	<u>M Ribas</u> (University of Porto, Portugal.), A Akhavan-Safar, EAS Marques, RJC Carbas, S Wenig, LFM da Silva
Poster 18	Numerical model to predict residual stresses induced by curing adhesives based on the extended rotational rheometer (AB23_73)	<u>J Wirries</u> (Fraunhofer IFAM, Germany), T Vallée, M Rütters
Poster 19	Crack length estimation in adhesive bonded joints under mode II quasi-static loading using optical backscatter reflectometry (AB23_135)	<u>M Mehrabi</u> (Politecnico di Milano, Italy), LM Martulli, A Bernasconi, M Carboni
Poster 20	Experimental validation of the characterisation of highly flexible adhesive by DCB test tube (AB23_144)	<u>FJ Simón</u> (Universidad Miguel Hernández, Spain), O Cuadrado, EAS Marques, M Sánchez, LFM da Silva
Poster 21	Self-healing cementitious composite with resin-filled macrotubes modified with granite powder (AB23_150)	M Woźniak, <u>K Krzywiński</u> (Wroclaw University of Science and Technology, Poland), Ł Sadowski
Poster 22	Mode I fatigue-fracture behaviour of adhesives subjected to single and periodic overloads (AB23_138)	<u>FC Sousa</u> (INEGI, Portugal), A Akhavan-Safar, LFM da Silva
Poster 23	SPECSIL – silicone pressure-sensitive adhesives with increased thermal-mechanical properties (AB23_179)	<u>AK Antosik</u> (West Pomeranian University of Technology, Poland), E Kucharska, K Mozelewska
Poster 24	Characterization of bio-based polyurethane adhesives in zero-thickness bonds (AB23_58)	<u>Sh Jalali</u> (INEGI, Portugal), CSP Borges, EAS Marques, RJC Carbas, LFM da Silva
Joint design		
Poster 25	Influence of bent adherends in single-lap joint performance (AB23_25)	VDC Pires, <u>RJC Carbas</u> (INEGI, Portugal), EAS Marques, LFM da Silva

Poster 26	Experimental testing and numerical simulation of joints bonded with a novel silane based polyurethane hybrid flexible adhesive (AB23_29)	<u>VC Rodrigues</u> (INEGI, Portugal), EAS Marques, RJC Carbas, M Youngberg, A Dussaud, LFM da Silva
Poster 27	Design of failure loads and crack growth by width varying interfaces (AB23_31)	<u>MK Budzik</u> (Aarhus University, Denmark), MA Dias, U Hoffman
Poster 28	Influence of strain-rate in single-lap joints bonding multimaterial adherends with thermal residual stresses (AB23_47)	<u>VDC Pires</u> (INEGI, Portugal), RCJ Carbas, EAS Marques, LFM da Silva
Poster 29	Study of composite joints with toughened adherend reinforced by thin-ply (AB23_51)	<u>F Ramezani</u> (INEGI, Portugal), RJC Carbas, EAS Marques, LFM da Silva
Poster 30	Enhancing the mechanical properties of pine wood through a densification process for eco-friendly adhesively bonded joints (AB23_59)	<u>Sh Jalali</u> (INEGI, Portugal), LMRM Corte-Real, CSP Borges, EAS Marques, RJC Carbas, LFM da Silva
Poster 31	Glued-in hardwood rods using bio-sourced adhesives under RT conditions (AB23_67)	J Kolbe, S Koesling, <u>T Vallée</u> (Fraunhofer IFAM, Germany), N Monard, J Haupt, L Schröder
Poster 32	Glued-in hardwood rods using bio-sourced adhesives under severe environmental conditions (AB23_68)	J Kolbe, S Koesling, <u>T Vallée</u> (Fraunhofer IFAM, Germany), N Monard, J Haupt, L Schröder
Poster 33	Mechanical characterization of the behaviour of additively manufactured thermoplastics for use in multimaterial bonded structures (AB23_91)	<u>LPF Garrido</u> (University of Porto, Portugal), MM Kasaei, EAS Marques, RJC Carbas, LFM da Silva
Poster 34	A tool for designing eco-friendly adhesively bonded structures for vehicles (AB23_94)	<u>AMS Couto</u> (University of Porto, Portugal), CSP Borges, P Tsokanas, S Jalali, EAS Marques, RJC Carbas, LFM da Silva
Poster 35	Experimental study on the effect of bonding area dimensions on the mechanical behaviour of composite single lap joint with epoxy and polyurethane adhesives (AB23_104)	<u>M Abbasi</u> (Politecnico di Torino, Italy), R Ciardiello, L Goglio
Poster 36	Load-carrying capacity prediction of rods glued-in parallel to the grain in cross-laminated timber (AB23_69)	<u>T Vallée</u> (Fraunhofer IFAM, Germany), Th Tannert
Poster 37	A new perspective for the mode decoupling of interlaminar fracture tests on bimaterial specimens (AB23_149)	<u>P Tsokanas</u> (INEGI, Portugal), F Mujika, A Arrese, LFM da Silva
Poster 38	Optimization of the geometrical parameters of tongue and groove bonded joints (AB23_164)	<u>MY Haddou</u> (LMPM, Tunisia), S Abid, B Louhichi
Poster 39	Design and testing of multi-material additively bonded impact	<u>LPF Garrido</u> (University of Porto, Portugal), MM Kasaei, EAS

	absorption bonded structures (AB23_92)	Marques, RJC Carbas, LFM da Silva
Poster 40	The performance of hybrid laminate joints under different strain rates (AB23_24)	<u>RCJ Carbas</u> (INEGI, Portugal), F Ramezani, EAS Marques, LFM da Silva
Poster 41	Design and analysis of graded FRP laminates plates varying fiber volume fraction through the thickness (AB23_52)	<u>H Malekinejadbahabadi</u> (INEGI, Portugal), F Ramezani, RCJ Carbas, EAS Marques, LFM da Silva
Non-destructive testing		
Poster 42	Electromechanical impedance damage metrics for void detection in adhesive joints (AB23_14)	<u>AFG Tenreiro</u> (INEGI, Portugal), AM Lopes, LFM da Silva
Poster 43	Load and damage detection of adhesively bonded pipe-socket joints by integrating polymer optical fibers (AB23_130)	J Weiland, <u>CJA Beier</u> (RWTH Aachen University, Germany), M Luber, A Schiebahn, R Engelbrecht, U Reisgen
Durability		
Poster 44	Modification of the epoxides with the metallic fillers – the mechanical properties after ageing in aqueous environments (AB23_23)	A Rudawska, <u>J Szabelski</u> (Lublin University of Technology, Poland)
Poster 45	S-N behavior of adhesive joints: A review (AB23_40)	FC Sousa, P Zamani, <u>A Akhavan-Safar</u> (INEGI, Portugal), LFM da Silva
Poster 46	Investigation of the mechanical behaviour of bonded joints in a cryogenic environment (AB23_71)	<u>R Seewald</u> (RWTH Aachen University, Germany), M Bayer, A Schiebahn, U Reisgen
Poster 47	Development of a cyclic creep testing station tailored to pressure-sensitive adhesives (AB23_162)	<u>EMD Fernandes</u> (INEGI, Portugal), BD Simões, EAS Marques, RJC Carbas, S Maul, P Stihler, P Weißgraeber, LFM da Silva
Poster 48	Experimental determination of the mechanical and fracture properties of different acrylic PSAs (AB23_157)	<u>BD Simões</u> (INEGI, Portugal), EAS Marques, RJC Carbas, S Maul, P Stihler, P Weißgraeber, LFM da Silva
Poster 49	A design and validation process for structural bonded joints exposed to harsh service conditions (AB23_87)	<u>EAS Marques</u> (University of Porto, Portugal), CSP Borges, PDP Nunes, BD Simões, A Akhavan-Safar, RJC Carbas, LFM da Silva
Poster 50	Effect of seasoning conditions on the mechanical properties of modified adhesive compositions based on bisphenol A epoxy resin (AB23_147)	<u>E Doluk</u> (Lublin University of Technology, Poland), I Miturska-Barańska
Poster 51	Mixed mode fatigue crack growth in polyurethane adhesives (AB23_42)	<u>M Ribas</u> (University of Porto, Portugal), A Akhavan-Safar, EAS Marques, RJC Carbas, S Wenig, LFM da Silva
Poster 52	Effect of thermal shock on the shear strength of carbon composite adhesive joints (AB23_177)	<u>M Kłonica</u> (Lublin University of Technology, Poland)
Poster 53	Tensile shear strength of open-faced and closed specimens	<u>K Shimamoto</u> (National Institute of Advanced Industrial Science

	immersed in water (AB23_181)	and Technology (AIST), Japan), H Akiyama, K Houjou, C Sato
Hybrid joints		
Poster 54	Failure behavior of novel hybrid bonded-hole hemmed joints in lightweight materials (AB23_16)	A Haran-Nogueira, MM Kasaei (INEGI, Portugal), A Akhavan-Safar, RJC Carbas, EAS Marques, LFM da Silva
Poster 55	Load transfer mechanism in bonded bolted hybrid joints for steel structures (AB23_169)	K Yokozeki (Nippon Steel Corporation, Japan), T Vallée, M Albiez, J Boretzki, H Fricke
Repair and recycling		
Poster 56	Reversible and recyclable vitrimer adhesives (AB23_127)	M Surós, D Santiago (Eurecat, Technology Centre of Catalonia, Spain), P Verdugo, M Pedrola, D Guzmán, À Serra, S De la Flor
Applications		
Poster 57	Using toughened epoxy adhesives for the reinforcement of bus structures with recycled CFRP (AB23_100)	MA Martinez (Univ Carlos III de Madrid, Spain), D Lavayen, JA Butenegro, MJ Lopez-Boada, J Abenojar, M Bharami
Poster 58	Mechanoluminescent mapping of local fracture toughness on aircraft CFRP-epoxy adhesive sheet assembly in DCB and ENF test (AB23_117)	N Terasaki (National Institute of Advanced Industrial Science and Technology, Japan), K Takagi
Poster 59	Benchmarking mechanical assessment of adhesive bonding and hybrid structural joining techniques implemented in maritime industries (AB23_123)	AQ Barbosa (INEGI, Portugal), P Tsokanas, F Delzendehrooy, R Pereira, RJC Carbas, EAS Marques, LFM da Silva
Poster 60	European adhesive bonder - Boosting knowledge of adhesive bonding personnel (AB23_17)	AQ Barbosa (INEGI, Portugal), E Meiß, A Almeida, T Avelino, F Mañas, M Uran, M Tonnhofer, EAS Marques, RJC Carbas, LFM da Silva
Poster 61	Static interface strength measurement in thin films: Mode I fracture delamination using double cantilever beam (AB23_174)	P Morais (University of Porto, Portugal), A Akhavan-Safar, RJC Carbas, EAS Marques, B Karunamurthy, LFM da Silva
Poster 62	Analysis of the mechanical performance and durability of adhesively bonded joints used in the milling tool industry (AB23_46)	RJF de Sousa (INEGI, Portugal), PN Gomes, DS Correia, EAS Marques, RJC Carbas, PJC das Neves, WP Afonso, LFM da Silva

Friday 14 July 2023			
	Room A101 (Auditorium)		
8:40*	Structural monitoring of adhesive joints using machine learning (AB23_13) <u>AFG Tenreiro</u> (INEGI, Portugal), G Ramalho, AM Lopes, LFM da Silva		
	Session 5A – Durability I (Chair: L Goglio and A Bernasconi)	Session 5B – Adhesives development II (Chair: F Koch and LH Carvalho)	Session 5C – Joint design III (Chair: RDSG Campilho and N Terasaki)
	Room A101 (Auditorium)	Room B032	Room B035
9:20	Influence of high frequency on the fatigue life of metallic single lap joints (AB23_18) <u>F Moroni</u> , <u>F Musiari</u> , <u>A Pirondi</u> (Università di Parma, Italy)	Reactive polyurethane hot-melt adhesives with high biogenic carbon content (AB23_86) <u>MA Moyano</u> (INESCOP, Spain), MP Carbonell Blasco, F Arán Aís, E Orgilés Calpena	Modeling the adhesion between two substrates using homemade interface interaction: application to thermoplastic/metal induction welding (AB23_80) <u>T Fkyerat</u> (ENSTA Bretagne, France), U Cachot, F Le Poulain, R Créac’hcadec
9:40	An efficient approach to predicting the fatigue life of adhesive joints with varying modes of loading and joint configurations for automotive applications (AB23_36) <u>AH Ibrahim</u> (University of Waterloo, Canada), B Watson, H Jahed, S Rezaee, C Royer, DS Cronin	Design of bio-based adhesives for fuel cell applications (AB23_107) <u>E Stammen</u> (TU Braunschweig, Germany), K Dilger, F Bergenthum, S Brokamp	Dynamic behaviour of structural joints: experimental and numerical analysis (AB23_115) <u>P Millan</u> (IDMEC, Portugal), A Tenreiro, J Amorim, R Beygi, M Kasaei, LFM da Silva
10:00	Fatigue crack growth in adhesive joints: The role of test strategy, loading mode, and temperature (AB23_41) <u>A Akhavan-Safar</u> (INEGI, Portugal), EAS Marques, RJC Carbas, LFM da Silva	New concept of assembling based on interfacial Michael reactions to build up original thermoset adhesives (AB23_99) <u>M Brogly</u> (University de Haute Alsace, France), J-F Stumbe, F Cavodeau, R Perrin, C Robach, J Breuils, A Rannée	Ultra tough architected joints through single step bonding process with tunable properties (AB23_76) <u>C van Innis</u> (UCLouvain, Belgium), MK Budzik, T Pardoen
10:20	An analytical approach to model the creep behaviour of pressure-sensitive adhesives of pressure-sensitive	Effect of lignin methylation on the performance of lignin-phenol-formaldehyde resins through ABES	Synergistic influence of reduced-GO on the interfacial and high velocity impact characteristics of NiTi interleaved fibre

	adhesives (AB23_163) EMD Fernandes (INEGI, Portugal), BD Simões, EAS Marques, RJC Carbas, S Maul, P Stihler, P Weißgraeber, LFM da Silva	(AB23_146) S Gonçalves (University of Porto, Portugal), NT Paiva, J Martins, FD Magalhães, LH Carvalho	intermetallic laminates (AB23_19) D Rajamani (Vel Tech Rangarajan Dr Sagunthala R&D Institute of Science and Technology, Chennai, India), E Balasubramanian
10:40-11:00	COFFEE BREAK (Room under the Auditorium)		
	Session 6A – Adhesive properties III (Chair: M Brogly and S Marzi)	Session 6B – Joint design IV (Chair: E Stammen and M Budzik)	Session 6C – Durability II (Chair: D Castagnetti and L Goglio)
	Room A101 (Auditorium)	Room B032	Room B035
11:00	Relationship between cure kinetics of formaldehyde-based wood adhesives by means of dynamic rheology and DSC (AB23_96) L Nasser (University of Natural Resources and Life Sciences, Austria), C Rosenfeld, P Solt-Rindler, A Kandelbauer, J Konnerth, HWG van Herwijnen	Parametric cohesive zone analysis of bi-adhesive single-step joints (AB23_121) DFT Carvalho, RDSG Campilho (ISEP, Portugal), AS Vargas, RDF Moreira, K Madani	Experimental and analytical analysis of the creep behavior of an acrylic pressure-sensitive adhesive - An exploratory research (AB23_103) BD Simões (INEGI, Portugal), EMD Fernandes, EAS Marques, RJC Carbas, S Maul, P Stihler, P Weißgraeber, LFM da Silva
11:20	Monitoring and simulation of curing of 2K methacrylate resins for adhesives: Kinetics and physical properties (AB23_97) D Lellingner, D Tenzer, H Oehler, I Alig (Fraunhofer LBF, Germany)	Are probabilistic methods a way to get rid of fudge factors? (AB23_66) T Vallée (Fraunhofer IFAM, Germany), M Kaufmann, RD Adams, M Albiez, JR Correia, Th Tannert	Effect of elevated temperature on the lap glued joint behaviour of load-bearing spruce elements (AB23_134) J Vaněrek (Brno University of Technology, Czech Republic), M Šmak, R Bálková, Z Vejpustek
11:40	Mixed-mode I+II fracture tests on adhesive joints at constant mode-mixity (AB23_83) N Ladwig (TH Mittelhessen, Germany), S Marzi	Impact loading analysis of double-lap composite bonded joints (AB23_122) LAR Gomes, RDSG Campilho (ISEP, Portugal), JPA Valente, MJR Queirós, K Madani	Influence of environmental conditions on the fatigue performance of single lap bonded joints (AB23_137) FC Sousa (INEGI, Portugal), A Akhavan-Safar, RJC Carbas, EAS Marques, AQ Barbosa, LFM da Silva
12:00	Vitrimeric adhesives: the next generation of high-performance and	Characterization and modelling of crash behaviour of structural adhesives	Structural adhesive bonding of Ti6Al4V parts fabricated by laser powder bed

	recyclable bonding solutions (AB23_171) A Roig, D Santiago, L Molina, À Serra, <u>S De la Flor</u> (Universitat Rovira i Virgili, Spain)	(AB23_81) <u>F Damême</u> (University Polytechnique Hauts-De-France, France), C Grolleron, B Bourel, D Morin, F Lauro	fusion: Build orientation and surface treatment influences for static and fatigue loading (AB23_75) <u>E Ertürk</u> (Universität der Bundeswehr München, Germany), P Höfer
12:20	Thermo-accelerated curing of transparent glass-glass bondings through in-situ heat generation in the adhesive joint (AB23_131) <u>C Kothe</u> (Technische Universität Dresden, Germany), N Ratsch, C Lammel, F Nicklisch, S Böhm, B Weller	Experimental and numerical study on eco-friendly adhesive joints for the automotive industry (AB23_93) <u>AMS Couto</u> (University of Porto, Portugal), CSP Borges, P Tsokanas, S Jalali, EAS Marques, RJC Carbas, LFM da Silva	Damage imaging of adhesively bonded plates using dense ultrasonic wavefield data (AB23_143) <u>M Barzegar</u> (Instituto de Telecomunicações, Portugal), Y Lugovtsova, J Bulling, D Pasadas, A Ribeiro, H Ramos
12:40	Development of a unified specimen for adhesive characterisation: Experimental study on the mode I (mDCB) and II (ELS) fracture components (AB23_44) <u>DS Correia</u> (INEGI, Portugal), ID Costa, EAS Marques, RJC Carbas, A Akhavan-Safar, LFM da Silva	Development of bonding technology for hybrid-composite elements of armored vehicles with high energy density surface treatments for high resilience (AB23_165) <u>Z Weltsch</u> (Széchenyi István University, Hungary)	PBT-GF30/silicone and aluminum/silicone resistance against water uptake and influence on the failure of the joint (AB23_39) <u>CSP Borges</u> (INEGI, Portugal), A Akhavan-Safar, EAS Marques, RJC Carbas, C Ueffing, P Weissgraeber, LFM da Silva
13:00-14:00	LUNCH BREAK (Room under the Auditorium)		
	Room A101 (Auditorium)		
14:00*	So how do you predict the strength of adhesive joints? (AB23_95) <u>RD Adams</u> (University of Britol, UK)		
	Session 7A – Adhesives development III (Chair: M Brogly and F Aran-Ais)	Session 7B – Applications I (Chair: H Fricke and F Moroni)	Session 7C – Hybrid joints (Chair: MM Kasaei and A Pirondi)
	Room A101 (Auditorium)	Room B032	Room B035

14:40	Energy savings in the body shop process enabled with the next generation BETAMATE structural adhesives (AB23_3) <u>F Koch</u> (DuPont, Switzerland)	Fatigue fracture characterization of semiconductor chip-package interfaces (AB23_173) <u>P Morais</u> (University of Porto, Portugal), A Akhavan-Safar, RJC Carbas, EAS Marques, B Karunamurthy, LFM da Silva	A new hybrid bonded-hole hemming process for joining dissimilar materials (AB23_15) A Haran-Nogueira, <u>MM Kasaei</u> (INEGI, Portugal), A Akhavan-Safar, RJC Carbas, EAS Marques, LFM da Silva
15:00	Investigation of reaction mechanism of urea formaldehyde resins using urea-based model compounds (AB23_132) <u>AY Özel</u> (Sabancı University, Türkiye), B Bengü, B Dizman	Characterization and evaluation of stress resistance in the structural bonding of electric cooktops (AB23_27) P Gómez, C Pina, <u>R Acero</u> (University of Zaragoza, Spain)	Hybrid joining improves the mechanical performance of adhesive and self-piercing rivet joints at coupon and component levels (AB23_37) AH Ibrahim, <u>DS Cronin</u> (University of Waterloo, Canada)
15:20	Adhesive performances of enzymatic degradable on-demand polyurethane laminated films for flexible packaging (AB23_119) <u>C Dessi</u> (Université Clermont Auvergne, France), H Askanian, A Romano, D Brazinskiene, V Verney	Damage modelling of structural adhesive under cyclic solicitations: Automotive application (AB23_79) <u>S Pinaroli</u> (Arts et Metiers Institute of Technology, France), L Morin, K Derrien, V Favier, A Reullier	Effects of adhesives and geometries on strength of bonded bolted hybrid joints for steel structures (AB23_168) <u>K Yokozeki</u> (Nippon Steel Corporation, Japan), T Vallée, T Evers, H Fricke
15:40	Analysis of the mechanical performance of high-strength cementitious overlays modified with nanoparticles (AB23_142) <u>J Szymanowski</u> (Wroclaw University of Science and Technology, Poland)	Adhesion analysis of impregnation systems in superconducting magnets (AB23_128) <u>B Verma</u> (CERN, Switzerland), R Piccin, D Tommasini, IA Santillana	Numerical investigation on the static and fatigue behaviour of hybrid spot welded-adhesively bonded joints (AB23_145) <u>S Safaei</u> (Politecnico di Milano, Italy), L Martulli, M Carboni, A Bernasconi
16:00-16:20	COFFEE BREAK (Room under the Auditorium)		
	Session 8A – Applications II (Chair: B Verma and LFM da Silva)	Session 8B – Durability III (Chair: A Akhavan-Safar and L Sadowski)	Session 8C – Joint design V (Chair: RD Adams and X Han)
	Room A101 (Auditorium)	Room B032	Room B035
16:20	Synthesis of a functionalized glycol chitosan-EDTA with potential of extrafibrillar demineralization and its	Assessment of the fracture properties of adhesively bonded joints submitted to fatigue loads under various mixed-mode	Metal-composite joints with debonding on demand functionality for automotive applications (AB23_136)

	use for self-etch dentin bonding (AB23_133) <u>M Li</u> (Zhejiang University School of Medicine, China), B Fu	ratios using the Arcan fixture (AB23_159) <u>C Bernolin</u> , <u>G Stamoulis</u> (Univ. Bretagne Occidentale, France), <u>P Bidaud</u> , <u>W Albouy</u> , <u>N Dagorn</u> , <u>D Thévenet</u>	<u>G Ibarz</u> , <u>M Canales</u> , <u>M Lizaranzu</u> , <u>S Roche</u> , <u>C Valero</u> , <u>A Chiminelli</u> (ITAINNOVA, Spain), <u>J Aucher</u> , <u>M Fache</u>
16:40	Metal-composite hybrid joint adhesion and testing optimization or electric vehicle applications (AB23_118) <u>BM Lekube</u> (Leartiker S.Coop, Spain), <u>JH Badiola</u> , <u>P Larreategi</u> , <u>F Ares</u> , <u>A Chiminelli</u> , <u>C Valero</u> , <u>T Ozgur</u>	The role of substrate pre-treatment on the environmental fatigue resistance of hybrid electrical steel laminates (AB23_49) <u>M Ninou</u> (JKU-IPMT, Austria), <u>R Pugstaller</u> , <u>GM Wallner</u> , <u>B Strauß</u>	On the effect of manufacture parameters on the mechanical property of copper plate/magnetic column bonded structure using a parameter identification approach (AB23_139) <u>L Ren</u> (Dalian University of Technology, China), <u>X Han</u> , <u>H Peng</u>
17:00	Numerical modelling of peel and shear test of pressure sensitive adhesive joints in building tapes (AB23_124) <u>K Ostapska</u> (SINTEF Community, Norway), <u>M Sletnes</u> , <u>P Rüter</u>	Fatigue crack strengthening in steel structures by adhesively bonded steel patches (AB23_82) <u>F Ilg</u> (Hochschule München University of Applied Sciences, Germany), <u>E Stammen</u> , <u>B Abeln</u> , <u>C Schuler</u> , <u>K Dilger</u> , <u>M Feldmann</u>	Mechanical behaviour of composite single lap joints with polyurethane adhesive: experiments, FEM modelling, and backface strain measurement by DIC (AB23_140) <u>M Abbasi</u> (Politecnico di Torino, Italy), <u>R Ciardiello</u> , <u>L Goglio</u>
17:20	An adhesive-assisted biomimetic mineralization to prevent the formation of enamel white spot lesions (AB23_125) <u>L Zhang</u> (Zhejiang University School of Medicine, China), B Fu	Shear bond stiffness evaluation of adhesive lap joints based on the guided wave transmission/reflection spectral interference (AB23_172) <u>N Mori</u> (Osaka University, Japan), <u>J Toyota</u> , <u>D Wakabayashi</u> , <u>T Hayashi</u>	Optimization of dissimilar single-lap joints bonding multimaterial adherends in quasi-static conditions with thermal residual stresses (AB23_48) <u>VDC Pires</u> (INEGI, Portugal), <u>RJC Carbas</u> , <u>EAS Marques</u> , <u>LFM da Silva</u>
17:40	Evaluating the effect of neutral 10-MDP-Na salt on the dentin bond strength and remineralization potential of the etch-&-rinse adhesive (AB23_126) <u>Y Xu</u> (Zhejiang University School of Medicine, China), <u>M Li</u> , <u>B Fu</u>	Heat flow through epoxy resin adhesive modified with titanium dioxide (IV) (AB23_151) <u>K Krzywiński</u> (Wroclaw University of Science and Technology, Poland), <u>Ł Sadowski</u>	On the mechanical behavior of L- and T-shaped wooden bio-adhesive joints (AB23_148) <u>P Tsokanas</u> (INEGI, Portugal), <u>S Jalali</u> , <u>CSP Borges</u> , <u>RJC Carbas</u> , <u>EAS Marques</u> , <u>LFM da Silva</u>
18:00	Investigation and optimization of process parameters and tools for	Soft projectile impact tests for adhesion assessment under dynamic loading	A path for increasing the sustainability of structural design supported by adhesive

	underwater bonding of mounting systems (AB23_183) <u>L Fröck</u> (Fraunhofer IGP, Germany), L Lemmrich, L Vaccari	(AB23_153) C Caisso, N Dagorn, W Albouy, M Arrigoni, <u>D Thévenet</u> (ENSTA Bretagne, France)	bonding (AB23_88) <u>EAS Marques</u> (University of Porto, Portugal), LP Garrido, CSP Borges, S Jalali, RJC Carbas, LFM da Silva
20:00	AB2023 BANQUET (Porto Caves)		