

OPTIMIZATION OF JOINING PROCESSES FOR NEW AUTOMOTIVE METAL-COMPOSITE HYBRID PARTS

FINAL SEMINAR

24th February 2016 from 9am to 5pm
BWI - Belgian Welding Institute, Ghent

Presentation of Case Studies

*Materials and Manufacturing Processes
of Composites and Hybrid Components
for Joining by EMP Technology*

*Joining of Tubular Metal-Composite Parts
using the Electromagnetic Pulse Technology*

*Fully Coupled Multiphysics Finite Element
Simulation of Magnetic Pulse Welding of Flat Parts*

*Electromagnetic Driven Selfpiercing
Riveting of Metal-Composite Sheets*

*Invited speakers from
the JOINING community*

Free admission subject to registration
Registration and full programme at:
<http://goo.gl/forms/H0qr2ud0zY>
www.metalmorphosis.eu

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09:00 - 09:15	Welcome and Introduction BWI and CENTIMFE
09:15 - 09:50	Materials and manufacturing processes of composites and hybrid components for joining by EMP technology Javier Garcia, CIDAUT, Francisco Vallejo, IDEKO, Spain
09:50 - 10:10	Joining of tubular metal-composite parts using the electromagnetic pulse technology Koen Faes, BWI, Belgium
10:10 - 10:30	Fully coupled multiphysics finite element simulation of magnetic pulse welding of flat parts Uwe Dirksen, POYNTING GmbH, Germany
10:30 - 10:50	Electromagnetic driven selfpiercing riveting of metal-composite sheets Charlotte Beerwald, POYNTING GmbH, Germany
10:50 - 11:00	Break Coffee and Exhibition of Experiments
11:00 - 11:20	Use of magnetic pulse to join composite to metal for shock absorber application Emilie Boulay, TENNECO, Belgium
11:20 - 11:40	Automotive hybrid components – composite brake pedal joined by electromagnetic pulse technology Martinho Soares, TOOLPRESSE, Portugal
11:40 - 12:00	Integration of electromagnetic pulse in composite manufacturing process for an Hybrid Crash Absorber Marjana Pozenel, REGENERACIJA, Slovenia
12:00 - 12:15	Life-Cycle Assessment of the MetalMorphosis approach Stefano Ellero, STAM, Italy
12:15 - 12:45	Debate
13:00 - 14:00	Lunch
14:00 - 14:30	Invited Speaker – ECOGEL-CRONOS High productivity manufacturing process of composite parts based on zero emissions fast curing coatings and heated moulds Anabel Crespo, AIMPLAS - Spain
14:30 - 15:00	Invited Speaker – Functional assemblies in the transport and the industry Konstantin SIPOS, RESCOLL, France
15:00 - 15:30	Invited Speaker – Joining FRP and Steel via small-scale positive form locking elements Jens Lotte, ISF RWTH Aachen - Germany
15:30 - 16:00	Invited Speaker – Measuring the behaviour of composite materials during their life cycle Geert Luyckx, Com&Sens, Belgium
16:00 - 16:30	Debate
16:30 - 17:00	Conclusions and Closing