

European Composites Industry Association Newsletter Activities and Issues Overview

• News from the Board

EuCIA appoints new Sector Group Manager

Finally.....after the search for valuable candidates, the EuCIA Board has decided on the new Sector Group Manager. Ab Kasper is well known in the industry and has a very good COMPOSITE record. He has started his job on 1 June and is already active. Ab has been selected out of 8 well suited candidates and will bring many benefits to EuCIA.

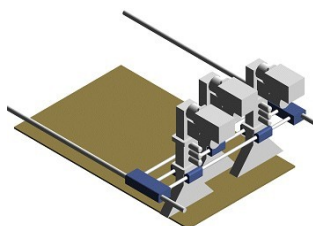
Composite Recycling

Many people try to speak on behalf of EuCIA and many people try to influence legislation in favor of COMPOSITES. In general, this is a very good situation, because it raises the awareness of our products and its recycling issues. These people believe in COMPOSITES and want to fight for it. So far so good. The thing gets strange, if you get the impression that statements about COMPOSITE recycling have a political background or statements are given with alteria motives. When discussions about COMPOSITE recycling get provoking and you assume that the provocation tries to harm persons and organizations. Don't get me wrong. We all can express our thoughts, can say what we think, I just don't like uncoordinated statements, statements which are not 100% in line with EuCIA strategy or statements attaching EuCIA Members. These things unfortunately happened in the last few days. We heard attacks, unqualified, provocative speeches. This needs to be stopped. Corrective actions were taken. Let's hope it will not happen again.

• News from the member states

AESICOM/AIMPLAS participate in a successful European project: CODE- New technology in resin curing by means of a microwave

Large composite components or products such as boats, blades of windmills or pipes are manufactured with the resin infusion technology. These components must be cured under very strict processing conditions due to the need of having a reproducible polymerisation of the resin. Therefore, the resin will be formulated batch-wise by manual preparation. The manufacturer has to make a compromise between impregnation-properties of the resin (due to the viscosity) and the curing time of the final part. Unsaturated Polyesters are formed by thermo set reactions between a functional acid or anhydride (e.g. maleic, fumaric, phthalic, esophthalic, terphthalic) and a dysfunctional alcohol (e.g. ethylene glycol, diethylene glycol, polypropylene glycol). For the formation of



the 3D-network (polymerisation), a monomer (e.g. styrene) is required for the reaction with the unsaturations in the polyester. Commercial polyester systems have a styrene content of about 30 to 50 wt.-%. Heat or radiation triggers the cross linking reaction. For initiation of the reaction catalysts (e.g. methyl ethyl ketone, peroxide) are used. Accelerators (promoters) speed up the reaction and inhibitors extend shelf life.

The topic of the project is the development of a new curing technology for polyester resins for large area parts like boat hulls on the basis of microwave technology.

The benefits of the new process are:

- Fundamental change of resin infusion process by separating the filling and the curing process.
- Reduction of curing time from days to minutes.
- Reduction of styrene emission and manual work.
- Increase of the degree of polymerization to nearly 100% with microwave curing.

New Process and Results

A multi-functional Polyester resin was developed suitable for resin infusion and microwave curing. It had a low viscosity for optimal filling of the mould without curing during filling. After the filling process was completed a microwave system was applied to start the curing of the resin. The curing was an exothermic reaction, so that the microwave only initiated the curing.

A microwave system was developed, which in connection with a temperature control system ensured a homogeneous heating and therefore curing of the resin (Fig.1). The microwave system was developed with the help of simulation of microwave field and resulting heating. The degree of polymerisation of the resin was increased with microwaves.

Discussion

In the project a scalable microwave system was developed for homogeneous heating and therefore curing of large area parts. Only the combination of the new developed resin and the microwave system with a temperature control ensured a homogeneous processing of the part. The project is funded by the EC and consists of 4 companies (Wolfangel, Elan, ABB and Muegge) and 2 institutes (ICT Fraunhofer Institute and AIMPLAS) from 3 European countries.

5th International Conference on Composites Materials in Architecture and Construction

AIMPLAS, Technological Institute of Plastics, is collaborating with The University of Seville to organise **ARQUI-MACON**, the largest meeting of professionals from the construction and the composite material sectors and it will be celebrated in **Valencia, Spain, in February 2008**. In the past few years Valencia has experienced a great transformation with regards to emblematic architectural projects

such as the City of Arts and Sciences, the Hall of Congress, the Valencian Institute of Modern Art, etc. Therefore it is only natural that Valencia is the host of this event, due to its privileged status in this area.

It goes without saying that construction is one of the main drives for the economy on an international level. The construction industry stimulates a constant drive for innovation and the creation of new more efficient materials used in the building industry.

One of the main uses for composite materials is in construction applications. They have excellent properties which turns them into materials suitable for a wide range of applications in construction. Their main properties are low weight, high rigidity and corrosion resistance. Other more specific properties such as acoustic and thermal isolation are essential product requirements needed for the new European construction directive. These properties place composite materials in a favourable position with respect to the traditional materials used in construction.

With the implementation of this International Conference, AIMPLAS intends to introduce composite materials in the construction sector and at the same time present the advantages of their use to professionals within the sector. This technical meeting is conducted for architects, engineers, for professionals that recommend construction methods and for composite companies that in one way or another are involved in the construction and the edification sector.

More information at: composites@aimplas.es

Did you know?

...that the US Glass Fibre Demand is to reach 8 Billion Pounds by 2011? The demand in the US is projected to grow nearly two percent annually to eight billion pounds in 2011, valued at \$6.9 billion according a study available at netcomposites. (Freedonia industry study)

... that there are business changes within our UPR Group. DSM Composite Resins has sold its Uraplast Polymeric Plasticizer Resins Business to Polynt. DSM is one of Europe's leading suppliers of polymeric plasticizer resins for PVC, elastomers, adhesives, coatings and other applications, traded under the name Uraplast. The company's core activities however are within the composites sector in unsaturated polyester resins and sizings & binders. As part of its strategy to lead the composites industry, DSM Composite Resins took the decision to divest the Uraplast business.

... the spectacular performance of a power boat? King of Shaves, SP engineered and Fountain Powerboats designed and constructed, achieved a double victory last weekend in the Italian Grand Prix of the Sea. The race was

part of the P1 Powerboat World Championships where the world's most highly powered vessels compete in this a dramatic and closely fought offshore spectacle. Corecell™ structural foam was specified throughout the hull to greatly reduce weight and enhance the boat's stiffness and performance. The unique chemistry of SP's (GURIT) core material is optimised for marine applications making it tough enough to withstand extremely high shock loads whilst remaining stiff and resistant to impact.



Craig Wilson, throttle man of King of Shaves and also President of Fountain Worldwide, paid testimony to SP's materials, "The boat handled like a dream - not a gel coat or stress crack anywhere. She is solid as a rock". SP, the marine business in the advance composites group Gurit AG, has transferred a considerable amount of experience from the sail boat sector across to motor boat applications. The company currently supplies materials and engineering services to some of the world's most prestigious powerboat manufacturers.

From the sector group Manager

Dear members,

It is a great pleasure for me that the Board of EUCIA has decided to appoint me as your new Sector Group Manager.

A lot is happening in the composites industry; it is alive and kicking as never before. But there are critical issues that may pose a threat on the growth potential of our industry. European legislation may make our lives sometimes more difficult; it may also create challenges for innovation. In Brussels I will keep a close eye on all legislative processes that will influence the daily activities of the composites industry. Where possible I will try, together with our valued colleagues of the EUPC, to influence and possibly to bend these processes into a more favourable direction. More is to be done. The EUCIA has a lot of potential to be unearthed. We have to put our industry more in the minds of architects and designers, we have to make the general public more aware of composite materials. The Composites Europe Show in Stuttgart is coming. With the board of EUCIA I am now working on an action plan for the rest of the year 2007 and beyond. In the next board meeting, this action plan will be discussed and put into action. I will however need your support also. Together we can make EUCIA and the composites industry stronger. I am looking forward to a splendid cooperation with all of you in the coming years.

Ab Kasper

• CALENDAR OF EVENTS

4 July 2007	EuCIA Board Meeting	Eindhoven, the Netherlands
23-26 September 2007	Baekeland 2007: Thermosets	Ghent University
16 October 2007	REACH Workshop for Extrusion	Brussels, EuPC Center
24-31 October 2007	K2007	Düsseldorf
5-6 November 2007	AVK Conference	Stuttgart
6-8 November 2007	COMPOSITE Europe	Stuttgart