

## **Eurocorr 2009 Nice, France, 6-10 Sept.**

### **Minutes Working Party “automotive corrosion”(WP17)**

At the Eurocorr conference, the main working party meeting was held Monday 6 at 17:50-19:00 .

Agenda:

Present: v. Hariharan (TM, Pune , India), Wataru Murata (Toyota Motors), Pilar Galera (Toyota Motors Europe), Bo Bendahl, Ingagerd Annergen and Martin Jonsson (KIMAB), Ha Sun Park (POSCO), Julien Sorbe & Muhammed Yasir (Faurecia), Bernard Normand (INSA), Doinique Thierry & Thomas prosek (Institut de la Corrosion KIMAB), Rudolf Morach (Intertek expet services), David Jerolitsch (CEST)

The agenda was as follows:

- Presentation of the WP activities: F. Hannour (chairman)
- Presentation of activities at KIMAB (the Swedish Corrosion Institute): Bo Rendhal
- Future and raison d’etre of WP17
- Preparation of Eurocorr 2010 & cooperation with other WPs
- Other items
- Next WP17 meting

The chairman (F. Hannour) opened the meeting and welcomed the participants. The agenda was approved by the participants.

The chairman gave a presentation of the WP activities since 2004 and explained that the meetings will continue to take place at the Eurocorr conferences. The next Eurocorr conference will be in 2011 in Stockholm and in 2010 in Istambul.

The presentation given by the chairman highlighted the mission of the WP, gave an overview of the papers in the Eurocorr conference since 2004 with the keynotes and publications. It also gave an idea of the current network, internationally.

The presentation is attached.

The session automotive of Eurocorr 2009 was successful with 2 automotive manufacturers keynote speakers: Mr. V. Hariharan (Tata Motors, India) and from Wataru Murata (Toyota Motors). The session lasted two days and covered very interesting topics and developments: new material such as Al Zn Mg alloys and high strength steels, corrosion related to exhaust systems , biofuels, engine coolants, tests and new methods for automotive.

#### **1. Presentation of activities at KIMAB (the Swedish Corrosion Institute): Bo Rendhal**

The chairman introduced KIMAB (former Swedish Corrosion Institute) and the speaker Bo Rendahl who is a senior researcher at the corrosion, surface technology and chemistry group. He gave a general presentation of KIMAB, activities, and running projects. The chairman put emphasis on existing projects such as “Assessment of corrosivity of global vehicle environment” to which people could participate. It was the first participation of Toyota to the Wp meetings and Toyota expressed strong interest in participating to the WP meetings and also in working with KIMAB.

## 2. Future and raison d'être of WP17:

The chairman invited the participants to look at the proposed topics to be covered by the WP and debate to make a choice on what are the most relevant once. The following was proposed and approved by all as interesting topics:

- Objective: integrated approach covering corrosion, coating, welding, forming..
- Overview of main issues related to automotive and coatings the last years
- New materials (advanced high strength steels and high strength aluminium) : coatability , corrosion resistance ...
- New trends in painting processes
- Renewable energy/ electrical vehicles
- Corrosion to design
- Any other item

These subjects will be included in the next Eurocorr conferences.

It was suggested by the members to have a specific workshop on a subject (any of the above are interesting).

A new area to develop in the WP has been proposed and was positively accepted by the members : corrosion related to heat exchangers and automobile combustion engine . This subject is new and should be developed because of new fuels like biofuels.

## 3. Other items

- Subjects of interest for European projects, with Asia (India), KIMAB: no specific proposal was made.
- Organization of a workshop once a year (brainstorm on automotive area) : interesting but depends on availability of people, confidentiality and avoid to put too much in eurocorr as workshops will happen at Eurocorr.
- Update of memberships , new members
- Training on corrosion, coatings and painting : it has been discussed whether WP17 can start courses on auto. It was suggested to let know what courses are available.
- It was suggested by the members to have a special publication of eurocorr papers.
- Round robin test was proposed.

## 4. Preparation of Eurcorr 2010 & cooperation with other WPs

The chairman invited all members to stimulate their network the participate to Eurcorr and the WP.

## 5 . Discussion dedicated to Heat Exchangers & Engine Coolants

On tuesday 7th afternoon, an initial meeting dedicated to heat exchangers and engine coolant with some authors was held. The chairman proposed to cover the following items:

Engine cooling and heat exchangers in general.

It was proposed by the chairman to discuss the future trends in engine cooling systems.

1- Development of new engine cooling systems ( lighter and more efficient)

2- new coolant technologies:

- limitations of the existing coolant formulations (heat transfer limitation, corrosion inhibitors depletion, incompatibility between coolants...)

- which direction to follow to improve the coolant formulations

3- Selection of materials for engine block and heat exchangers

- cast iron vs cast Al

- Al vs stainless steel

Do we see a great change in the material selection to reduce the weight of the vehicles?

Consequently (1-2-3), what would be the big challenges in the future to pass the corrosion tests?

The discussions mainly focused on the test that the University of Darmstadt could do. The new trends are for lower gauge materials and new formulation of coolants (biofuels for example). With those trends, an adaptation of tests is necessary.

It is proposed to discuss it in the general meeting at the next Eurocorr 2010 with all members.

The next will be at Moscow (Russia) during the Eurocorr 2010 conference.

Dr. Fouzia Hannour

Chairman of the Working Party 17 "Automotive Corrosion"