

Meeting minutes

Working Party 25 Atmospheric Corrosion

<i>Date and time</i>	31/08/2022 17:50 to 18:30
<i>Place</i>	Hotel Berlin Central District, Salon 4–5 (Berlin, Germany)

Agenda

1. Welcome and opening, general information about WP25
2. Exposure Site Catalogue goes online
3. Field Corrosion Monitoring
4. Future activities in field testing
5. EFC Hub
6. EUROCORR 2023
7. Any other business

Participants

17 people participated in the meeting. In addition to already active WP25 members, there were new participants who asked to enter WP25:

- Le Thi Hong Lien / Institute of Materials Science, Vietnam
- Saman Hoseinpour / Outokumpu, Germany
- Maxima Brossand / ArcelorMittal
- Patricia Miranda Dias / Airbus
- David Sinopoli / Airbus
- Fritz Friedersdorf / Lunalabs, USA
- Vincent Vangrunderbeek / VUB, Belgium
- Bartłomiej Guzik / Mankiewicz, Poland
- D. Wojda / IBDIM, Poland
- R. Zhang / TU Delft, The Netherlands

Minutes

1. Welcome and opening, general information about WP25

T. Prošek welcomed the participants of the business meeting. He briefly reminded the history, organization structure, and principal objectives of WP25.

- Improvement of understanding of corrosion processes in thin electrolytes formed under atmospheric conditions.
- Development of better predictive models, both statistical and mechanistic.
- Best testing practices, both in the field and in the laboratory.
- Development of corrosion monitoring techniques applicable in atmosphere.
- Corrosion in new environments, e.g. severe marine industrial atmospheres and microclimates.
- Protection of novel materials including weathering, stainless steel and coated carbon steels, and aluminum and magnesium alloys.
- Practical experience in corrosion protection of structures and objects exposed to outdoor and indoor atmospheres.
- Standardization activities.

2. Exposure Site Catalogue goes online

Thanks to the work of site managers, members of Working Party 25 (WP25) Atmospheric Corrosion, and financial support from EFC, it was possible to gather information about 43 European exposure sites in the Exposure Site Catalogue. The Catalogue was published in May 2021 and is available free of charge at <https://efcweb.org/WP25.html>.

Based on highly positive feedback from both European and international colleagues, EFC agreed to support the transformation of the Catalogue into an online tool. Since the beginning of 2022, an online database of sites is under construction. A trial version of the Catalogue is at <https://corrosion-sites.com/>. Currently, only the end-user layer is working (search and sorting of sites, map, and details about each site). Before the end of 2022, site managers will also be able to edit their entries. It will also be possible to enter new sites.

D. Thierry pointed out that the data were not verified in any way and neither EFC nor WP25 can guarantee that all data are correct. Thus, he proposed to add a warning that site managers are responsible for the data. This view was supported by the meeting participants.

3. Field Corrosion Monitoring

T. Prošek informed that Professor Dawei Zhang from Beijing offered free atmospheric corrosion monitors (ACM) for installation at European field sites. In exchange, he would like to use the

obtained data for development of artificial intelligence (AI) data treatment methods. Nine sites from SE, PT, IT, ES, and CZ agreed to install the ACMs. In case of interest, it is still possible to join the initiative by sending an email to T. Prošek.

4. Future activities in field testing

G. Luckeneder presented a proposal on further development of the established network of field sites. He reminded that site calibration does not necessarily have to be performed correctly by all managers as measurement of corrosivity and some climatic parameters is not simple. He said that EFC / WP25 could develop a system of site 'accreditation'. For example, coupons of steel, zinc, copper, and aluminium could be prepared by a selected laboratory(s), provided to site managers to be exposed and then evaluated by the same lab(s). Procedures used for pollution measurements could be reviewed, etc. An accredited site would then obtain the „EFC Approved“ seal. He also mentioned that regular round-robin exposure tests could be organized at member sites.

T. Prošek added that if the proposal was supported, a call for labs able to carrying the calibration would need to be launched to select the one(s) to be responsible for the accreditation.

The proposal was discussed.

F. Friedersdorf informed that AMPP has a similar system and it is widely accepted.

D. Thierry said that corrosivity calibration using steel is usually easy, but large errors can be introduced when zinc, and especially aluminium, are concerned. If a round-robin test was to be carried out, he proposed starting with a 'medium-difficult' material, zinc.

N. LeBozec asked what exactly would be round-robin tested: sites or coupon treatment. Only the latter would make sense. Then, a large number of coupons would need to be exposed at a single site and then sent for mass loss measurement to individual laboratories.

G. Luckeneder noted that it would probably be possible to involve an industrial partner to provide samples of interest (bare or painted) for a common exposure programme. It could be used to increase visibility of the network and build further collaboration.

J. Tidblad proposed to start with a survey of site managers on the way of site calibration and measurement of climatic parameters. The proposal was accepted.

Further possibilities will be investigated and discussed at the EFC Hub or in the next Business Meeting.

5. EFC Hub

T. Prošek reminded the participants that the EFC Hub at <https://efc.solved.fi/> can be used for exchange between WP25 members. To revive it, he proposed posting pdf presentations given during EUROCORR 2022 in sessions linked to atmospheric corrosion. It was agreed on.

The possibility of linking the EFC Hub and ResearchGate was discussed. T. Prošek will propose it to the webmaster of the Hub.

6. EUROCORR 2023

A theme for the next WP25 session at EUROCORR 2023 was discussed. D. Thierry proposed modelling of corrosion degradation of painted metallic surfaces. Ideas for selecting a keynote speaker are welcome.

7. Any other business

K. Kreislová informed that the ISO 9223 standard is under revision and a balloting process is to be finished. She invited all interested members to join the process of updating by contacting their national standards bodies.

G. Ebell informed that BAM is able to produce exposure ranks for any interested site manager.

To-do list

- Finish the online catalogue before the end of 2022 / T. Prošek.
- Perform a survey on field testing, including questions on preferable further collaboration / J. Tidblad, T. Prošek.
- Inform all participants of sessions related to atmospheric corrosion about the initiative of posting pdf presentations at the EFC Hub / T. Prošek.