

Minutes of the meeting of ISO TC 156 WG 13 At Slovensky Ustav Techickej Normalizacie (Slovak Standards Institute) Bratislava 19th May 2005

Agenda

1. Welcome and introduction by the convenor
2. Short discussion about any changes of the international situation on standardization of high temperature corrosion testing
3. Work items of WG 13 (reporting and discussion)
 - 3.1 Thermo gravimetric testing (not active)
 - 3.2 Continuous and discontinuous isothermal oxidation testing
Completion of working document ISO/TC 156 N 1122 (current version 18 April 2005) "Test method for Isothermal Exposure Testing under High Temperature Corrosion Conditions for Metallic Materials" (attached)
 - 3.3 General guidelines for post-exposure examination
Discussion of the draft prepared by Steve Osgerby
 - 3.4 Cyclic oxidation testing
Discussion of the code of practice developed within the European COTEST project (attached)
4. Resolutions on the next steps and summary for the report at the plenary meeting
5. AOB
6. Date and place of next meeting

Minutes

The meeting started at 9:05 a.m.

1. Welcome and introduction

Michael Schütze welcomed all participants of the meeting and the participants introduced themselves.

2. Changes of the international situation on standardisation of high temperature corrosion testing

Toshio Maruyama mentioned that several new JIS draft documents about "*General rules for high-temperature corrosion test of metallic materials*", "*Method of dipping and embedding test in molten salt for metallic materials*", "*Method of electrochemical corrosion test for metallic materials in molten salts*", "*Method for steam oxidation testing of boiler tube metallic materials*", "*Method for high-temperature corrosion test of metallic materials by salt coating*" and "*Method for high-temperature gaseous corrosion test of metallic materials*" have been prepared. Electronic versions of the drafts were given to the convenor.

Steve Osgerby mentioned that NPL has published a good practice guide for steam oxidation tests. He will send the electronic version to the convenor (**Action: Steve Osgerby**).

These files will be distributed as soon as they become available to the convenor.

3. Work items of WG 13

3.1 Thermo gravimetric testing is not active and was not discussed.

3.2 The discussion and amendment of the working document ISO/TC 156 N1122 was continued. Following the comment of Peter Mayer the name of the committee "Corrosion of

Metals and Alloys" was inserted into the title of the working document. In figure 1 a test piece has to be inserted.

Rachel Pettersson mentioned that ISO has certain requirements about the file format of the graphics. Maik Malessa will check these requirements. *In fact, the requested data exchange format is the proprietary file format of the CAD system (AutoCAD 14) or the DXF format in the case of the use of a different CAD system. If no CAD-based data are available the use of character-encoded EPS is requested. However for the drawings formal requirements concerning character size, line thickness etc. have to be followed. The EPS format is sufficient for the drafting and voting stage. Therefore the graphics in the text have to be redrawn. The equations were prepared using the equation editor of MS Word which is the procedure recommended by ISO. However, also here the ISO settings have to be applied.*

All standards mentioned in the text should be given in the section normative references (**Action: Maik Malessa**).

In section 6.2.3 the specific humidity and the corresponding dew point for a typical range should be inserted (**Action: Maik Malessa**).

The question what type of decimal limiter has to be used in the standards was raised. (ISO requests a comma as decimal limiter).

The document flow within ISO was addressed. After completion of the working draft it is sent to the parent committee (i.e. TC 156) as a committee draft. The TC secretariat submits the draft to the P- and O-members and compiles their comments. The committee draft, after revision if necessary, is submitted to the ISO Central Secretariat for preparation as a DIS (Draft International Standard). The ISO Central Secretariat circulates the document for technical inquiry to the ISO member bodies that conduct a national inquiry by inviting national experts and interested public. The national comments are collated by the ISO Central Secretariat and sent to committee secretariat that decides about further procedure (approval with slight amendments or resubmission as a second, third etc. DIS after substantial amendment or no approval).

It has to be checked which work items have been registered at the ISO TC156 secretariat (**Action Steve Osgerby**).

In section 7.2 (analysis of mass change) the right part of figure 7 ("protective region") has to be deleted. Section 7.2 should be moved to section 6 (**Action: Maik Malessa**).

After final changes the document will be circulated for final voting in the group and subsequently will be sent as a committee draft to the TC 156 secretariat.

3.3 The discussion on the draft for post exposure examination prepared and modified after discussion at the last meeting in October 2004 by Steve Osgerby was started. Modifications to the document will be made by Steve Osgerby. The following modifications were suggested:

- Figure 1: use of square brackets according to the terms and definitions in 3.1
- Classification of corrosion layers {(a), (b), (c),...} in 7.3 should be given in figure 1
- Section 8 should be simplified to meet the demands of users

The revised version will be prepared by Steve Osgerby by 19th June 2005 (**Action Steve Osgerby**).

3.4 The COTEST project was completed and a final code of practice is available. Discussion on this work item was not started due to limited time. The draft code of practice "Test method for thermal cyclic oxidation testing" developed within the European COTEST project is currently in the process of being submitted via DIN as a work item for WG13.

4. Resolutions on the next steps

It was agreed to proceed with the following steps:

- Submission of N1122 as a committee draft after final voting in the working group
- Check which work items have been registered at the TC 156 secretariat

5. AOB

Two new work items have been suggested, steam oxidation by Steve Osgerby and deposit corrosion by Toshio Maruyama.

6. Date and place of next meeting

The next meeting will be held in at DECHEMA e.V. in Frankfurt, on Friday 18th November 2005. It is planned to have dinner on the evening before. An invitation with final details about the date will be sent in due time.

The meeting was closed at 5:00 p.m.

Table 1: Attendees at the meeting

Vladimir Cihal, VSB Technical University Ostrava, Czech Republic

Max Heue, CEA, France

Qi Huibin, Baosteel, China

Kateřina Kreislová, SVÚOM Ltd., Czech Republic

Jong Jip Kim, Korea Research Institute of Standards and Science, Korea

Maik Malessa, Dechema e.V., Germany

Toshio Maruyama, Tokyo Institute of Technology, Japan

Peter Mayer, Standards Council of Canada, Canada

Steve Osgerby, National Physical Laboratory, UK

Rachel Pettersson, SIMR, Sweden

Michael Schütze, Dechema e.V., Germany

Zhang Zhonghua, Baosteel, China

Frankfurt/Main, 2nd June 2005

Maik Malessa