IEC Project 62582

Nuclear power plants – Instrumentation and control systems important to safety – Methods for condition monitoring

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Needs for joint IEC-IEEE standards on methods for condition monitoring

- IEEE 323-2003 includes condition monitoring as an important tool in management of ageing. Qualified condition is introduced as an alternative or complement to qualified life
- IEC 60780 and IEEE 323 are under revision with the aims to align the two basic standards
- Use of condition monitoring as a tool for management of ageing requires very well defined and highly reproducible, standardised methods
- A situation where different standards are applied will not ascertain necessary reproducibility and will not be cost efficient.

New IEC-IEEE agreement

- Existing possibility to publish common IEC-IEEE standards (”joint logo standards”) until now: If no IEC standard exists a joint logo standard can be established by IEC adopting an existing IEEE standard
- New agreement between IEC and IEEE makes it possible in addition for IEC and IEEE to develop new standards in joint IEC-IEEE projects on either party’s initiative

Establishment of a joint IEC-IEEE Project

IEC initiates the Project. They contact the appropriate IEEE committee to see if there is a mutual interest

IEEE initiates the Project. They contact the appropriate IEC committee to see if there is a mutual interest

Both parties agree on the need for a joint development project

IEC TC/SC submits a New Work Item (NWI) proposal to Central Office with a statement that the project is to be developed jointly with an IEEE committee

Approved

IEEE submits a PAR with a statement that the project is to be developed jointly with an IEC committee

Approved

IEC Central Office forwards the approved NWI to the IEEE-SA Program Manager, International Standards Programs

The IEEE-SA Program manager, International Standards Programs, forwards the approved PAR to the Chair and Secretary of the relevant IEC committee, with a copy to the IEC Technical Officer

Forming an official working group and preparation of draft

- Experts from the IEC have been appointed during the New Proposal (NWI) ballot
- A call for experts is issued by IEEE
- The WG convener is chosen by the working group and the appointment is confirmed by the IEC Committee and the IEEE comittee.
- The WG prepares a draft, using IEC Standards Development Template in accordance with the ISO/IEC Directives

IEC and IEEE comments and balloting

IEC Central Office circulates the draft to the National Committes for comment within 3 months

IEEE TC or WG circulates the draft to their experts for comment within 3 months

The comments are compiled by the committee which initiated the project and sent to the working group for review.

Only editorial comments: another draft is prepared by the working group for ballot

Comments of significant (technical) nature: A second draft for comments is prepared by the working group

Voting: IEC CDV. Ballot lasts 5 months
IEEE Sponsor Ballot. Ballot lasts from 30 to 45 days
IEC and IEEE ballots must close on the same date

Final approval (after positive balloting results)

Submission to IEC for approval: The IEC Central Office circulates the document to the National Committees as a FDIS. Ballot open for 2 months

Submission to IEEE for Approval: The IEEE TC submits the draft to the IEEE-SA Standards Board for approval

Approved by IEC and IEEE

The documant is published as a Joint IEC-IEEE International Standard, designated IEC/IEEE 6ABCDE

The Joint IEC-IEEE development of standards on methods for condition monitoring, is a pilot application of the new agreement

Project 62582

Standards IEC/IEEE 62582-n

Project team 62582, Invited

- All members of IEC SC45A WG10
- Members appointed by IEEE SC-2 (all members of SC-2.1)
- Chairman and expert from IEC TC112 WG2 Evaluation and qualification of electrical insulating materials and systems – Radiation
- Representative of IEC TC86 Fibre Optics

Structure

- One general part and one separate part for each condition monitoring method.
- Each part will be issued as a separate standard but with the same basic identification number

IEC/IEEE 62582-n

Part 1 General

General information and schemes on application of CM methods in management of ageing, i.e.

applicability of various methods

needs for accuracy and reproducibility related to the application - e.g. as an element in determination of qualified condition

special requirements and precautions for field measurements – e.g. caution on people and plant safety,

requirements on sampling, selection of representative samples, handling of significant differences in measured condition indicator value between samples

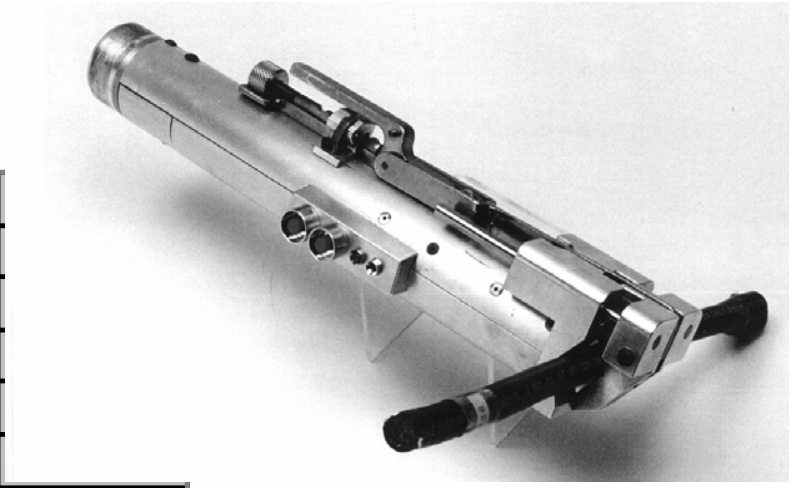
…

Part 2-n Specific condition monitoring methods, one part for each condition indicator

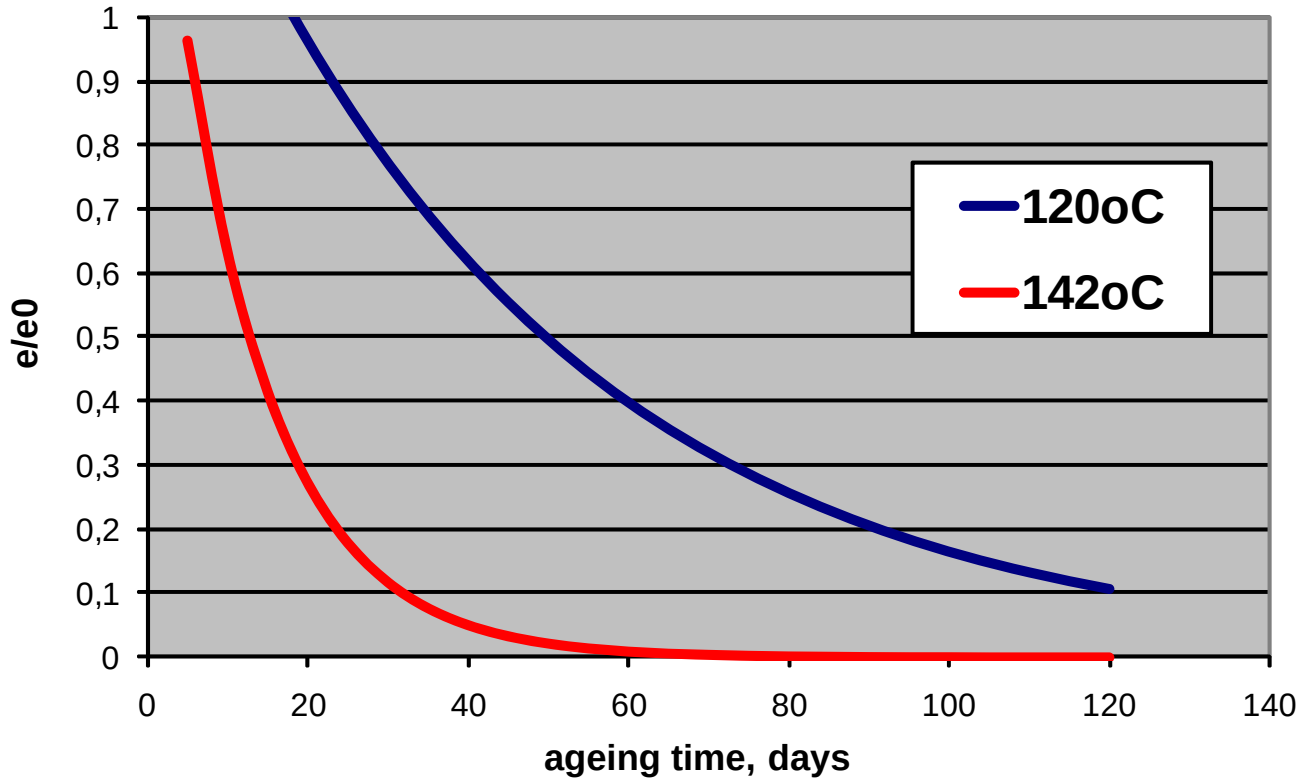
- Each method is described in the format of a measurement standard. It describes the measurement procedure in detail, requirements on calibration and tolerances, shape, size and mounting of the specimen where applicable, determination of the condition indicator value, and requirements on reporting.

- Informative annexes is attached to each method including practical guidance on sample preparation and performance of the measurements, a table of materials for which the method is known to be useful are included in each part, etc., and bibliography.

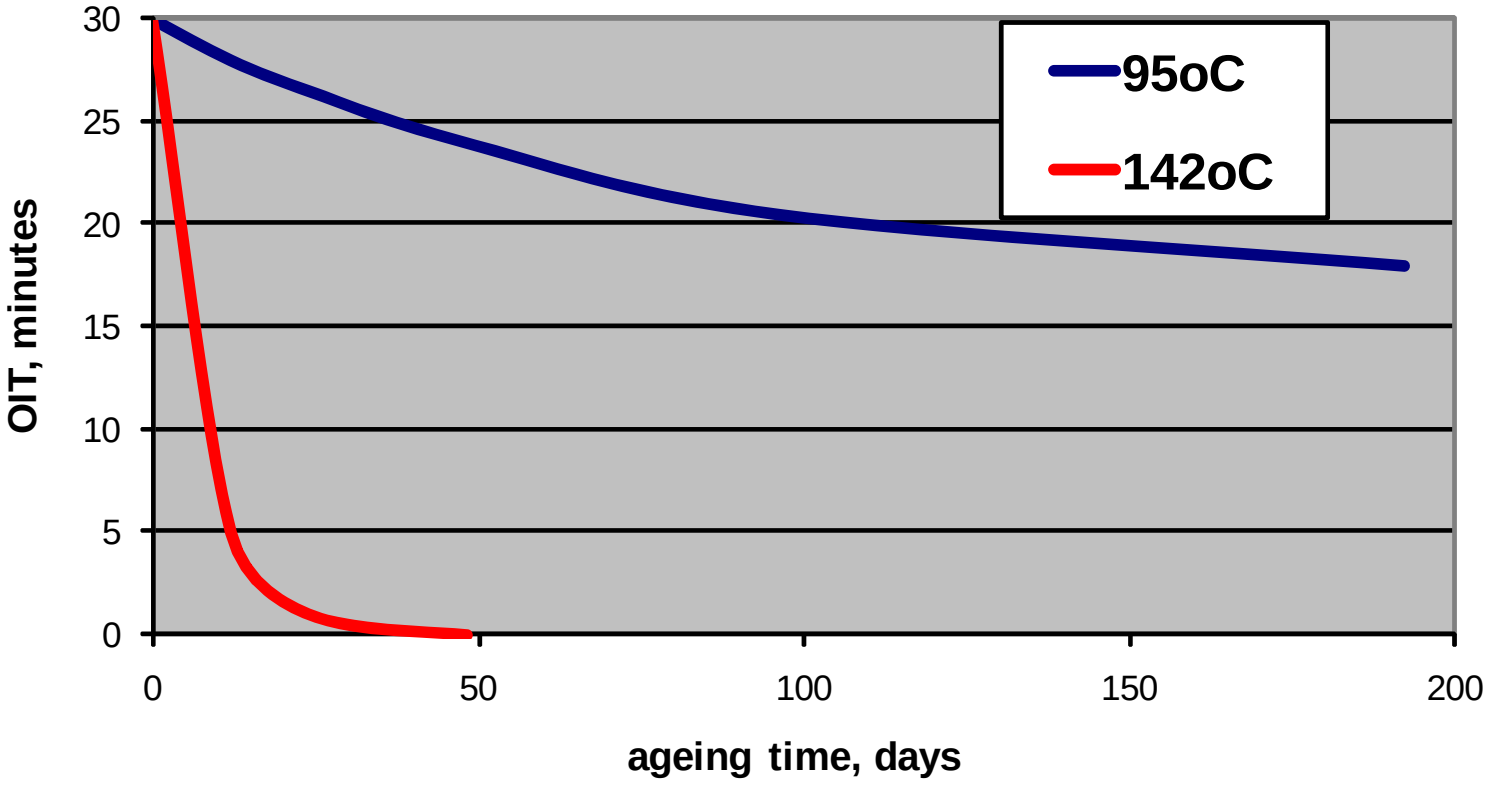
Part 2: Method descriptions - Indenter modulus



Part 3: Method descriptions – Elongation at break



Part 4: Method descriptions – Oxidation induction measurements



Schedule

- Beginning of September 2008: Drafts on part 2, 3 and 4 sent by the project leader to all on the invitation list. In the case of SC-2.1 to Jim Gleason for distribution to SC-2.1
- September 25 and 26, 2008: First meeting of the Project team in Forsmark, Sweden.
- End of December 2008: Based on the results of the discussions in Forsmark, the drafts will be revised and complemented and circulated to all on the invitation list for comments. A more complete draft of Part 1 will also be included.
- January 12-13, 2009 : Second meeting of the Project Team in Belgium. After that meeting new drafts will be prepared and sent to the group for final comments from the group members.
- Second half of April 2009: Third meeting of the Project team, at which the final formulation of the drafts will be decided upon.
- End of April 2009: The project leader submits the drafts to IEC and IEEE

First project team meeting in Forsmark September 25-26, 2008