

# PC57.100

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**Submitter Email:** roger.c.wicks@usa.dupont.com

**Type of Project:** Modify Existing Approved PAR

**PAR Request Date:** 08-Mar-2010

**PAR Approval Date:** 17-Jun-2010

**PAR Expiration Date:** 31-Dec-2010

**Status:** Modification to a Previously Approved PAR for the Revision of a Standard

**Root PAR:** PC57.100 **Approved on:** 08-Dec-2004

**Project Record:** No Project Record

**Root Project:** C57.100-1999 Edit Root Project Record

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**1.1 Project Number:** PC57.100

**1.2 Type of Document:** Standard

**1.3 Life Cycle:** Full Use

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**2.1 Title:** Standard Test Procedure for Thermal Evaluation of Insulation Systems for Liquid-Immersed Distribution and Power Transformers

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**3.1 Working Group:** Insulating Life - Thermal Eval. of Dist. Xfrmrs Working Group (PE/TR/InsLife-WGC57.100)

**Contact Information for Working Group Chair**

**Name:** Roger Wicks

**Email Address:** roger.c.wicks@usa.dupont.com

**Phone:** 804-383-3300

**Contact Information for Working Group Vice-Chair**

None

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**3.2 Sponsoring Society and Committee:** IEEE Power & Energy Society/Transformers (PE/TR)

**Contact Information for Sponsor Chair**

**Name:** James Smith

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**4.1 Type of Ballot:** Individual

**4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot:** 03/2010

**4.3 Projected Completion Date for Submittal to RevCom:** 08/2010

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**5.1 Approximate number of people expected to be actively involved in the development of this project:** 40

**5.2 Scope:** This standard applies to the insulation systems used in all liquid-immersed distribution and power transformers. This standard provides test procedures to evaluate the thermal aging characteristics of insulation systems used in liquid-immersed distribution or power transformers. The dielectric liquid is part of the insulation system.

**Old Scope:** This standard provides test procedures to evaluate the thermal aging characteristics of insulation systems used in liquid-immersed distribution or power transformers. The dielectric liquid is part of the insulation system. The test procedure shall simulate practical service conditions of the insulation system, with the main emphasis on the thermal aging of materials in the candidate insulation system as compared to a conventional insulation system.

**5.3 Is the completion of this standard dependent upon the completion of another standard:** No

**5.4 Purpose:** The objective of this test procedure is to establish uniform methods for investigating the effects of operating temperature on the life expectancy of liquid-immersed transformer insulation systems. The results of these test procedures are expected to:

**Old Purpose:** The purpose of the this revision of C57.100 is to deal with issues raised during the last ballot for this document as well as in meetings held to resolve that ballot. This revision is required, as the document is near the end of its 5 year life. These issues include, but are not limited to:

a) Provide the basis for the selection of a limiting hottest-spot temperature for rating purposes;

1. Defining what a conventional insulation system is.  
2. Understanding when a manufacturer must test per this

- b) Provide life curves that may serve as the basis for a guide for loading; and
- c) Permit the comparative evaluation of a proposed insulation system with reference to an industry proven system that has been shown to be acceptable in service.

document.

- 3. Understanding that the type of equipment produced (power vs. distribution transformer) may dictate the type of testing available to the equipment manufacturer.

**5.5 Need for the Project:** The reason for this project is to update the standard to be in line with current industry practice. The existing document was developed to establish life curves. Now that these exist, the document should support comparison with the established curves for an "industry proven system".

**5.6 Stakeholders for the Standard:** The target users are liquid immersed power and distribution transformer manufacturers, their suppliers (of new materials) and their customers.

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## Intellectual Property

**6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?:** No

**6.1.b. Is the Sponsor aware of possible registration activity related to this project?:** No

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**7.1 Are there other standards or projects with a similar scope?:** No

## 7.2 International Activities

### a. Adoption

**Is there potential for this standard (in part or in whole) to be adopted by another national, regional or international organization?:** No

### b. Joint Development

**Is it the intent to develop this document jointly with another organization?:** No

### c. Harmonization

**Are you aware of another organization that may be interested in portions of this document in their standardization development efforts?:** Yes

**Organization:** IEC

**Technical Committee Name:** Evaluation and qualification of electrical insulating materials and systems

**Technical Committee Number:** 112

**Contact Name:** Roger Wicks

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**8.1 Additional Explanatory Notes (Item Number and Explanation):** Changes have been made to the Scope and Purpose to match up with the balloted version of the document.