P442

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Type of Project: Modify Existing Approved PAR
PAR Request Date: 14-Sep-2016
PAR Approval Date: 07-Dec-2016
PAR Expiration Date: 31-Dec-2018
Status: Modification to a Previously Approved PAR for the Revision of a Standard
Root PAR: P442 **Approved on:** 05-Feb-2010
Root Project: 442-1981

1.1 Project Number: P442
1.2 Type of Document: Guide
1.3 Life Cycle: Full Use

2.1 Title: Guide for Thermal Resistivity Measurements of Soils and Backfill Materials

Changes in title: Guide for ~~Soil~~ Thermal Resistivity ~~Measurement~~Measurements of Soils and Backfill Materials

3.1 Working Group: Working Group for Guide for Soil Thermal Resistivity Measurements - IEEE 442 (PE/IC/C25W/P442_WG)
Contact Information for Working Group Chair
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3.2 Sponsoring Society and Committee: IEEE Power and Energy Society/Insulated Conductors (PE/IC)
Contact Information for Sponsor Chair
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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: 02/2017
4.3 Projected Completion Date for Submittal to RevCom
Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 10/2017

5.1 Approximate number of people expected to be actively involved in the development of this project: 30
5.2 Scope: This guide covers the measurement of thermal resistivity of soil and backfill materials to include concrete, engineered backfills, grout, rock, sand and any other material used to encase the cable system installed in the ground. A thorough knowledge of the thermal properties of a soil or backfill material will enable the user to properly design, thermally rate and load underground cables. The method is based on the theory that the rate of temperature rise of a line heat source embedded in the soil is dependent upon the thermal constants, including the thermal resistivity, of the medium in which it is placed. The designs for both laboratory and field thermal probes are also described in this guide.

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

5.4 Purpose: The purpose of this guide is to provide sufficient information to enable the user to select useful commercial test equipment, or to manufacture equipment which is not readily available on the market, and to make meaningful resistivity measurements with this equipment. Measurements may be made in the field or in the laboratory on recompacted soil samples or both.

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5.5 Need for the Project: This document has not been reviewed or updated since 1981 and requires updates both grammatical as well as technical data that need to be incorporated from working examples over the last 20+ years

5.6 Stakeholders for the Standard: Utilities, Electrical Engineers, Consultants that require the thermal resistivity measurements to conduct their ampacity calculations

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

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8.1 Additional Explanatory Notes: This document has not been reviewed or updated since 1981 and requires updates both grammatical as well as technical data that need to be incorporated from working examples over the last 20+ years

4.2: Date of Initial Sponsor Ballot has been updated.

The PAR is being modified in Sections 2.1 and 5.2 to add information on Backfill as the original documentation only specified soil and the testing methods in the update apply for not only soils but also backfills.