

HIGHER TECHNICAL INSTITUTE

**ELECTRICAL ENGINEERING
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**UNDERGROUND CABLES TECHNOLOGIES
AND THERMAL RATINGS**

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UNDERGROUND CABLES TECHNOLOGIES AND THERMAL RATINGS

Utilities are faced with the need of using effectively conducting media for transferring power from substations and consumers. Underground cables are essential part of Utility networks and various technologies have been developed to meet different requirements.

- Understand various cable designs and parameters that affect their usage,
- Identify the physical parameters of available cable technologies and their role in the overall performance of cable systems,
- Investigate various cable system practices in meeting Utilities objectives and requirements,

- Learn how to calculate thermal rating of cable systems using international recommendations and world wide established practices.

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INTRODUCTION

Utilities are faced with the need of using effectively conducting media for transferring power from substations to other substations and consumers. An essential part of Utility networks are the Underground Cables.

A considerable amount of transmission and distribution , especially in urban areas is carried out by means of underground cables. In the present time electricity supply authorities are been force, from the growing public , to preserve the amenities of both town and countryside . Because of these problem the supply authorities considerer the under-grounding of many circuits which they would prefer on economic grounds to place overhead. Even in sparsely populated regions, high-voltage bulk transmission circuits have been placed underground where areas of outstanding beauty exist.

Under-grounding cables must take into consideration a lot of parameters. First of all if another method can be used (overheat), what kind of cables must be used, if the cables are be installed at the proper high under the earth, if in the case of a fault the fault can be repaired easily and fast, the cost of the network. These are only few of the questions we must think before under-grouping any cables.

The purpose of the work is finding out these parameters that affects under-grounding the power cables. To try finding the best solutions for these questions.

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