

Eskom Power Series

Volume 3

The Practical Guide to Outdoor High Voltage Insulators

Who should read this book?

This book is a practical guide for utility staff and consulting engineers responsible for the selection, installation and maintenance of insulators for outdoor high voltage lines and substations. Students and engineers in training will also benefit greatly.



What does this book cover?

The Practical Guide to Outdoor High Voltage Insulators (Volume 3 in the Eskom Power Series) is intended to provide an understanding of the factors that dictate the behaviour of overhead line and substation insulators and to generate an appreciation of the parameters that have a significant influence on their performance and life.

The emphasis of the book is definitely on the 'practical', and simple procedures, decision tables, flow charts and inspection sheets are included, both in the text and on the accompanying CD, to assist those involved in the design and operation of electrical transmission and distribution systems.

Insulator types and their characteristics, electrical, mechanical, material and environmental considerations, insulator selection, tests and specifications, failure mechanisms, handling and installation practices, line and substation performance improvement, and pollution mitigation techniques are all dealt with in detail, with emphasis on practical field application.

Easy to use procedures, guides, decision tables, flowcharts, inspection sheets and software are included. IEC standards and SI units are used throughout. Everything you need to know practically about outdoor high voltage insulators ...

Contents of the book

Chapter 1:	Introduction
Chapter 2:	Insulator Types and Characteristics
Chapter 3:	Electrical Considerations
Chapter 4:	Environmental Considerations
Chapter 5:	Material Considerations
Chapter 6:	Mechanical Considerations
Chapter 7:	Failure Mechanisms
Chapter 8:	Tests and Specifications
Chapter 9:	Insulator Selection and Specification
Chapter 10:	Handling and Installation Practices
Chapter 11:	Inspection and Analysis Techniques
Chapter 12:	Pollution Mitigation Techniques

What other books are available?

Volume 1: The Planning, Design and Construction of Overhead Power Lines (pp 772), ISBN No. 978-0-620-33042-8

Volume 2: Fundamentals and Practice of Overhead Line Maintenance (pp 258), ISBN No. 0-620-30906-7

Volume 4: Inductive Instrument Transformers and Protective Applications (pp 860), ISBN No. 0-620-37865-4

Volume 5: Theory, Design, Maintenance and Life Management of Power Transformers (pp 337), ISBN No. 978-0-620-38294-6

Volume 6 (Part 1): High Voltage Overhead Power Lines: Theoretical Calculations and Formulae for Conductor Installations (pp 349), ISBN No. 978-0-620-42834-7

Volume 6 (Part 2): High Voltage Overhead Power Lines: Theoretical Calculations and Formulae for Transmission Line Towers (pp 378), ISBN No. 978-0-620-46585-4

Volume 7: Corona in Transmission Systems: Theory, Design and Performance (pp 528), ISBN No. 978-0-620-49388-8

Volume 8: Power Quality in Electrical Power Systems: A Holistic Approach (pp 665), ISBN No. 978-0-9921781-2-3

Volume 9 (Part 1): HVDC Power Transmission: Basic Principles, Planning and Converter Technology (pp 832), ISBN No. 978-0-9921781-0-9

Volume 10: Thermodynamics for Students and Practising Engineers (pp 262), ISBN No. 978-0-992-17811-6

Volume 11: Thermal Science for Engineers (pp 303), ISBN No. 978-0-992-17813-0

What books are in development?

- The Engineer's Toolkit
- HVDC Power Transmission (Part 2)
- Power Station Chemistry Book
- High Voltage Overhead Power Lines: Construction Works
- Fly Ash Properties and Utilisation Book (Parts 1 to 6)
- Insulating Fluid for the Electrical Engineering Industry
- AC Substation Design Handbook
- Coal Classification and Utilisation Book

Where can I purchase copies?

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Reg No 2002/015527/06