

ISBN 978-0-626-24822-2

SANS 60287-3-1:2010

Edition 1.1

IEC 60287-3-1:1999

Edition 1.1

SOUTH AFRICAN NATIONAL STANDARD

Electric cables — Calculation of the current rating

Part 3-1: Sections on operating conditions — Reference operating conditions and selection of cable type

This national standard is the identical implementation of IEC 60287-3-1:1999 and is adopted with the permission of the International Electrotechnical Commission.

SANS 60287-3-1:2010

Edition 1.1

IEC 60287-3-1:1999

Edition 1.1

Table of changes

Change No.	Date	Scope
IEC amdt 1	1999	Amended to change the requirements for the thermal characteristics of the soil, the depth of laying for directly buried cables, and the value for temperature to be used in calculation for operating conditions in Poland.

National foreword

This South African standard was approved by National Committee SABS TC 66, *Electric cables*, in accordance with procedures of the SABS Standards Division, in compliance with annex 3 of the WTO/TBT agreement.

This SANS document was published in November 2010.

INTERNATIONAL STANDARD

IEC 60287-3-1

Edition 1.1
1999-05

Edition 1:1995 consolidated with amendment 1:1999

Electric cables – Calculation of the current rating – Part 3-1: Sections on operating conditions – Reference operating conditions and selection of cable type

© IEC 1999 Copyright - all rights reserved

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission, 3, rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE **CC**

For price, see current catalogue

CONTENTS

	Page
FOREWORD	5
INTRODUCTION	7
Clause	
1 Scope	9
2 Normative reference	9
3 Reference ambient temperatures and thermal resistivities of soil in various countries	9
3.1 Standard operating conditions.....	9
3.2 Procedure when values are not provided in national tables	11
4 Values relating to the operating conditions in various countries.....	13
5 Information required from the purchaser for the selection of the appropriate type of cable.....	29
5.1 Background	29
5.2 Operating conditions	29
5.3 Installation data	31

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRIC CABLES – CALCULATION OF THE CURRENT RATING – Part 3-1: Sections on operating conditions – Reference operating conditions and selection of cable type

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60287-3-1 has been prepared by subcommittee 20A: High-voltage cables, of IEC technical committee 20: Electric cables.

This first edition of 60287-3-1 cancels and replaces annexes A and B of the second edition of IEC 60287 published in 1982 without technical changes.

IEC 60287-1-1 replaces sections one and two of the second edition of IEC 60287, IEC 60287-2-1 replaces section three and annexes C and D of the second edition of IEC 60287; IEC 60287-3-2 replaces the first edition of IEC 61059.

This consolidated version of IEC 60287-3-1 consists of the first edition (1995) [documents 20A(CO)75 and 20A(CO)81] and its amendment 1 (1999) [documents 20A/403/FDIS and 20A/408/RVD].

The technical content is therefore identical to the base edition and its amendment and has been prepared for user convenience.

It bears the edition number 1.1.

A vertical line in the margin shows where the base publication has been modified by amendment 1.