

English version

**Electrical installation guide -  
Selection and erection of electrical equipment -  
Wiring systems -  
Limitation of temperature rise of connecting interfaces**

Guide pour les installations électriques -  
Choix et mise en oeuvre  
des matériels électriques -  
Canalisations -  
Limitation des échauffements  
dus aux interfaces de connexion

Leitfaden für elektrische Anlagen -  
Auswahl und Errichtung  
elektrischer Betriebsmittel -  
Kabel- und Leitungsanlagen -  
Begrenzung des Temperaturanstiegs  
bei Schnittstellenanschlüssen

This Technical Report was approved by CENELEC on 2006-10-09.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

This Technical Report was prepared by SC 64B, Protection against thermal effects, of Technical Committee CENELEC TC 64, Electrical installations and protection against electric shock.

The text of the draft was submitted to a vote and was approved by CENELEC as CLC/TR 50479 on 2006-10-09.

This Technical Report supersedes R064-002:1994.

---

This document is a preview generated by EVS

## INTRODUCTION

When designing an installation or during initial verification, it is sometimes observed that the temperatures reached by interfaces between terminals and conductors are higher than those which could be withstood by insulation in normal service.

In this case, precautions shall be taken so that the temperature attained by terminals in normal service shall not impair effectiveness of the insulation of conductors connected to them or supporting them.

See HD 384.5.52 'Electrical installations of buildings – Part 5: Selection and erection of electrical equipment – Chapter 52: Wiring systems'.

### 52.1 General

#### 52.1.1 Scope

This Technical Report is for use as a guide for electrical installations. It is applicable to the limitation of temperature rises of connecting interfaces.

#### 52.1.2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 60439-1:1999, Low-voltage switchgear and controlgear assemblies - Part 1: Type-tested and partially type-tested assemblies (IEC 60439-1:1999)

EN 60439-3:1991, Low-voltage switchgear and controlgear assemblies - Part 3: Particular requirements for low-voltage switchgear and controlgear assemblies intended to be installed in places where unskilled persons have access for their use - Distribution boards (IEC 60439-3:1990, modified)

HD 384.5.523 S2:2001, Electrical installations of buildings - Part 5: Selection and erection of electrical equipment - Section 523: Current-carrying capacities in wiring systems (IEC 60364-5-523:1999, modified)

CLC/TR 60890:2002, A method of temperature-rise assessment by extrapolation for partially type-tested assemblies (PTTA) of low-voltage switchgear and controlgear (IEC 60890:1987 + corr. 1988 + A1:1995)

IEC/TR 60943:1998, Guidance concerning the permissible temperature rise for parts of electrical equipment, in particular for terminals

### 52.2 Maximum temperatures of terminals in normal service conditions

**52.2.1** The temperature of a terminal is the sum of the ambient temperature and its temperature rise in normal service.

Product standards give conventional limit values for temperature rise under defined test conditions, but do not indicate, in general, limits for permissible temperature rises in service conditions.

Relevant standards in this respect are EN 60439-1, EN 60439-3 and CLC/TR 60890.

**52.2.2** The temperatures of terminals are affected by the heat dissipated in normal service by the equipment. This heat may be caused by internal losses dissipated in the equipment and by neighbouring internal and external heat sources, if any.

The temperatures of terminals are also related to the way in which they are used, which could affect their electrical resistance and dissipation of heat.