

### **BSI Standards Publication**

# Information technology – Generic cabling – Introduction to the MICE environmental classification



### **National foreword**

This Published Document is the UK implementation of ISO/IEC TR 29106:2007+A2:2019. It supersedes PD ISO/IEC TR 29106:2007+A1:2012, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to ISO/IEC text carry the number of the ISO/IEC amendment. For example, text altered by ISO/IEC amendment 1 is indicated by A)

The UK participation in its preparation was entrusted to Technical Committee TCT/7, Telecommunications - Installation requirements.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2019 Published by BSI Standards Limited 2019

ISBN 978 0 539 06116 1

ICS 35.110; 35.200

### Compliance with a British Standard cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 29 February 2008.

### Amendments/corrigenda issued since publication

Date	Text affected	
30 April 2014	Implementation of ISO/IEC amendment 1:2012	
31 October 2019	Implementation of ISO/IEC amendment 2:2019	



### **ISO/IEC TR 29106**

Edition 1.0 2019-07

# TECHNICAL REPORT

Information technology – Generic cabling – Introduction to the MICE environmental classification

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ISBN 78-2-8322-7154-4

Warning! Make sure that you obtained this publication from an authorized distributor.

### **CONTENTS**

FΟ	REW	)RD	3	
INT	ROD	JCTION to Amendment 1	5	
1	Scope			
2		Reference documents		
		s, definitions and abbreviations		
	3.1	Terms and definitions		
	3.2	Abbreviations		
4	Application of environmental classification			
	4.1	MICE	7	
	4.2	Channel environment		
	4.3	Component selection	8	
5	MICE	E system	10	
	5.1	General	10	
	5.2	Mechanical environment classification	11	
	5.3	Ingress protection and climatic environment classification		
	5.4	Chemical environment classification		
	5.5	Electromagnetic environment classification		
Bib	liogra	phy	17	
		– Example of variation of the environment along an industrial premises hannel	٥	
rig	ure z	– The local environment	0	
Tal	ole 1 -	- Details of environmental classification	9	
Tal	ole 2 -	- Derivation of boundaries for mechanical criteria in Table 1	11	
Tal	ole 3 -	- Derivation of boundaries for ingress protection criteria in Table 1	12	
Tal	ole 4 -	- Derivation of boundaries for climatic criteria in Table 1	12	
Tal	ole 5 -	- Derivation of boundaries for chemical criteria in Table 1	13	
Tal	ole 6 -	- Derivation of boundaries for electromagnetic criteria in Table 1	16	

ISO/IEC TR 29106:2007+A2:2019 © ISO/IEC 2019

# INFORMATION TECHNOLOGY – GENERIC CABLING – INTRODUCTION TO THE MICE ENVIRONMENTAL CLASSIFICATION

### **FOREWORD**

- 1) ISO (International Organization for Standardization) and IEC (International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards. Their preparation is entrusted to technical committees; any ISO and IEC member body interested in the subject dealt with may participate in this preparatory work. International governmental and non-governmental organizations liaising with ISO and IEC also participate in this preparation.
- 2) In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.
- 3) The formal decisions or agreements of IEC and ISO 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 IEC and ISO member bodies.
- 4) IEC, ISO and ISO/IEC publications have the form of recommendations for international use and are accepted by IEC and ISO member bodies in that sense. While all reasonable efforts are made to ensure that the technical content of IEC, ISO and ISO/IEC publications is accurate, IEC or ISO cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 5) In order to promote international uniformity, IEC and ISO member bodies undertake to apply IEC, ISO and ISO/IEC publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any ISO/IEC publication and the corresponding national or regional publication should be clearly indicated in the latter.
- 6) ISO and IEC provide no marking procedure to indicate their approval and cannot be rendered responsible for any equipment declared to be in conformity with an ISO/IEC publication.
- 7) All users should ensure that they have the latest edition of this publication.
- 8) No liability shall attach to IEC or ISO or its directors, employees, servants or agents including individual experts and members of their technical committees and IEC or ISO member bodies for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication of, use of, or reliance upon, this ISO/IEC publication or any other IEC, ISO or ISO/IEC publications.
- 9) Attention is drawn to the reference documents cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 10) Attention is drawn to the possibility that some of the elements of this Technical Report, type 3 may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

The main task of IEC and ISO technical committees is to prepare International Standards. In exceptional circumstances, ISO/IEC JTC 1 or a subcommittee may propose the publication of a technical report of one of the following types:

- type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development or where, for any other reason, there is the future but not immediate possibility of an agreement on an International Standard;
- type 3, when the technical committee has collected data of a different kind from that which is normally published as an International Standard, for example 'state of the art'.

ISO/IEC TR 29106:2007+A2:2019 © ISO/IEC 2019

ISO/IEC 29106, which is a Technical Report of type 3, has been prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

Technical reports of types 1 and 2 are subject to review within three years of publication to decide whether they can be transformed into International Standards. Technical reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

This Technical Report of type 3 has been approved by vote of the member bodies, and the voting results may be obtained from the address given on the second title page.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

ISO/IEC TR 29106:2007+A2:2019 © ISO/IEC 2019

### INTRODUCTION to Amendment 1

The Amendment has been developed to correct the misalignment of the MICE table with ISO/IEC 24702.

## INFORMATION TECHNOLOGY – GENERIC CABLING – INTRODUCTION TO THE MICE ENVIRONMENTAL CLASSIFICATION

### 1 Scope

This Technical Report acts as an introduction to the concepts used to develop the MICE environmental classification system used in cabling standards developed by ISO/IEC. It also provides detailed explanation of the sources used to define the boundaries of MICE classifications.

#### 2 Reference documents

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.

### A2) Text deleted (A2

NSO/IEC 11801-1:2017, Information technology – Generic cabling for customer premises – Part 1: General requirements

ISO/IEC 11801-2, Information technology – Generic cabling for customer premises – Part 2: Office premises

ISO/IEC 11801-3, Information technology – Generic cabling for customer premises – Part 3: Industrial premises

ISO/IEC 11801-4, Information technology – Generic cabling for customer premises – Part 4: Single-tenant homes

ISO/IEC 11801-5, Information technology – Generic cabling for customer premises – Part 5: Data centres

ISO/IEC 11801-6, Information technology – Generic cabling for customer premises – Part 6: Distributed building services (A2)

IEC 60068-2-5:1975, Environmental testing – Part 2: Tests. Test Sa: Simulated solar radiation at ground level

IEC 60654-4:1987 Operating conditions for industrial-process measurement and control equipment. Part 4: Corrosive and erosive influences

IEC 60721-1, Classification of environmental conditions – Part 1: Environmental parameters and their severities

IEC 60721-3-3, Classification of environmental conditions – Part 3-3: Classification of groups of environmental parameters and their severities - Stationary use at weatherprotected locations

### $A_1$ Text deleted $A_1$

IEC 61000-6-1, Electromagnetic compatibility (EMC) – Part 6-1: Generic standards – Immunity for residential, commercial and light-industrial environments

IEC 61000-6-2, Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments