INTERNATIONAL STANDARD

IEC 60384-22-1

First edition
2004-06

Fixed capacitors for use in electronic equipment –

Part 22-1:
Blank detail specification:
Fixed surface mount multilayer capacitors of ceramic dielectric, Class 2 –
Assessment level EZ

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

Reference number
IEC 60384-22-1:2004(E)

Publication numbering

As from 1 January 1997 all IEC publications are issued with a designation in the 60000 series. For example, IEC 34-1 is now referred to as IEC 60034-1.

Consolidated editions

The IEC is now publishing consolidated versions of its publications. For example, edition numbers 1.0, 1.1 and 1.2 refer, respectively, to the base publication, the base publication incorporating amendment 1 and the base publication incorporating amendments 1 and 2.

Further information on IEC publications

The technical content of IEC publications is kept under constant review by the IEC, thus ensuring that the content reflects current technology. Information relating to this publication, including its validity, is available in the IEC Catalogue of publications (see below) in addition to new editions, amendments and corrigenda. Information on the subjects under consideration and work in progress undertaken by the technical committee which has prepared this publication, as well as the list of publications issued, is also available from the following:

- **IEC Web Site (www.iec.ch)**

- **Catalogue of IEC publications**

  The on-line catalogue on the IEC web site (www.iec.ch/searchpub) enables you to search by a variety of criteria including text searches, technical committees and date of publication. On-line information is also available on recently issued publications, withdrawn and replaced publications, as well as corrigenda.

- **IEC Just Published**

  This summary of recently issued publications (www.iec.ch/online_news/ justpub) is also available by email. Please contact the Customer Service Centre (see below) for further information.

- **Customer Service Centre**

  If you have any questions regarding this publication or need further assistance, please contact the Customer Service Centre:

  Email: custserv@iec.ch
  Tel: +41 22 919 02 11
  Fax: +41 22 919 03 00

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

INTERNATIONAL STANDARD

IEC 60384-22-1

First edition
2004-06

Fixed capacitors for use in electronic equipment –

Part 22-1: Blank detail specification: Fixed surface mount multilayer capacitors of ceramic dielectric, Class 2 – Assessment level EZ

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

© IEC 2004 — 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 Varembé, 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 P

For price, see current catalogue

CONTENTS

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –

Part 22-1: Blank detail specification: Fixed surface mount multilayer capacitors of ceramic dielectric, Class 2 – Assessment level EZ

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. 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 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 IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees 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, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60384-22-1 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment

This standard and its related publications (CEI 60384-21, IEC 60384-21-1 and IEC 60384-22) cancel and replace IEC 60384-10 (1989) and its Amendments 1 (1993) and 2 (2000) as well as IEC 60384-10-1 (1989) and its Amendment 1 (1993).

The text of this standard is based on the following documents:

FDIS	Report on voting
40/1423/FDIS	40/1454/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

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

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

A bilingual version of this standard may be issued at a later date.

The contents of the corrigendum of September 2004 have been included in this copy.

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

INTRODUCTION

Blank detail specification

A blank detail specification is a supplementary document to the sectional specification and contains requirements for style, layout and minimum content of detail specifications. Detail specifications not complying with these requirements may not be considered as being in accordance with IEC specifications nor shall they so be described.

In the preparation of detail specifications the content of 1.4 of the sectional specification shall be taken into account.

The numbers between square brackets on the first page of the detail specification correspond to the following information which shall be inserted in the position indicated.

Identification of the detail specification

(1) The “International Electrotechnical Commission” or the National Standards Organization under whose authority the detail specification is drafted.

(2) The IEC or National Standards number of the detail specification, date of issue and any further information required by the national system.

(3) The number and issue number of the IEC or national generic specification.

(4) The IEC number of the blank detail specification.

Identification of the capacitor

(5) A short description of the type of capacitor.

(6) Information on typical construction (when applicable).

(7) Outline drawing with main dimensions which are of importance for interchangeability and/or reference to the national or international documents for outlines. Alternatively, this drawing may be given in an annex to the detail specification.

(8) Application or group of applications covered and/or assessment level.

(9) Reference data on the most important properties, to allow comparison between the various capacitor types.

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

(1)	IEC 60384-22-1-ZZZ QC 30XXXX-ZZZ (2)
ELECTRONIC COMPONENTS OF ASSESSED (3) QUALITY IN ACCORDANCE WITH :	IEC 60384-22-1 (4) QC 30 XXXX
Outline drawing : (see Table 1) (7) (…angle projection)	FIXED SURFACE MOUNT MULTILAYER CAPACITORS OF CERAMIC DIELECTRIC, CLASS 2 (5)
	(6)
(Other shapes are permitted within the dimensions given)	Assessment level: EZ (8)

Information on the availability of components qualified to this detail specification is given in the IEC QC 001005.

(9)

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –

Part 22-1: Blank detail specification: Fixed surface mount multilayer capacitors of ceramic dielectric, Class 2 – Assessment level EZ

1 General data

1.1 Recommended method(s) of mounting (to be inserted)

(See 1.4.2 of IEC 60384-22).

1.2 Dimensions

Table 1 – Case size reference and dimensions

Case size reference	Dimension (mm)						
	L_1	W	H	L_2	L_3	L_4	---
When there is no case size reference, Table 1 may be omitted and the dimensions shall be given in Table 2, which then becomes Table 1. The dimensions shall be given as maximum dimensions or as nominal dimensions with a tolerance.							

1.3 Ratings and characteristics

Rated capacitance range	(see Table 2)
Tolerance on rated capacitance	
Rated voltage	(see Table 2)
Category voltage (if applicable)	(see Table 2)
Climatic category	
Rated temperature	
Category temperature (if applicable)	
Tangent of loss angle	
Insulation resistance	
Temperature characteristics of capacitance	…%

Table 2 – Values of capacitance and of voltage related to case sizes

Rated voltage				
Category voltage [1)]				
Rated capacitance	Case size	Case size	Case size	Case size
(in pF, nF and/ or µF)				

[1)] If different from the rated voltage.

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

1.4 Normative references

IEC 60384-1:1999, *Fixed capacitors for use in electronic equipment – Part 1: Generic specification.*

IEC 60384-22:2004, *Fixed capacitors for use in electronic equipment – Part 22: Sectional specification: Fixed surface mount multilayer capacitors of ceramic dielectric, Class 2*

IEC 60410:1973, *Sampling plans and procedures for inspection by attributes*

1.5 Marking

The marking of the capacitor, if applied, and the package shall be in accordance with the requirements of 1.6 of IEC 60384-22.

NOTE The details of the marking of the component and package shall be given in full in the detail specification.

1.6 Ordering information

Orders for capacitors covered by this specification shall contain, in clear or in coded form, the following minimum information:

a) Rated capacitance.

b) Tolerance on rated capacitance.

c) Rated d.c. voltage.

d) Temperature characteristics of capacitance.

e) Number and issue reference of the detail specification and style reference.

1.7 Certified records of released lots

Required/not required.

1.8 Additional information (not for inspection purposes)

1.9 Additional or increased severities or requirements to those specified in the generic and/or sectional specification

NOTE Additions or increased requirements should be specified only when essential.

Table 3 – Other characteristics

This table is to be used for defining characteristics which are additional to or more severe than those given in the sectional specification.

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

2 Inspection requirements

2.1 Procedures

2.1.1

For qualification approval, the procedures shall be in accordance with 3.4 of IEC 60384-22.

2.1.2

For quality conformance inspection, the test schedule (Table 4) includes sampling, periodicity, severities and requirements. The formation of inspection lots is covered by 3.5.1 of IEC 60384-22.

Table 4 – Test schedule for quality conformance inspection

Subclause number and test [1]	**D or ND**	**Conditions of test** [1]	**Number of specimens and number of non-conformances** [2]			**Performance requirements** [1]
			IL	***n***	***c***	
Group A inspection (lot-by-lot)						
Subgroup A0	ND		100 % [3]			
4.5.1 Capacitance		Frequency: ... Hz Measuring voltage: ... V r.m.s				Within specified tolerance
4.5.2 Tangent of loss angle (tan δ)		Frequency and measuring voltage same as in 4.5.1				As in 4.5.2
4.5.3 Insulation resistance		See detail specification for the method				As in 4.5.3.3
4.5.4 Voltage proof		See detail specification for the method				No breakdown or flashover

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

Table 4 – Test schedule for Quality Conformance Inspection *(continued)*

Subclause number and test [1]	D or ND	Conditions of test [1]	Number of specimens and number of non-conformances [2]			Performance requirements [1]
			IL	*n*	*c*	
Subgroup A1 4.4 Visual inspection	ND		S-4	[4]	0	 As in 4.4.2 Legible marking and as specified in 1.5 of this specification
Subgroup A2 4.4 Dimension [5]	ND		S-3	[4]	0	 As specified in Table 1 of this specification
Group B inspection (lot-by-lot) **Subgroup B1**	D		S-3	[4]	0	
4.5.5 Impedance (if required)		Frequency: 100 kHz				See detail specification
4.5.6 ESR (if required)		Frequency: 100 kHz				See detail specification
4.10 Solderability		See detail specification for the method				
4.10.3 Final measurements		Visual examination				As in 4.10.3
4.17 Solvent resistance of the marking (if required) [6]		Solvent: ... Solvent temperature: ... Method 1 Rubbing material: cotton wool Recovery: ...				Legible marking
Subgroup B2 4.6 Temperature characteristics of capacitance [7]	ND	Special preconditioning as in 4.1	S-2	[4]	0	$\Delta C/C$: As in 4.6.3

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

Table 4 – Test schedule for Quality Conformance Inspection *(continued)*

Subclause number and test [1]	D or ND	Conditions of test [1]	Number of specimens and number of non-conformances [2]			Performance requirements [1]
			p	*n*	*c*	
Group C inspection (periodic)						
Subgroup C1	D		3	12	0 [8]	
4.15 Robstness of termination (if required)		Test Ua1, Force: 2,5 N Test Ub, Method 1, Force: 2,5 N Number of bends: 1 Visual examination				No visible damage
		Special preconditioning as in 4.1				
4.9.2 Initial measurement		Capacitance				
4.9 Resistance to soldering heat		See detail specification for the method Recovery: 24 h ± 2 h				
4.9.5 Final measurements		Visual examination Capacitance				As in 4.9.5 As in 4.9.5
4.16 Component solvent resistance (if required)		Solvent: ... Solvent temperature: ... Method 2 Recovery: ...				See detail specification
Subgroup C2	D		3	12	0 [8]	
4.8 Substrate bending test [9]		Deflection: ... Number of bends: ...				See detail specification
4.8.1 Initial measurement		Capacitance				
4.8.2 Final inspection		Capacitance (with printed board in bent position)				$\Delta C/C \leq 10$ %
		Visual examination				No visible damage

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

Table 4 – Test schedule for Quality Conformance Inspection *(continued)*

Subclause number and test [1]	**D or ND**	**Conditions of test** [1]	**Number of specimens and number of non-conformances** [2]			**Performance requirements** [1]
			p	***n***	***c***	
Subgroup C3	D					
4.3 Mounting [10]		Substrate material: ...				As in 4.4.2
		Visual examination				Within specified tolerance
		Capacitance				
		Tangent of loss angle				As in 4.5.2
		Insulation resistance				As in 4.5.3.3
		Voltage proof				No breakdown or flashover

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

Table 4 – Test schedule for Quality Conformance Inspection *(continued)*

Subclause number and test [1]	D or ND	Conditions of test [1]	Number of specimens and number of non-conformances [2]			Performance requirements [1]
			p	*n*	*c*	
Subgroup C3.1	D		6	27	0 [8]	
4.7 Shear test [11]		Visual inspection				No visible damage
		Special preconditioning as in 4.1				
4.11.2 Initial measurement		Capacitance				
4.11 Rapid change of temperature		T_A = Lower category temperature				
		T_B = Upper category temperature				
		Five cycles				
		Duration t_1 = 30 min				
		Recovery: (24 ± 2) h				
4.11.5 Final measurements		Visual examination				No visible damage
		Capacitance				$\Delta C/C$: As in 4.11.5
4.12 Climatic sequence		Special preconditioning as in 4.1				
4.12.2 Initial measurement		Capacitance				
4.12.3 Dry heat		Temperature: upper category temperature				
		Duration: 16 h				
4.12.4 Damp heat, cyclic, test Db, first cycle						
4.12.5 Cold		Temperature: lower category temperature				
		Duration: 2 h				
		Visual inspection				No visible damage
4.12.6 Damp heat, cyclic, test Db, remaining cycles		Recovery: 24 h ± 2 h				
4.12.7 Final measurements		Visual examination				No visible damage, Legible marking
		Capacitance				$\Delta C/C$: As in 4.12.7
		Tangent of loss angle				As in 4.12.7
		Insulation resistance				As in 4.12.7

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

Table 4 – Test schedule for Quality Conformance Inspection *(continued)*

Subclause number and test [1]	D or ND	Conditions of test [1]	Number of specimens and number of non-conformances [2]			Performance requirements [1]
			p	*n*	*c*	
Subgroup C3.2	D		6	15	0 [8]	
4.13 Damp heat, steady state		Special preconditioning as in 4.1				
4.13.2 Initial measurement		Capacitance				
		Recovery: 24 h ± 2 h				
4.13.5 Final measurements		Visual examination				No visible damage, Legible marking
		Capacitance				$\Delta C/C$: As in 4.13.5
		Tangent of loss angle				As in 4.13.5
		Insulation resistance				As in 4.13.5
Subgroup C3.3	D		3	15	0 [8]	
4.14 Endurance		Special preconditioning as in 4.1				
		Duration: ...h				
		Temperature: ...°C				
		Voltage: ...V				
4.14.2 Initial measurement		Capacitance				
		Recovery: (24 ± 2) h				
4.14.5 Final measurements		Visual examination				No visible damage, Legible marking
		Capacitance				$\Delta C/C$: As in 4.14.5
		Tangent of loss angle				As in 4.14.5
		Insulation resistance				As in 4.14.5
Subgroup C3.4	D		6	15	0 [8]	
4.18 Accelerated damp heat, steady state		Duration: ... h				
		Temperature: (85 ± 2) °C				
(if required)		Humidity: (85 ± 3) %				
4.18.1 Initial measurement		Insulation resistance				As in 4.18.1
		Recovery: (24 ± 2) h				
4.18.4 Final measurements		Insulation resistance				As in 4.18.4
Subgroup C4	ND		6	9	0 [8]	
4.6 Temperature characteristic of capacitance		Special preconditioning as in 4.1				$\Delta C/C$: As in 4.6.3

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

[1] Subclause numbers of tests and performance requirements refer to the sectional specification, IEC 60384-22 and Clause 1 of this specification.

[2] In this table : p = periodicity (in months), n = sample size, c = acceptance criterion (permitted number of non-conforming items), D = destructive, ND = non-destructive, IL = inspection level.

[3] 100 % testing shall be followed by re-inspection by sampling in order to monitor outgoing quality level by non-conforming items per million (ppm). The sampling level shall be established by the manufacturer. For the calculation of ppm values, any parametric failure shall be counted as a non-conforming item. In case one or more non-conforming items occur in a sample, this lot shall be rejected.

[4] Inspection Levels are selected from IEC 60410.

[5] This test may be replaced by in-production testing if the manufacturer installs Statistical Process Control (SPC) on dimensional measurements or other mechanisms to avoid parts exceeding the limits.

[6] This test may be carried out on capacitors mounted on a substrate.

[7] This subgroup may be omitted if a corresponding test is carried out on each manufacturing batch of dielectric material.

[8] If one non-conforming item is obtained, all the tests of the subgroup shall be repeated on a new sample and then no further non-conforming items are permitted. Release of product may continue during repeat testing.

[9] Not applicable to capacitors, which according to their detail specification shall only be mounted on alumina substrates.

[10] The capacitors found non-conformances after mounting shall not be taken into account when calculating the non-conformances for the following tests. They shall be replaced by spare capacitors.

[11] Not applicable to capacitors with strip terminations.

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

Standards Survey

The IEC would like to offer you the best quality standards possible. To make sure that we continue to meet your needs, your feedback is essential. Would you please take a minute to answer the questions overleaf and fax them to us at +41 22 919 03 00 or mail them to the address below. Thank you!

Customer Service Centre (CSC)

International Electrotechnical Commission
3, rue de Varembé
1211 Genève 20
Switzerland

or

Fax to: **IEC**/CSC at +41 22 919 03 00

Thank you for your contribution to the standards-making process.

Nicht frankieren
Ne pas affranchir

Non affrancare
No stamp required

A Prioritaire

RÉPONSE PAYÉE

SUISSE

Customer Service Centre (CSC)
International Electrotechnical Commission
3, rue de Varembé
1211 GENEVA 20
Switzerland

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

Q1 Please report on **ONE STANDARD** and **ONE STANDARD ONLY**. Enter the exact number of the standard: *(e.g. 60601-1-1)*

.....

Q2 Please tell us in what capacity(ies) you bought the standard *(tick all that apply).* I am the/a:

purchasing agent ❑
librarian ❑
researcher ❑
design engineer ❑
safety engineer ❑
testing engineer ❑
marketing specialist ❑
other.....

Q3 I work for/in/as a: *(tick all that apply)*

manufacturing ❑
consultant ❑
government ❑
test/certification facility ❑
public utility ❑
education ❑
military ❑
other.....

Q4 This standard will be used for: *(tick all that apply)*

general reference ❑
product research ❑
product design/development ❑
specifications ❑
tenders ❑
quality assessment ❑
certification ❑
technical documentation ❑
thesis ❑
manufacturing ❑
other.....

Q5 This standard meets my needs: *(tick one)*

not at all ❑
nearly ❑
fairly well ❑
exactly ❑

Q6 If you ticked NOT AT ALL in Question 5 the reason is: *(tick all that apply)*

standard is out of date ❑
standard is incomplete ❑
standard is too academic ❑
standard is too superficial ❑
title is misleading ❑
I made the wrong choice ❑
other .....

Q7 Please assess the standard in the following categories, using the numbers:
(1) unacceptable,
(2) below average,
(3) average,
(4) above average,
(5) exceptional,
(6) not applicable

timeliness.....
quality of writing.....
technical contents.....
logic of arrangement of contents .....
tables, charts, graphs, figures.....
other .....

Q8 I read/use the: *(tick one)*

French text only ❑
English text only ❑
both English and French texts ❑

Q9 Please share any comment on any aspect of the IEC that you would like us to know:

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

LICENSED TO MECON Limited. - RANCHI/BANGALORE
FOR INTERNAL USE AT THIS LOCATION ONLY, SUPPLIED BY BOOK SUPPLY BUREAU.

ISBN 2-8318-7550-1

ICS 31.060.10

Typeset and printed by the IEC Central Office
GENEVA, SWITZERLAND