

Outline dimensions of transformers and inductors for use in telecommunication and electronic equipment —

**Part 1: Specification for the outline
dimensions of transformers and
inductors using YEI-1 laminations**

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The preparation of this British Standard was entrusted by the Electronic Components Standards Committee (ECL/-) to Technical Committee ECL/18, upon which the following bodies were represented:

- British Telecommunications plc
- Electronic Components Industry Federation
- Engineering Equipment and Materials Users' Association
- Ministry of Defence
- National Supervising Inspectorate
- Telecommunication Engineering and Manufacturing Association (TEMA)
- United Kingdom Atomic Energy Authority

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

- Electronic Engineering Association
- Transmission and Distribution Association (BEAMA Limited)

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Foreword

This Part of BS 6600 has been prepared under the direction of the Electronic Components Standards Committee. It is based on IEC 852-1:1986 published by the International Electrotechnical Commission (IEC).

The International Standard specifies three mounting styles for transformers and inductors, i.e. bracket mounting, U-clamp mounting and printed wiring board mounting. However, for the bracket style, the fixing centres coincide with the line of the core bolts. This is not considered desirable in the UK, since it requires wider flanges for the fixing piece parts, and thicker material for their fabrication, for a given degree of mounting rigidity, compared with fixing centres located inside the core bolt lines.

A fourth frame mounting style, preferred in the UK, is therefore specified in clause 7 of this Part of BS 6600. Only the fixing centres differ from the corresponding assembly using the bracket style of mounting.

With the frame mounting style, the smallest lamination specified is YEI 1-22, and the range is extended beyond the largest lamination size covered by the bracket style to include YEI 1-64 and 1-80. The latter two sizes, whilst not specifically included in Table X of BS 6554-1:1984, are in keeping with the recommendation made in that standard to maintain the shape of the laminations in accordance with the prescription for the listed sizes.

The text of IEC 852-1:1986 has been used for ease of production, although some terminology and certain conventions are not identical with those used in British Standards.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 10, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This Part of BS 6600 specifies the outline dimensions of transformers and inductors, using E and I laminations as specified below, built for the four most commonly used forms of mounting style, namely bracket mounting, U-clamp mounting, printed wiring board (p.w.b.) mounting and frame mounting.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

2 Laminations

For the purpose of this Part of BS 6600 the laminations shall conform to the dimensions of IEC Type YEI-Range 1, as prescribed in Table X of BS 6554-1:1984.

3 General requirements

3.1 Mounting styles

The mounting styles specified below are based upon proven methods of assembly, both with metric type YEI laminations and with similar types having dimensions based upon the inch.

In particular, on all the assembly styles considered, the dimensions specified permit the compliance, in respect of creepage and clearance distances, with BS 415, by means of “safety type” coil formers.

The data provided in Clauses 4, 5 and 6 give the main dimensions of:

length, width, height	(A , B , C)
positioning of mounting holes	(D_1 , D_2 , D_3)
fixing hole size	(G)
stack height	(S)
terminal pin matrix	(X , Y) — p.w.b. style only.

All the listed dimensions in this standard are in millimetres.

3.2 Stack heights

On the larger sizes of lamination, a range of stack heights is specified which allows continuous variation of power rating. The stack height follows the R10 series (as defined in BS 2045) of preferred numbers as a multiple of the width of the centre limb of the lamination. The stack height is shown as nominal and is open to small variations within the proposed outline dimensions and fixing centres. A suffix is used to designate the appropriate stack size, as shown below:

Suffix letter	Multiple of centre leg of lamination
a	0.5
b	0.63
c	0.8
d	1.0 (i.e. square stack)
e	1.25
f	1.6
g	2.0

The lamination designation followed by the appropriate suffix letter is used to designate the core.

3.3 Tolerances

The dimensions, except where indicated as maximum or nominal, shall have tolerances in accordance with the requirement of BS 4500-1.

The appropriate tolerance is shown at the head of each column of dimensions in Table I, Table II and Table III.