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Specification for

**The dimensions of
E-cores made of
ferromagnetic oxides
for use in
telecommunication
and allied electronic
equipment**

Co-operating organizations

The Telecommunication Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:

- British Broadcasting Corporation
- British Electrical and Allied Manufacturers' Association
- British Radio Equipment Manufacturers' Association
- British Radio Valve Manufacturers' Association
- British Railways Board
- Cable and Wireless Ltd.
- Crown Agents for Oversea Governments and Administrations
- Electrical Contractors' Association (Incorporated)
- Electrical Research Association
- Electricity Council, the Central Electricity Generating Board and the Area Boards in England and Wales*
- Electronic Engineering Association*
- Electronic Valve and Semiconductor Manufacturers' Association
- Institution of Electrical Engineers
- Institution of Electronic and Radio Engineers
- Institution of Production Engineers
- Ministry of Defence
- Ministry of Defence, Army Department
- Ministry of Defence, Navy Department*
- Ministry of Labour (H.M. Factory Inspectorate)
- Ministry of Technology
- Post Office*
- Radio and Electronic Component Manufacturers' Federation*
- Relay Services Association of Great Britain
- Science Research Council. Radio and Space Research Station
- Telecommunication Engineering and Manufacturing Association*

The Government departments and scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

United Kingdom Atomic Energy Authority

This British Standard, having been approved by the Telecommunication Industry Standards Committee and endorsed by the Chairman of the Engineering Divisional Council, was published under the authority of the General Council on 29 December 1967

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Foreword

This standard makes reference to the following British Standard:

BS 2856, *Precise conversion of inch and metric sizes on engineering drawings*.

This British Standard has been prepared under the authority of the Telecommunication Industry Standards Committee and is one of a series dealing with magnetic cores intended primarily for use in telecommunication and allied electronic equipment.

The original dimensions are in millimetres. The conversion of millimetres to inches has generally been in accordance with Case 1 of BS 2856, "*Precise conversion of inch and metric sizes on engineering drawings*". This method results in the two original (millimetre) limits not being exceeded by more than 2.5 % of the tolerance (i.e. the difference between the two limits). The derived limits may be either inside or outside the tolerance zone.

When the conversion system would lead to more than three decimals and rounding to less digits would not cause the limits to deviate by more than 2.5 % of the tolerance, this rounding has been carried out. When the conversion results in more than 4 decimal places, rounding to four places has been carried out.

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.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 12, 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 British Standard specifies the dimensions of E-cores and I-cores made of ferromagnetic oxides (ferrites). Only those I-cores in current use have been included. The geometric tolerances of the E-cores are specified by form gauges.

NOTE Complete magnetic cores may be constructed either from pairs of E-cores or from E and I combinations.

2 Object

This British Standard specifies dimensions and tolerances which are essential for ensuring dimensional interchangeability.

3 Dimensions of E-cores

3.1 Physical dimensions. The physical dimensions shall be in accordance with Table 1a and Table 1b.

NOTE The flatness of the mating surfaces is mainly determined by the required electrical performance. Normally the residual air gap is made as small as possible by machining. In special cases the centre limb may be cut back to provide a specific air gap; this in itself would not invalidate compliance with this general dimensional standard.

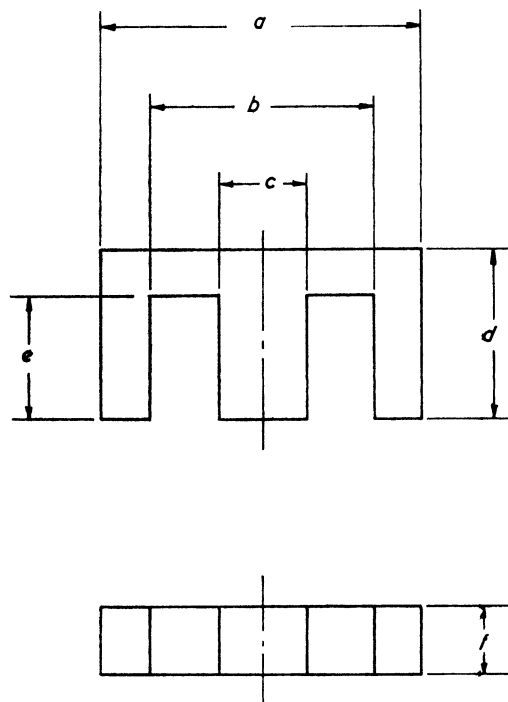


Figure 1a

Table 1a — Dimensions of E-cores

Ref. no.	Tol.	<i>a</i>		<i>b</i>		<i>c</i>		<i>d</i>		<i>e</i>		<i>f</i>	
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
1	max.	9.80	0.386	7.74	0.305	2.43	0.096	4.63	0.182	3.72	0.146	2.43	0.096
	min.	9.15	0.360	7.10	0.280	1.79	0.070	4.52	0.178	3.50	0.138	1.83	0.072
2	max.	12.97	0.511	10.02	0.394	3.37	0.133	6.66	0.262	5.26	0.207	3.37	0.133
	min.	12.43	0.489	9.43	0.371	2.98	0.117	6.55	0.258	4.95	0.195	2.77	0.109
3	max.	17.16	0.676	13.07	0.515	4.26	0.168	5.13	0.202	3.21	0.126	4.26	0.168
	min.	16.42	0.646	12.43	0.489	3.62	0.143	5.03	0.198	3.02	0.119	3.66	0.144
4	max.	20.49	0.807	14.42	0.568	4.97	0.196	9.71	0.382	5.12	0.202	4.97	0.196
	min.	19.65	0.774	13.62	0.536	4.22	0.166	9.60	0.378	4.82	0.190	4.37	0.172
5	max.	26.05	1.026	20.21	0.796	6.54	0.257	9.58	0.377	6.68	0.263	6.54	0.257
	min.	24.75	0.974	18.91	0.744	6.05	0.238	9.47	0.373	6.30	0.248	6.04	0.238
6	max.	30.62	1.206	20.56	0.809	10.35	0.407	12.55	0.494	7.89	0.311	12.39	0.488
	min.	29.38	1.157	19.92	0.784	9.15	0.360	12.44	0.490	7.44	0.293	11.67	0.459
7	max.	30.83	1.214	20.83	0.820	8.12	0.320	11.05	0.435	6.36	0.250	11.83	0.466
	min.	29.57	1.164	19.97	0.786	7.48	0.294	10.94	0.431	5.99	0.236	11.13	0.438
8	max.	35.02	1.379	25.32	0.997	11.45	0.451	13.16	0.518	8.78	0.346	8.12	0.320
	min.	33.26	1.309	25.86	0.939	10.81	0.426	13.05	0.514	8.28	0.326	7.48	0.294
9	max.	42.28	1.665	29.10	1.146	11.98	0.472	22.33	0.879	17.19	0.677	8.98	0.354
	min.	39.72	1.564	28.00	1.102	11.54	0.454	22.22	0.875	16.21	0.638	8.28	0.326
10	max.	42.43	1.670	29.48	1.161	9.67	0.381	17.53	0.690	11.61	0.457	9.67	0.381
	min.	40.73	1.604	28.18	1.109	8.92	0.351	17.42	0.686	10.95	0.431	8.93	0.352
11	max.	56.79	2.236	39.22	1.544	12.97	0.511	29.42	1.158	21.31	0.839	12.97	0.511
	min.	54.37	2.141	37.58	1.480	12.23	0.481	29.31	1.154	20.10	0.791	11.97	0.471
12	max.	92.32	3.635	69.77	2.747	24.45	0.963	31.80	1.252	21.61	0.851	24.45	0.963
	min.	88.68	3.491	66.79	2.630	23.35	0.919	31.70	1.248	20.38	0.802	22.53	0.887