

# DATA SHEET

**E42/33/20**

**E cores and accessories**

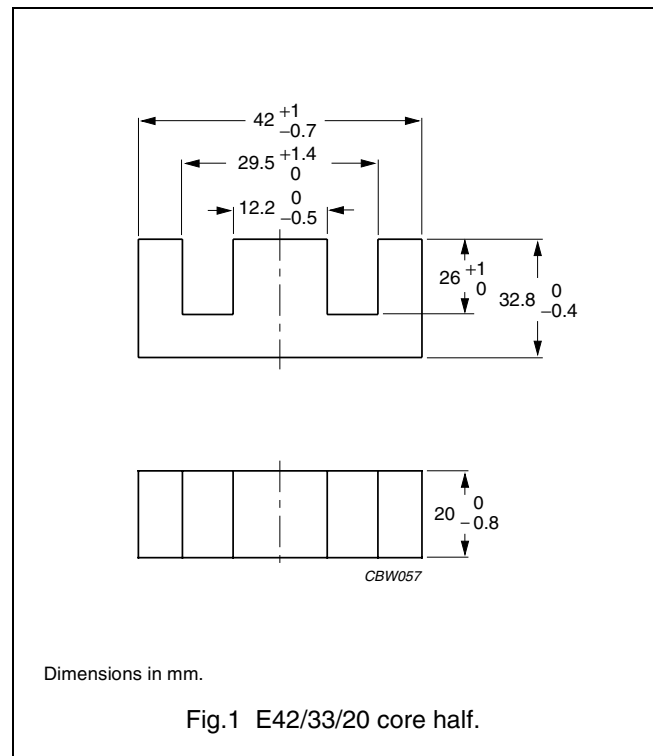
Supersedes data of September 2004

2008 Sep 01

**CORE SETS**

**Effective core parameters**

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.614	mm <sup>-1</sup>
$V_e$	effective volume	34200	mm <sup>3</sup>
$l_e$	effective length	145	mm
$A_e$	effective area	236	mm <sup>2</sup>
$A_{min}$	minimum area	234	mm <sup>2</sup>
m	mass of core half	≈ 82	g



**Core halves**

$A_L$  measured in combination with a non-gapped core half, clamping force for  $A_L$  measurements  $40 \pm 20$  N, unless stated otherwise.

GRADE	$A_L$ (nH)	$\mu_e$	TOTAL AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3C90	100 $\pm 5\%$ <sup>(1)</sup>	≈ 49	≈ 5480	E42/33/20-3C90-E100
	160 $\pm 5\%$ <sup>(1)</sup>	≈ 78	≈ 2840	E42/33/20-3C90-E160
	250 $\pm 5\%$ <sup>(1)</sup>	≈ 122	≈ 1540	E42/33/20-3C90-E250
	315 $\pm 5\%$	≈ 154	≈ 1140	E42/33/20-3C90-A315
	400 $\pm 8\%$	≈ 196	≈ 840	E42/33/20-3C90-A400
	630 $\pm 15\%$	≈ 308	≈ 470	E42/33/20-3C90-A630
	4000 $\pm 25\%$	≈ 1960	≈ 0	E42/33/20-3C90
3C92 <b>des</b>	2900 $\pm 25\%$	≈ 1420	≈ 0	E42/33/20-3C92
3C94	4000 $\pm 25\%$	≈ 1960	≈ 0	E42/33/20-3C94
3C95 <b>des</b>	4990 $\pm 25\%$	≈ 2440	≈ 0	E42/33/20-3C95
3F3	100 $\pm 5\%$ <sup>(1)</sup>	≈ 49	≈ 5480	E42/33/20-3F3-E100
	160 $\pm 5\%$ <sup>(1)</sup>	≈ 78	≈ 2840	E42/33/20-3F3-E160
	250 $\pm 5\%$ <sup>(1)</sup>	≈ 122	≈ 1540	E42/33/20-3F3-E250
	315 $\pm 5\%$	≈ 154	≈ 1140	E42/33/20-3F3-A315
	400 $\pm 8\%$	≈ 196	≈ 840	E42/33/20-3F3-A400
	630 $\pm 15\%$	≈ 308	≈ 470	E42/33/20-3F3-A630
	3700 $\pm 25\%$	≈ 1810	≈ 0	E42/33/20-3F3

1. Measured in combination with an equal gapped core half.

## Properties of core sets under power conditions

GRADE	B (mT) at	CORE LOSS (W) at				
	H = 250 A/m; f = 25 kHz; T = 100 °C	f̂ = 25 kHz; B̂ = 200 mT; T = 100 °C	f̂ = 100 kHz; B̂ = 100 mT; T = 100 °C	f̂ = 100 kHz; B̂ = 200 mT; T = 25 °C	f̂ = 100 kHz; B̂ = 200 mT; T = 100 °C	f̂ = 400 kHz; B̂ = 50 mT; T = 100 °C
3C90	≥330	≤ 3.6	≤ 4.2	–	–	–
3C92	≥370	–	≤ 3.4	–	≤ 20	–
3C94	≥330	–	≤ 3.4	–	≤ 20	–
3C95	≥330	–	–	≤ 21.5	≤ 20.5	–
3F3	≥320	–	≤ 4.0	–	–	≤ 7.3

**DATA SHEET STATUS DEFINITIONS**

DATA SHEET STATUS	PRODUCT STATUS	DEFINITIONS
Preliminary specification	Development	This data sheet contains preliminary data. Ferroxcube reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.
Product specification	Production	This data sheet contains final specifications. Ferroxcube reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.

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**PRODUCT STATUS DEFINITIONS**

STATUS	INDICATION	DEFINITION
<b>Prototype</b>		These are products that have been made as development samples for the purposes of technical evaluation only. The data for these types is provisional and is subject to change.
<b>Design-in</b>		These products are recommended for new designs.
<b>Preferred</b>		These products are recommended for use in current designs and are available via our sales channels.
<b>Support</b>		These products are <b>not</b> recommended for new designs and may not be available through all of our sales channels. Customers are advised to check for availability.