

DATA SHEET

2P.. Material specification

Supersedes data of September 2004

2008 Sep 01

Material specification

2P..

2P.. SPECIFICATIONS

These iron powder materials are mainly used for low frequency power inductors and output chokes.

Material grade specification - 2P40

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤ 10 kHz; 0.25 mT	40 $\pm 10\%$	
$\tan\delta/\mu_i$	25 °C; 100 kHz; 0.25 mT	$\leq 1500 \times 10^{-6}$	
B_r	from 25×10^3 A/m	≈ 250	mT
H_C	from 25×10^3 A/m	≈ 2000	A/m
B	$H = 25 \times 10^3$ A/m	≈ 950	mT
α_F	25 to 55 °C	$\approx 10 \times 10^{-6}$	K ⁻¹
T_{max}		160	°C

Material grade specification - 2P50

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤ 10 kHz; 0.25 mT	50 $\pm 10\%$	
$\tan\delta/\mu_i$	25 °C; 100 kHz; 0.25 mT	$\approx 1500 \times 10^{-6}$	
B_r	from 25×10^3 A/m	≈ 300	mT
H_C	from 25×10^3 A/m	≈ 1800	A/m
B	$H = 25 \times 10^3$ A/m	≈ 1000	mT
α_F	25 to 55 °C	$\approx 20 \times 10^{-6}$	K ⁻¹
T_{max}		140	°C

Material grade specification - 2P65

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤ 10 kHz; 0.25 mT	65 $\pm 10\%$	
$\tan\delta/\mu_i$	25 °C; 100 kHz; 0.25 mT	$\approx 1000 \times 10^{-6}$	
B_r	from 25×10^3 A/m	≈ 350	mT
H_C	from 25×10^3 A/m	≈ 1500	A/m
B	$H = 25 \times 10^3$ A/m	≈ 1150	mT
α_F	25 to 55 °C	$\approx 15 \times 10^{-6}$	K ⁻¹
T_{max}		140	°C

Material grade specification - 2P80

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤ 10 kHz; 0.25 mT	80 $\pm 10\%$	
$\tan\delta/\mu_i$	25 °C; 100 kHz; 0.25 mT	$\approx 1000 \times 10^{-6}$	
B_r	from 25×10^3 A/m	≈ 400	mT
H_C	from 25×10^3 A/m	≈ 1200	A/m
B	$H = 25 \times 10^3$ A/m	≈ 1400	mT
α_F	25 to 55 °C	$\approx 15 \times 10^{-6}$	K ⁻¹
T_{max}		140	°C

Material grade specification - 2P90

SYMBOL	CONDITIONS	VALUE	UNIT
μ_i	25 °C; ≤ 10 kHz; 0.25 mT	90 $\pm 10\%$	
$\tan\delta/\mu_i$	25 °C; 100 kHz; 0.25 mT	$\approx 1000 \times 10^{-6}$	
B_r	from 25×10^3 A/m	≈ 450	mT
H_C	from 25×10^3 A/m	≈ 900	A/m
B	$H = 25 \times 10^3$ A/m	≈ 1600	mT
α_F	25 to 55 °C	$\approx 15 \times 10^{-6}$	K ⁻¹
T_{max}		140	°C

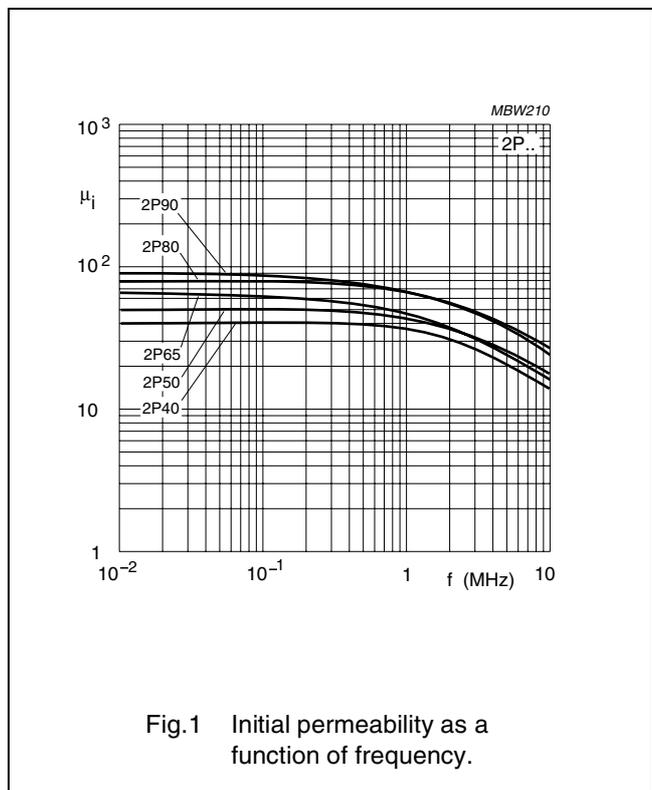
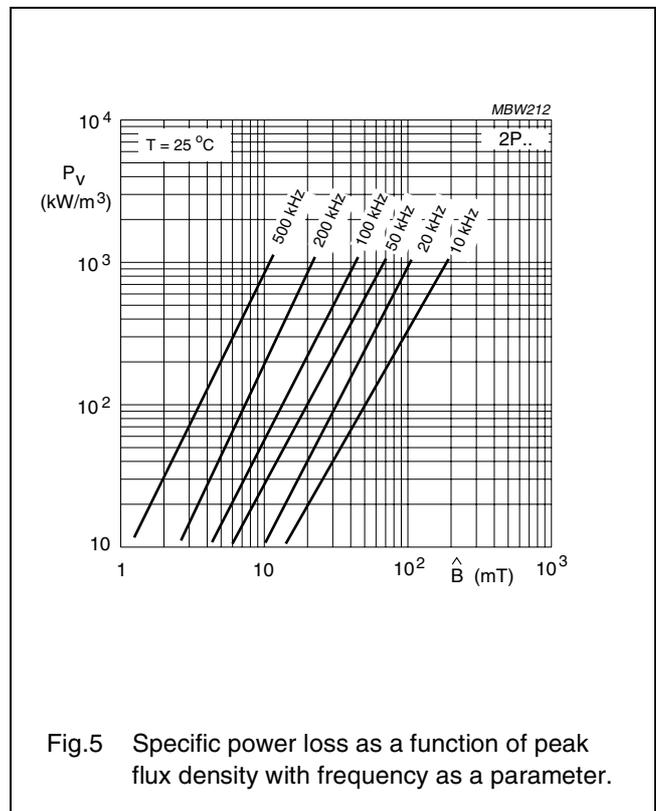
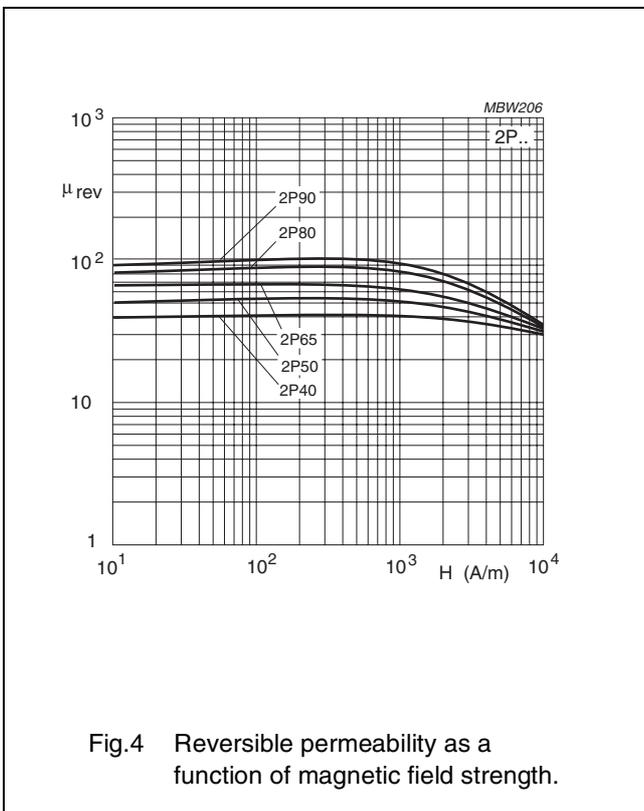
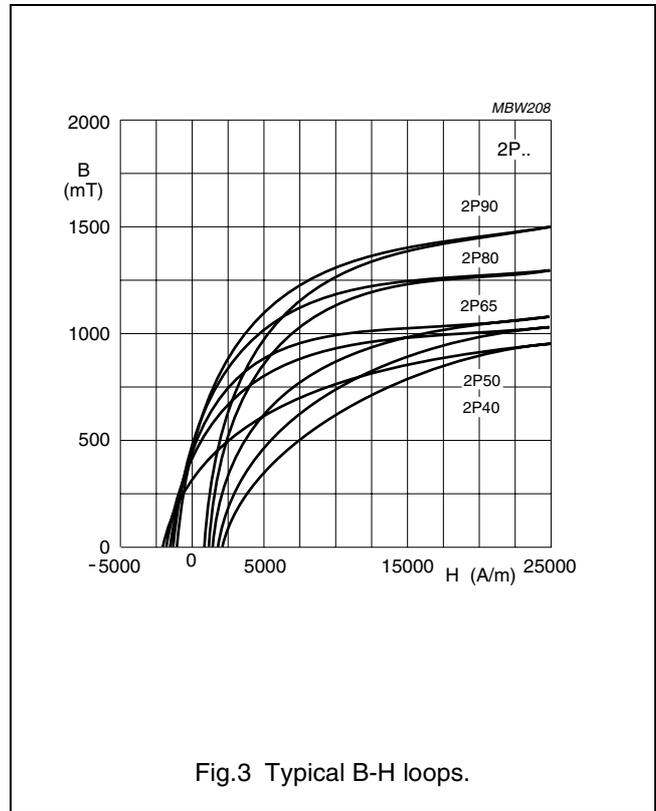
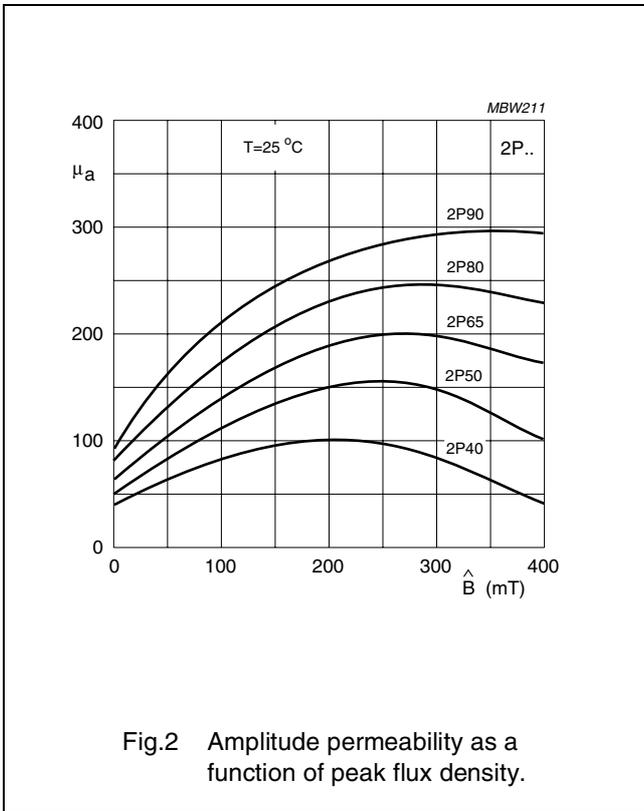


Fig.1 Initial permeability as a function of frequency.



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.

DISCLAIMER

Life support applications — These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Ferroxcube customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Ferroxcube for any damages resulting from such application.

PRODUCT STATUS DEFINITIONS

STATUS	INDICATION	DEFINITION
Prototype		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.
Design-in		These products are recommended for new designs.
Preferred		These products are recommended for use in current designs and are available via our sales channels.
Support		These products are not recommended for new designs and may not be available through all of our sales channels. Customers are advised to check for availability.