1、初始磁导率　Initial permeability, μ_i

初始磁导率是磁性材料的磁导率（B/H）在静态磁化曲线始端的极限值，即 $\mu_i = \frac{1}{\mu_0} \lim \frac{B}{H} \ (H \to 0)$

式中 μ_0 为真空磁导率（$4\pi \times 10^{-7}$H/m），H为磁场强度（A/m），B为磁通密度（T）

The initial permeability μ_i is the limit value at the initial magnetization curve's origin point and is given by the following formula: $\mu_i = \frac{1}{\mu_0} \lim \frac{B}{H} \ (H \to 0)$

Where　μ_0: Permeability of vacuum($4\pi \times 10^{-7}$H/m),　H: Magnetic field strength(A/m)

B: Magnetic flux density(T)

2、有效磁导率　Effective permeability, μ_e

在闭合磁路中，或多或少地存在着气隙，若气隙很小可以忽略，则可以用有效磁导率来表征磁芯的导磁能力。

$\mu_e = \frac{L}{\mu_0 N^2} \cdot \frac{le}{Ae}$

L为装有磁芯的线圈的电感量（H），N为线圈匝数，Le为有效磁路长度（m），Ae为有效截面积（m^2）

This is usually defined as the permeability of a core forming a closed circuit where leakage flux is negligibly small.　$\mu_e = \frac{L}{\mu_0 N^2} \cdot \frac{le}{Ae}$

Where　L: self-inductance of core with coil(H),　N: number of turns,　Le: effective magnetic path length(m)

Ae: effective cross-sectional area(m^2)

3、饱和磁通密度　Saturation magnetic flux density, Bs(T)

磁化到饱和状态时的磁通密度。见图1。

The magnetic flux density at a magnetic field where H is up to an approximate saturation magnetic field value. (Fig.1)

4、剩余磁通密度　Residual magnetic flux density, (Br)

从饱和状态去除激励磁场后，磁芯中剩余的磁通密度。见图1。

The value of flux density retained by the core when the magnetic field is reduced from the state of the effective saturation magnetic flux density to zero. (Fig.1)

5、矫顽力　Coercivity, Hc(A/m)

从饱和状态去除磁场后，磁芯继续被反向激励磁场磁化，直至磁芯中磁通密度减为零，此时的磁场强度称为矫顽力(见图1)

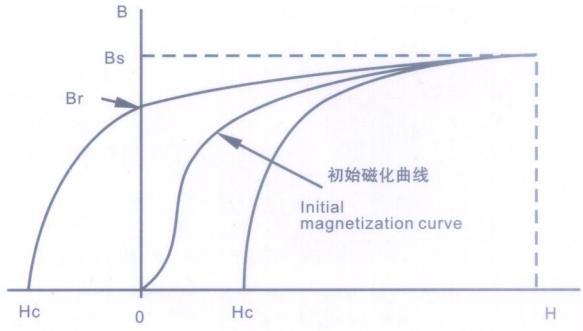

图1　Fig.1

The value of magnetic field strength whereby the flux density becomes zero under the intensification, in the opposite direction, of the magnetic field. (Fig. 1)

6、损耗因子　Loss factor, tan δ

损耗因子是磁滞损耗因子、涡流损耗因子和剩余损耗因子三者之和 $\tan\delta = \tan\delta_h + \tan\delta_e + \tan\delta_r$

式中 $\tan\delta_h$ 为磁滞损耗因子，$\tan\delta_e$ 为涡流损耗因子，$\tan\delta_r$ 为剩余损耗因子

This is the sum of the hysteresis loss factor, eddy current loss factor and residual loss factor.

$\tan\delta = \tan\delta_h + \tan\delta_e + \tan\delta_r$

Where　$\tan\delta_h$ is the hysteresis loss factor　$\tan\delta_e$ is the eddy current loss factor

$\tan\delta_r$ is the residual loss factor