

DEFINITION OF TERMINOLOGY

B_s = Saturation magnetic flux density 飽和磁通密度
 B_{ms} = Effective saturation magnetic flux density 有效飽和磁通密度
 H_c = Coercive force 矯頑磁力
 H_{cms} = Effective coercive force 有效矯頑磁力
 H_{ms} = Magnetic field strength for effective saturation magnetic flux density 有效飽和磁通密度下之磁場強度
 H_∞ = Infinite magnetic field strength 無窮大之磁場強度

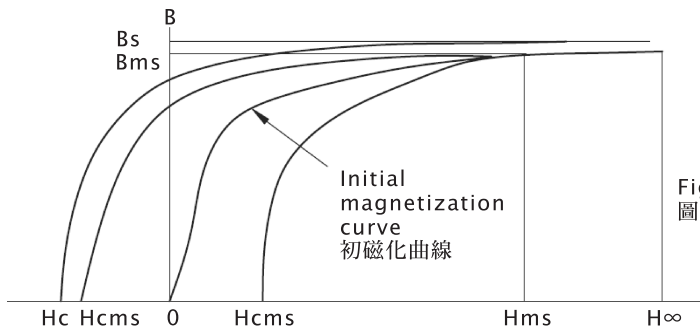


Fig-1
圖例-1

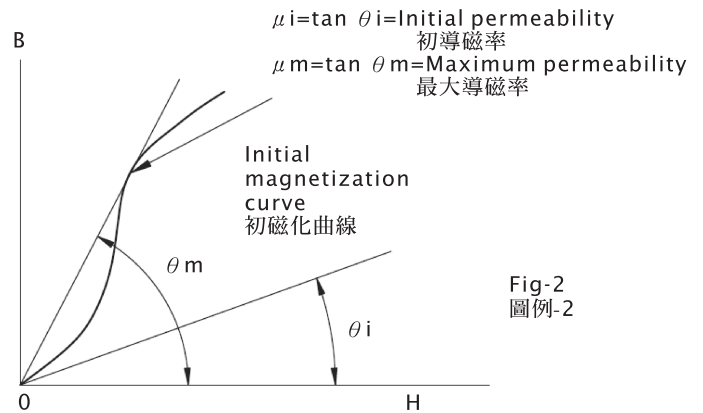


Fig-2
圖例-2

■ DC Initial Permeability, μ_i (直流初導磁率 μ_i)

The initial permeability is the limiting value of the core material's permeability at the origin of the magnetization curve (Fig.2). It is given by the following equation:

直流初導磁率是指在直流狀態下其磁化曲線於原點時所得之切線斜率(圖例2)，其可以下列方程式表示之：

$$\mu_i = \frac{1}{\mu_0} H \lim_{H \rightarrow 0} \frac{B}{H}$$

■ AC Initial Permeability, μ_{iac} (交流初導磁率 μ_{iac})

$$\mu_{iac} = \frac{1}{\mu_0} H \lim_{H \rightarrow 0} \frac{B}{H}$$

Where H = The AC magnetic field strength 交流磁場強度

B = AC magnetic flux density 交流磁通密度

■ Maximum Permeability, μ_m (最大導磁率 μ_m)

This is the maximum value in permeability indicated by the initial permeability (Fig.2)

此為初磁化過程中所得導磁率之最大值(圖例2)

■ Loss Factor, $\tan \delta$ (損失因子 $\tan \delta$)

It is expressed by the following equation

可由下列之方程式表之

$$\tan \delta = \frac{R_m}{\omega L}$$

Where R_m = Resistance loss of the core (Ω) 鐵芯的阻抗(歐姆)

L = Inductance of the coil inclusive of the magnetic core (H) 線圈的感值(亨利)

■ Relative Loss Factor, $\tan \delta / \mu_{iac}$ (相對損失因子 $\tan \delta / \mu_{iac}$)

This factor represents the value obtained by dividing the loss factor by AC initial permeability

其代表損失因子除以交流初導磁率所得的值。

■ Temperature Coefficient, $\alpha \mu$ (溫度係數 $\alpha \mu$)

The temperature coefficient is obtained by dividing the amount of change taking place over two given temperatures by the difference in temperature for each individual measurement item.

溫度係數是由一溫度範圍的導磁率變化量除以溫差所得的結果