

7、比损耗因子 Relative loss factor, $\tan \delta / \mu$

比损耗因子是损耗因子与磁导率之比:

$\tan \delta / \mu_i$ (适用于材料), $\tan \delta / \mu_o$ (适用于磁路中含有气隙的磁芯)

This is the ratio of loss factor to permeability.

$\tan \delta / \mu_i$ (for materials), $\tan \delta / \mu_o$ (for cores with gaps in the magnetic circuit)

8、品质因数 Quality factor, Q

品质因数为损耗因子的倒数: $Q=1/\tan \delta$

This is the reciprocal of the loss factor and is given by $Q=1/\tan \delta$.

9、温度系数 Temperature coefficient, α_μ (1/K)

温度系数为温度在 T_1 和 T_2 范围内变化时, 每变化 1K 相应的磁导率的相对变化量:

$$\alpha_\mu = \frac{\mu_2 - \mu_1}{\mu_1} \cdot \frac{1}{T_2 - T_1} \quad (T_2 > T_1)$$

式中 μ_1 为温度为 T_1 时的磁导率, μ_2 为温度为 T_2 时的磁导率

This is the fractional difference of permeability per 1K in a temperature range of from T_1 to T_2 .

$$\alpha_\mu = \frac{\mu_2 - \mu_1}{\mu_1} \cdot \frac{1}{T_2 - T_1} \quad (T_2 > T_1)$$

Where μ_1 : permeability at temperature T_1 , μ_2 : permeability at temperature T_2

10、比温度系数 Relative temperature coefficient, $\alpha_{\mu r}$ (1/K)

温度系数和磁导率之比, 即 $\alpha_{\mu r} = \frac{\mu_2 - \mu_1}{\mu_2^2} \cdot \frac{1}{T_2 - T_1} \quad (T_2 > T_1)$

This is the temperature coefficient per unit permeability and is given by the following equation:

$$\alpha_{\mu r} = \frac{\mu_2 - \mu_1}{\mu_2^2} \cdot \frac{1}{T_2 - T_1} \quad (T_2 > T_1)$$

11、居里温度 Curie temperature, T_c ($^{\circ}\text{C}$)

在该温度下材料由铁磁性 (或亚铁磁性) 转变成顺磁性。见图2。

It is the critical temperature level at which the ferromagnetic state of the material changes to paramagnetic state. (Fig. 2)

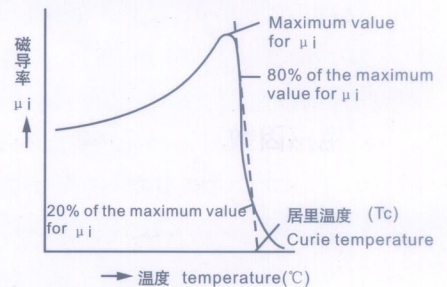


图2 Fig.2

12、减落因子 Disaccommodation factor, D_F

在恒温条件下, 磁中性化后的磁芯的磁导率随时间的衰减变化, 即 $D_F = \frac{\mu_1 - \mu_2}{\log \frac{t_2}{t_1}} \cdot \frac{1}{\mu_1^2} \quad (t_2 > t_1)$

式中 μ_1 为退磁后 t_1 分钟的磁导率, μ_2 为退磁后 t_2 分钟的磁导率

This is the factor representing the variation of permeability through time after a complete demagnetization of the core at a constant temperature.

$$D_F = \frac{\mu_1 - \mu_2}{\log \frac{t_2}{t_1}} \cdot \frac{1}{\mu_1^2} \quad (t_2 > t_1)$$

Where μ_1 : permeability t_1 minutes after complete demagnetization.

μ_2 : permeability t_2 minutes after complete demagnetization.