

80/2

$$l = 30 \text{ cm}$$

$$H = 1400 \frac{\text{A}}{\text{m}}$$

$$N = 500$$

$$\begin{aligned} \textcircled{H} &= H \cdot l = 1400 \cdot 0,3 = \\ &= 420 \text{ A} \end{aligned}$$

$$I = \frac{\textcircled{H}}{N} = \frac{420}{500} = 0,84 \text{ A}$$

$$80/3 \quad N = 1000$$
$$I = 0,2 \text{ A}$$

$$l = 40 \text{ cm}$$

$$\mathcal{H} = I \cdot N =$$
$$= 0,2 \cdot 1000 = 200 \text{ A}$$

$$H = \frac{\mathcal{H}}{l} = \frac{200}{0,4} =$$
$$= 500 \frac{\text{A}}{\text{m}}$$

$$B = 1,2 \text{ T}$$

$$l = 20 \text{ cm}$$

$$\mathcal{H} = I \cdot N =$$
$$= 0,2 \cdot 1000 =$$
$$= 200 \text{ A}$$

$$H = \frac{\mathcal{H}}{l} = \frac{200}{0,2} =$$
$$= 1000 \frac{\text{A}}{\text{m}}$$

$$B = 1,4 \text{ T}$$

$$80/4 \quad N = 500$$

$$l = 20 \text{ cm}$$

$$H = 800 \frac{\text{A}}{\text{m}}$$

$$\textcircled{H} = H \cdot l = 800 \cdot 0,2 = 160 \text{ A}$$

$$I = \frac{\textcircled{H}}{N} = \frac{160}{500} = 0,32 \text{ A}$$

$$80/5 \quad l = 3 \text{ mm}$$

$$A = 4 \text{ cm}^2$$

$$I = 2500 \text{ A}$$

Luft

$$\Phi = ? \quad B = ?$$

$$H = \frac{I}{l} = \frac{2500}{0,003} = 833.333 \frac{\text{A}}{\text{m}}$$

$$B = \mu \cdot H = \mu_0 \cdot \mu_r \cdot H$$
$$= 4 \cdot \pi \cdot 10^{-7} \cdot 1 \cdot 833.333 =$$

$$= 1,04 \text{ T}$$

$$\Phi = B \cdot A = 1,04 \cdot 0,0004 = 0,41 \text{ mWb}$$

$$80/6 \quad l = 45 \text{ cm} \quad A = 27 \text{ cm}^2$$

$$I = 135 \text{ A} \quad \mu_r = 2000$$

$$B = ? \quad \Phi = ? \quad H = ?$$

$$H = \frac{I}{l} = \frac{135}{0,45} = 300 \frac{\text{A}}{\text{m}}$$

$$B = \mu_0 \cdot \mu_r \cdot H =$$

$$= 4 \cdot \pi \cdot 10^{-7} \cdot 2000 \cdot 300 = 0,754 \text{ T}$$

$\rightarrow 1 \text{ T} = 10^4 \text{ G}$

$$\Phi = B \cdot A = 0,754 \cdot 0,0027 =$$

$$= 2,04 \text{ mWb}$$