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74/1

$I = 1{,}7\ A \qquad \Theta = 900\ A$

$$N = \frac{\Theta}{I} = \frac{900}{1{,}7} = 529{,}4$$

$\Rightarrow 530$ Wdg

74/2

$\Theta = 1650\ A \qquad N = 520 \qquad N_1 = 370$

$$I = \frac{\Theta}{N} = \frac{1650}{520} = 3{,}17\ A$$

$$I_1 = \frac{\Theta}{N_1} = \frac{1650}{370} = 4{,}46\ A$$

74/3 $N = 645$

$l = 23\,cm$ $\quad \phi = 0{,}6\,mm$ Cu

$U = 24\,V$

$\vartheta_K = 20°C$ $\quad \vartheta_U = 68°C$

$$A = \frac{d^2 \cdot \pi}{4} = \frac{0{,}6^2 \cdot \pi}{4} = 0{,}28\,mm^2$$

$$R = \frac{l}{\kappa \cdot A} = \frac{645 \cdot 0{,}23}{56 \cdot 0{,}28} = 9{,}46\,\Omega$$

$$I = \frac{U}{R} = \frac{24}{9{,}46} = 2{,}53\,A$$

$$\Theta = I \cdot N = 2{,}53 \cdot 645 = 1631\,A$$

$$\vartheta = 68\,^{\circ}C$$

$$\Delta\vartheta = \vartheta_W - \vartheta_K = 68 - 20 = 48\,^{\circ}C$$

$$\Delta R = R_K \cdot \alpha \cdot \Delta\vartheta =$$

$$= 9{,}46 \cdot 0{,}004 \cdot 48 = 1{,}8\,\Omega$$

$$R_W = \Delta R + R_K = 1{,}8 + 9{,}46 = 11{,}26\,\Omega$$

$$I = \frac{U}{R} = \frac{24}{11{,}26} = 2{,}13\,A$$

$$\Theta = I \cdot N = 2{,}13 \cdot 645 = 1374\,A$$