

Calcul (rapide) diamètre de fil à corriger

1. Résistance requise :

$$R = \frac{U^2}{P} = \frac{220^2}{1000} = 48,4 \, \Omega$$

2. Section nécessaire :

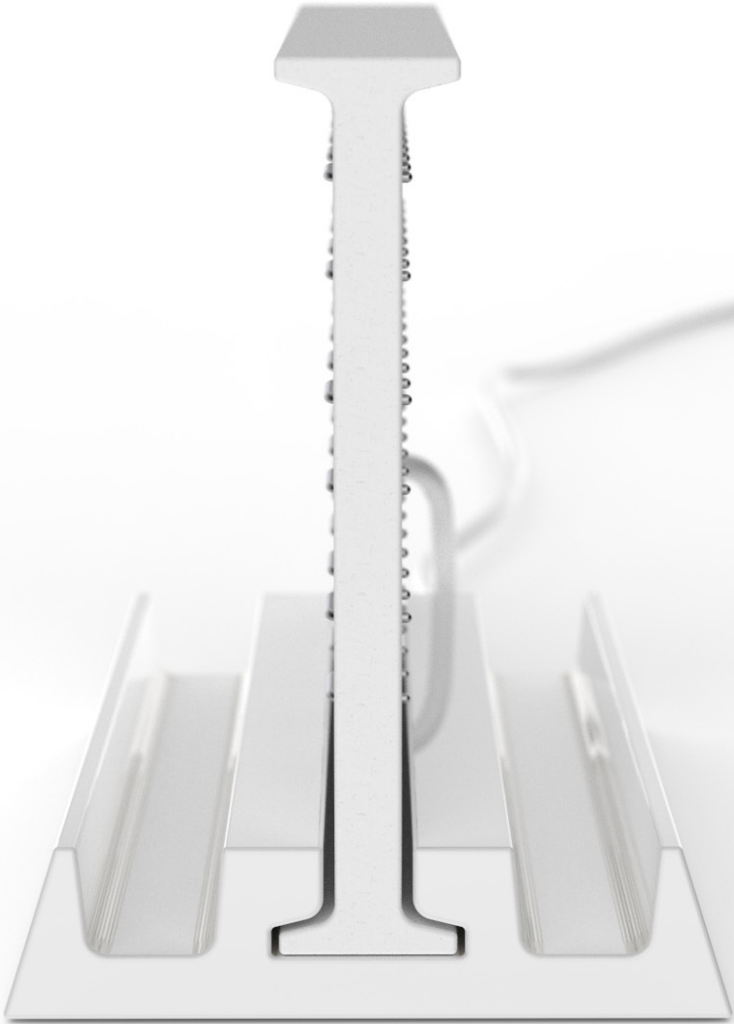
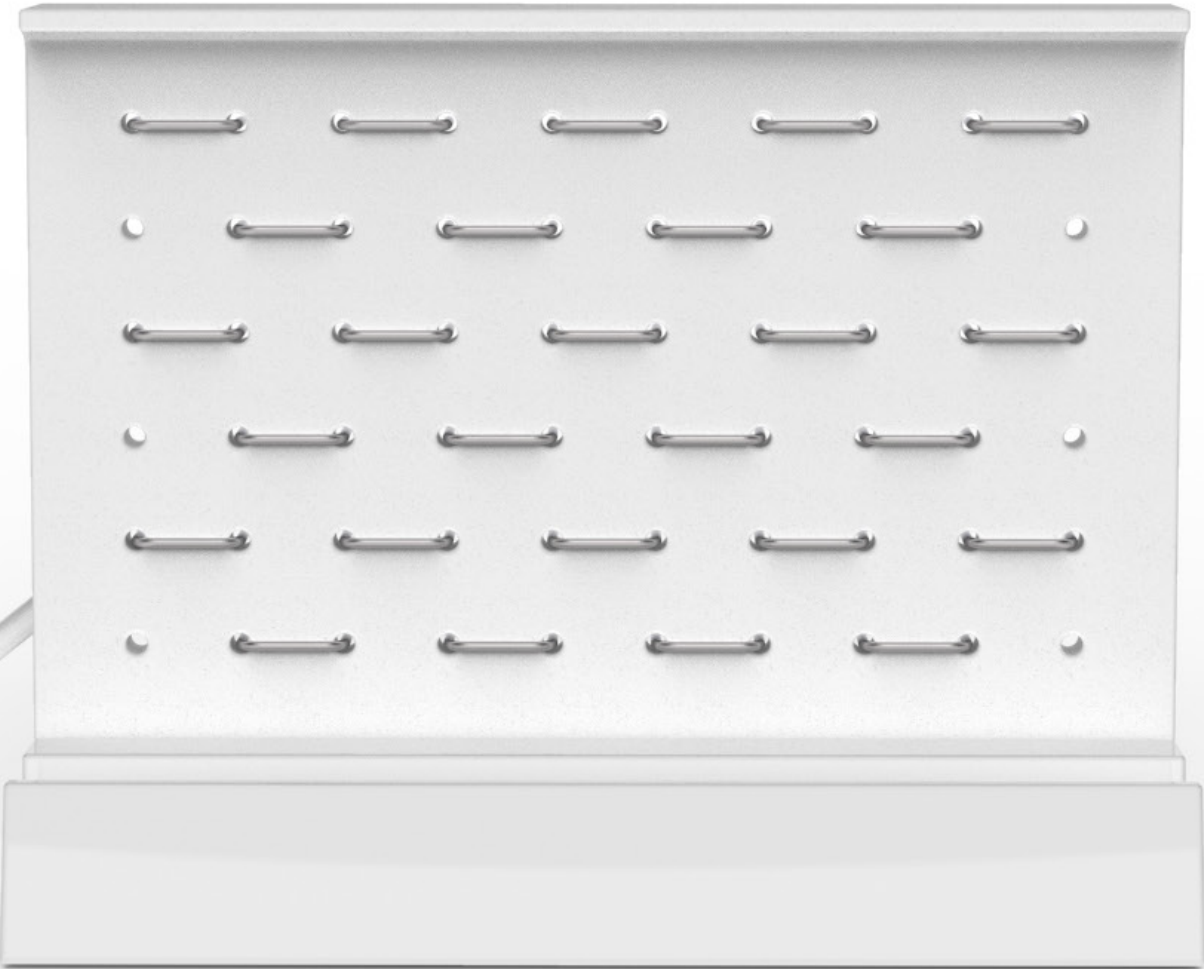
$$S = \frac{\rho L}{R} = \frac{1,45 \times 10^{-6} \times 1,126}{48,4} = 3,373 \times 10^{-8} \, \text{m}^2$$

3. diamètre (cercle) :

$$d = \sqrt{\frac{4S}{\pi}} \approx 0,0002073 \, \text{m} = 0,207 \, \text{mm}$$

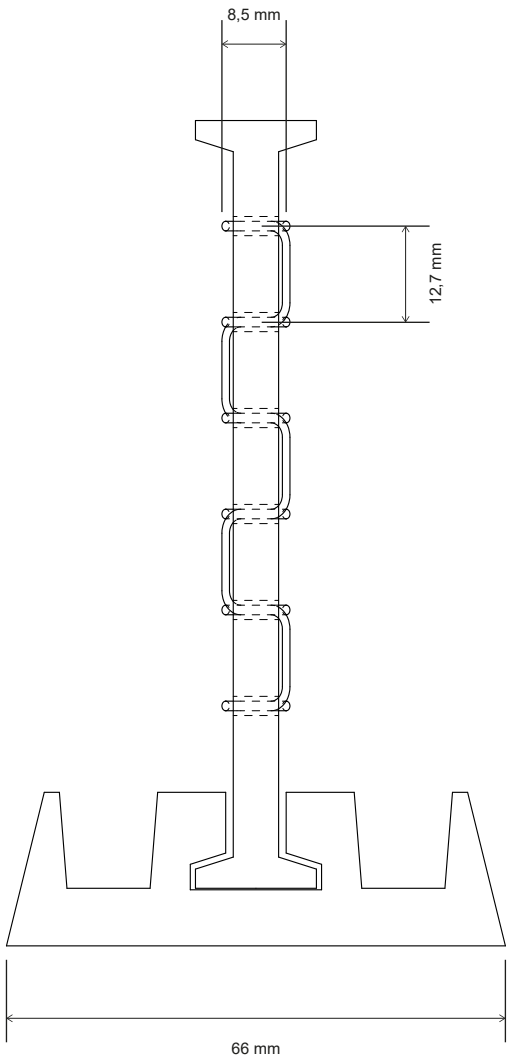
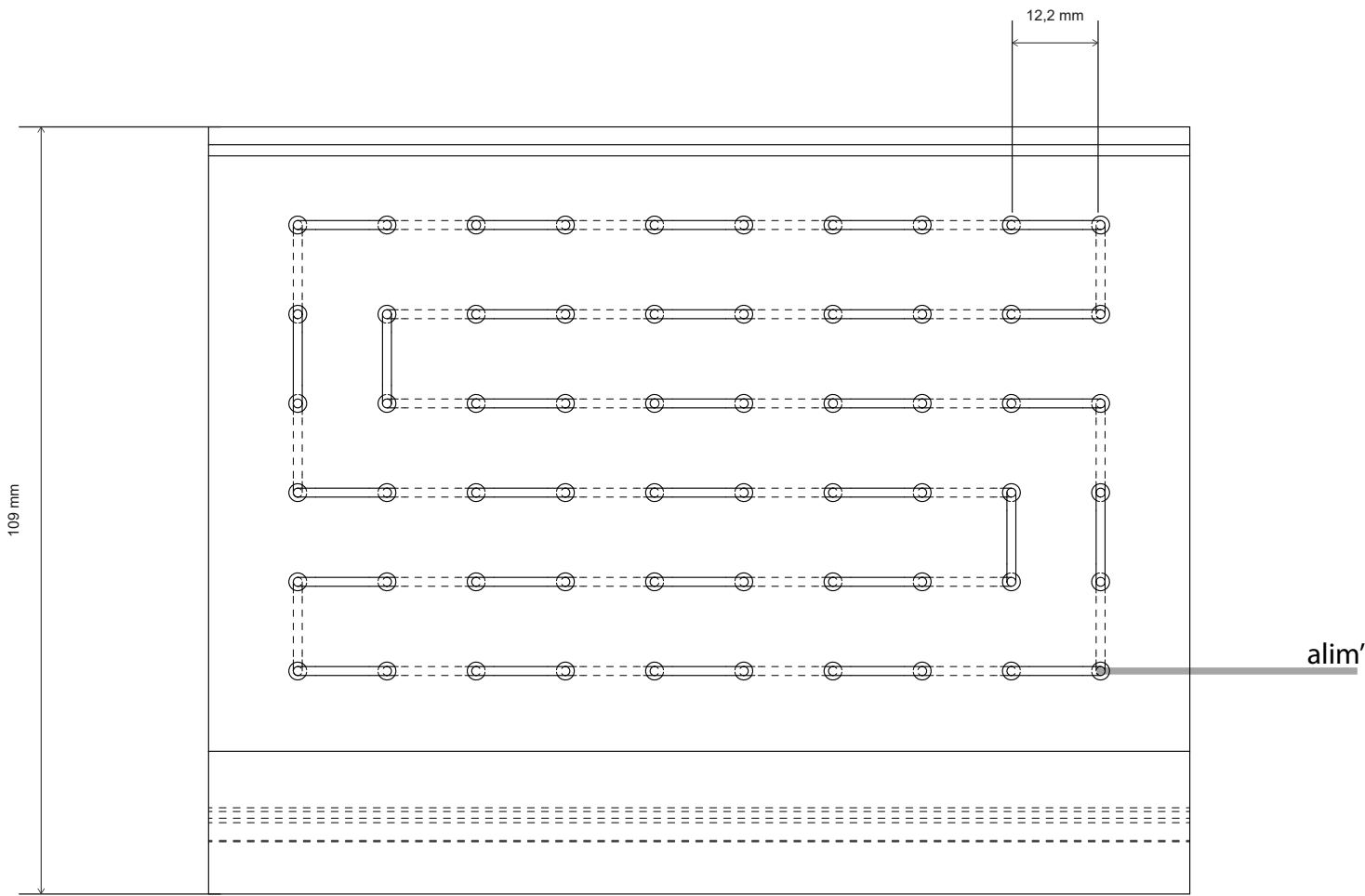
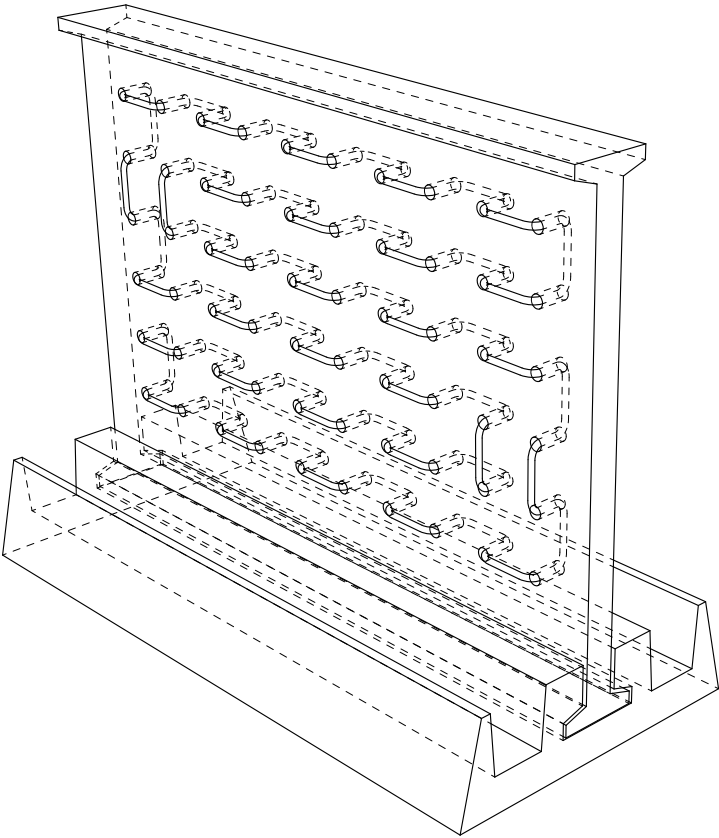
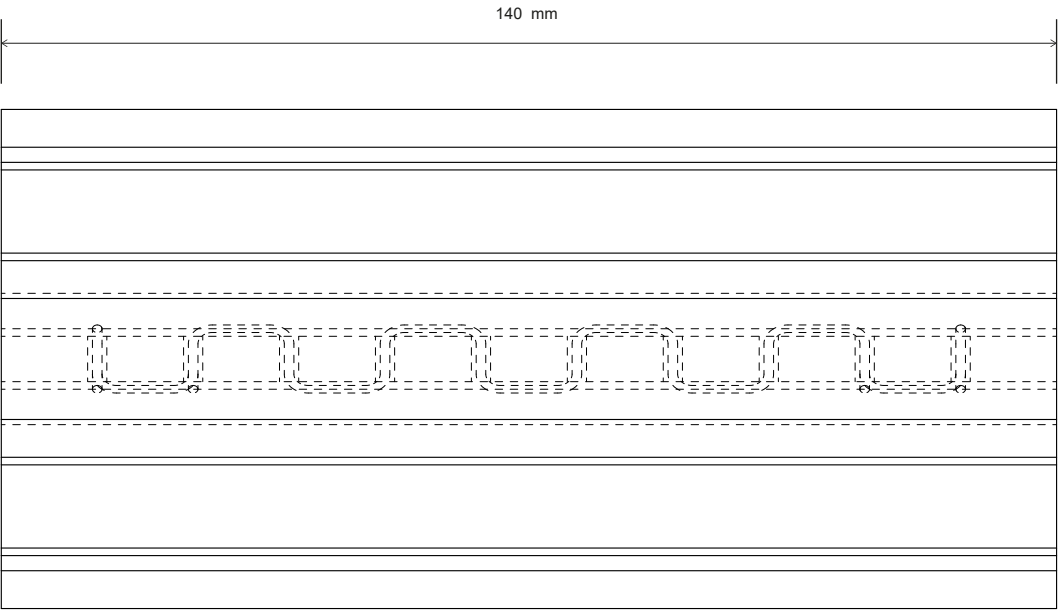
Résultat

$d \approx 0,21 \, \text{mm}$



plan grille-pain V1 en porcelaine

Fil Kanthal A1 (1400°)
Diamètre 1 mm
longueur de la résistance : 1126 mm
Branchement souhaité : 220 V



plan grille-pain V1 en porcelaine

Fil Kanthal A1 (1400°)
Diamètre 1 mm
longueur de la résistance : 1126 mm
Branchement souhaité : 220 V