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Physics 11 - Quiz 4 2/21/2020

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The temperture is $T = 927℃C + 273C^\circ = 1200\text{K}$.

$$\begin{aligned}\frac{dQ}{dt} &= \sigma A \varepsilon T^4 \\ &= \left(5.67 \times 10^{-8} \frac{\text{W}}{\text{m}^2\text{K}^4}\right)(0.006\text{m}^2)(0.85)(1200\text{K})^4 \\ &= 600\text{W}\end{aligned}$$