

task_4pla882qt21jfyc9_with_calculation

Student Group

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Table of Contents

Exercise E12 Charges in Electroplating 2

charges, Electroplating, chapter1 2

Exercise E12 Charges in Electroplating

To get a different metal coating onto a surface, often  **Electroplating** is used. In this process, the surface is located in a liquid, which contains metal ions of the coating.

In the following, a copper coating (e.g. for corrosion resistance) shall be looked on. The charge of one copper ion is around $1.6022 \cdot 10^{-19} \sim \{\mathrm{C}\}$, what is the charge on the surface if there are $8 \cdot 10^{22} \sim \{\mathrm{ions}\}$ added?

$$\begin{align*} 12'818 \sim \{\mathrm{C}\} \end{align*}$$

Solution

$$\begin{align*} 8 \cdot 10^{22} \cdot 1.6022 \cdot 10^{-19} \sim \{\mathrm{C}\} &= 12'817.6 \sim \{\mathrm{C}\} \\ \end{align*}$$

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