

Specific Heat Capacity Lab

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March 3, 2023

1. Purpose

The goal of the experiment was to determine the specific heat capacities of various substances based on measurements of mass, temperature, power, and/or time. For parts 1 and 2 the material was known, so the calculated specific heat capacities could be compared to the accepted values. For part 3 the material was unknown, so its identity was guessed based on the calculated specific heat capacity.

2. Results

Table 1. Part 1 Measurements

| Quantity | Value |
|-----------|---------------------|
| m_c | 33.02 ± 0.01 g |
| m_{c+w} | 439.19 ± 0.01 g |
| T_i | 20.2 ± 0.4 °C |
| H | 293 ± 1 W |
| t | 120.2 ± 0.2 s |
| T_f | 38.5 ± 0.4 °C |