

Thermal Measurements

Physics

Measuring specific heat capacity and latent heat in the laboratory.

Electrical method for specific heat capacity.

1

Measure mass

Of the block or liquid.

2

Insulate

Lagging and a lid reduce the dominant error.

3

Supply measured electrical energy

$E = VIt$.

4

Record temperature rise

Stir if liquid; wait for the peak in a solid.

5

Calculate

$c = VIt \div (m\Delta T)$.

REDUCING ERROR

Start below and end above room temperature

Extrapolate a cooling curve

Lag the container

Use a lid

Starting below room temperature and finishing above it makes heat gained early roughly cancel heat lost later.