

Crushing Can Lab

Purpose: To determine the instantaneous pressure inside a can as it is crushed by the outside air pressure.

Procedures:

1. Carefully measure the volume of an uncrushed soda can (V_1).
2. Use a large beaker as a cool water bath and record the temperature of the water (T_2).
3. Place a small amount of water in the can and heat to boiling, and record the temperature of the water in the can (T_1).
4. Use the beaker tongs to quickly invert the hot can in the beaker of cool water.
5. Determine the volume of the crushed can (V_2).
6. Record the room pressure (P_1). You should be able to find that info on the internet.

Data:

Pressure of Room	P_1		Pressure in can	P_2	
Volume of uncrushed can	V_1		Volume of crushed can	V_2	
Temperature of Boiling water	T_1		Temperature of Cool Water	T_2	

Calculations:

1. Change inches of mercury to mmHg
2. Use the combined gas law to find the pressure (P_2) in the can just before it was crushed.
3. In your own words; explain what happened to the can in the experiment.