Magdeburg Hemispheres Worksheet

Data

Diameter of Magdeburg hemisphere: _____

Force required to separate the hemispheres, Trial 1: _____

Force required to separate the hemispheres, Trial 2: _____

Force required to separate the hemispheres, Trial 3: _____

Post-Lab Calculations and Questions

1. Calculate the average force required to separate the hemispheres.

2. Calculate the inside area bounded by the circumference of the Magdeburg hemispheres. *Hint:* The area of a circle is πr^2.

3. Calculate the pressure holding the Magdeburg hemispheres together just before they separate. Convert the pressure to pounds per square inch (psi).

4. Just before the Magdeburg hemispheres separate, what "occupies" the space inside the stretched hemispheres?

5. What causes the loud "pop" when the two hemispheres separate?