~~WHAT IS~~ CLAIMED ~~IS~~:

1. A lower electrode assembly for use in a plasma processing chamber, comprising:

(a) a metal base comprising metal plates:

(i) a ~~brazed~~braze line on a lower side surface at a location of a brazed joint metallurgically bonding the metal plates together;

(ii) an edge ring support surface extending horizontally inwardly from the lower side surface; and

(iii) an upper side surface above the edge ring support surface;

(b) an upper edge ring comprising a lower surface mounted on the edge ring support surface;

(c) a lower edge ring surrounding the lower side surface; and

(d) a gap between opposed surfaces of the upper and lower edge rings and between the lower edge ring and ~~the~~an outer periphery of the base, the gap having an aspect ratio of total gap length to average gap width sufficient to impede arcing at ~~the~~a location of the braze line.

2. The lower electrode assembly of claim 1, wherein the aspect ratio is at least 20.

3. The lower electrode assembly of claim 1, wherein the lower and/or upper edge rings comprise a dielectric material.

4. The lower electrode assembly of claim ~~1~~3, wherein the dielectric material comprises at least one selected from the group consisting of yttria, ceria, alumina, silicon nitride and quartz.

5. The lower electrode assembly of claim 1, wherein the metal base comprises upper, middle and lower metal plates, the upper and middle plates being vacuum brazed together at an upper braze line and the middle and bottom plates being vacuum brazed together at a lower braze line.

6. The lower electrode assembly of claim 1, wherein the lower edge ring comprises a side surface opposed to the lower side surface of the metal base and extending above the edge ring support surface of the metal base.

7. The lower electrode assembly of claim 6, wherein the lower edge ring further comprises an inwardly extending projection with a lower surface thereof over an outer portion of the edge ring support surface of the metal base.

8. The lower electrode assembly of claim 1, wherein the upper edge ring comprises two steps on a lower surface thereof.

9. The lower electrode assembly of claim 1, wherein the upper and lower edge rings include opposed grooves in the opposed surfaces and a dielectric ring is located in the grooves.

10. The lower electrode assembly of claim 1, wherein the lower edge ring includes an annular projection on an upper surface of thereof and the upper edge ring includes an annular recess in which the annular projection is received.

11. The lower electrode assembly of claim 1, wherein the upper edge ring includes a single step in the lower surface thereof, the step extending at least 0.25 inch into the lower surface and the lower edge ring has a height greater than ~~the~~a lower sidewall of the base such that an upper portion of the lower edge ring fits within a recess formed by the step.

12. The lower electrode assembly of claim 1, wherein the upper edge ring includes a surface which is directly exposed to plasma when the lower electrode assembly is used in the plasma processing chamber.