CLAIMS

1. A stinger for a cathodic arc vapor deposition system comprising:

a head with a reduced area contact interface;

wherein the reduced area contact interface includes an air gap between an inner wall and an outer wall; and

wherein the air gap is U-shaped in cross-section.

2. The stinger as recited in claim 1, wherein said reduced area contact interface defines a ring in cross-section.

3. The stinger as recited in claim 1, wherein said reduced area contact interface defines a button in cross-section.

4. The stinger as recited in claim 1, wherein said reduced area contact interface includes an air gap.

5. The stinger as recited in claim 4, wherein said reduced area contact interface includes an inner wall spaced from an outer wall, said outer wall is operable to define an effective contact area a cathode.

6. The stinger as recited in claim 1, wherein said head is manufactured of a copper alloy.

7. The stinger as recited in claim 1, wherein said head is water-cooled.

8. The stinger as recited in claim 1, wherein said head defines a first cross-sectional area, said reduced area contact interface defines a second cross-sectional area less than said first cross-sectional area.

9. The stinger as recited in claim 1, wherein said head is circular in cross-section.

10. The stinger as recited in claim 1, wherein said reduced area contact interface is operable to contact a cathode.

11. A cathodic arc vapor deposition system comprising:

a cathode;

a fixed support; and

a stinger with a reduced area contact interface to retain a cathode between said fixed support and said reduced area contact interface;

wherein the stinger includes a shaft and a head attached to the shaft;

wherein the head is in electrical contact with the cathode, and the head includes the reduced area contact interface and an air gap between an inner wall and an outer wall; and

wherein the air gap is U-shaped in cross-section.

12. The system as recited in claim 11, wherein said reduced area contact interface is manufactured of a copper alloy and said fixed support is manufactured of a stainless steel with isolative layers.

13. The system as recited in claim 11, wherein said contactor is water-cooled.

14. The system as recited in claim 11, wherein said reduced area contact interface defines a ring in cross-section.

15. The system as recited in claim 11, wherein said reduced area contact interface defines a button in cross-section.

16. The system as recited in claim 11, wherein said reduced area contact interface includes an air gap.

17. A method of cathodic arc vapor deposition comprising:

retaining a cathode with a reduced area contact interface that extends from a head of a stinger;

wherein the reduced area contact interface includes an air gap between an inner wall and an outer wall; and

wherein the air gap is U-shaped in cross-section.

18. The method as recited in claim 17, further comprising:

retaining the cathode between the reduced area contact interface and a fixed support