CLAIMS

1. A method, comprising:

conforming a sheet substrate which is a planar sheet and which is pliable to an external surface of a vacuum apparatus whose temperature is to be determined, said vacuum apparatus having heater elements, said sheet substrate having a width which is greater than a distance between said heater elements and a length which provides for a plurality of turns around said vacuum apparatus; and

thermally coupling a temperature sensor with said sheet substrate to provide a thermal path from said vacuum apparatus to said temperature sensor by interposing said sheet substrate between said temperature sensor and said vacuum apparatus.

2. A vacuum apparatus temperature sensor assembly, comprising:

a vacuum apparatus whose temperature is to be determined, said vacuum apparatus having heater elements;

a sheet substrate which is a planar sheet and which is pliable to conform to an external surface of said vacuum apparatus, wherein said sheet substrate has a width which is greater than a distance between said heater elements and wherein said sheet substrate has a length which provides for a plurality of turns around said vacuum apparatus; and

a temperature sensor thermally coupled with said sheet substrate, wherein the sheet substrate is configured to provide a thermal path from said vacuum apparatus to said temperature sensor and wherein said sheet substrate is interposed between said temperature sensor and said vacuum apparatus.

3. The vacuum apparatus temperature sensor assembly of claim 2, comprising an outer insulating layer overlying said sheet substrate and said temperature sensor to provide a greater thermal conductivity across said sheet substrate than between said plurality of turns.

4. The vacuum apparatus temperature sensor assembly of claim 2 or 3, wherein said sheet substrate has a thermal conductivity selected to reduce a temperature variation across a surface of said sheet substrate compared to a temperature variation across a surface of said vacuum apparatus.

5. The vacuum apparatus temperature sensor assembly of any one of claims 2 to 4, wherein said sheet substrate has a thermal mass selected to be lower than a thermal mass of said vacuum apparatus.

6. The vacuum apparatus temperature sensor assembly of any one of claims 2 to 5, wherein said temperature sensor overlies said sheet substrate.

7. The vacuum apparatus temperature sensor assembly of any one of claims 2 to 6, wherein said sheet substrate has a thermal conductivity selected to be greater than a thermal conductivity of said vacuum apparatus.