

Contact Pyrometers

“Devices of this sort are intended rather for convenience than for any high degree of precision. The thermal contact between the surface and sensitive element, with the element merely pressed against the surface, is disposed to be dubious, furthermore through the leads and the massive handle structure, the element is in fair thermal communication with the ambient. If the surface consists of a coating of poorly conducting oxide or is covered with loose dust, a substantial temperature drop may occur in this layer. Tests have been made, however, for various designs and circumstances. They indicate that under favorable conditions surface temperatures are measured correctly to within a few percent of the elevation above ambient. However, for poorly conducting surface materials, errors may be much larger.”

Page 179, Temperature Measurement In Engineering, Omega Press.