



When bringing an idle heater back into service for the cold weather season, one of the most frequent issues our service center deals with involves low megohm readings prior to start up.

Low Megohm readings on a heater may be due to moisture absorption by the magnesium oxide refractory insulation material that is compacted around the element's wire core. Moisture ingress can be attributed to unsealed elements in a humid environment, conduit connections that enable moisture to drain into the terminal enclosure, a gasket that needs replacing, etc. Once absorbed into the insulation, the presence of this moisture reduces its effectiveness, and results in a low value (low megohm) of the measurement of the insulation's resistance. Field evidence of this would be high leakage current to ground, and nuisance trips of ground fault protection equipment.

Upon discovery of a low megohm reading, it is standard practice to dry the elements out prior to returning to service. This involves either energizing the heater at a derated voltage for intermittent periods, or removing specific components of the heater and baking in an oven.



### Pre Season Maintenance Checklist

- Check heater elements for any process fluid related build up or corrosion.
- Check tank for sediment level in area surrounding heater. Remove any sludge deposits or sediment from heater and tank.
- Check for loose terminal connections and tighten if necessary.
- If terminal enclosure has a gasket, inspect and replace if necessary.
- Clean terminal ends of all contamination.
- Inspect all rigid conduit and sealed flex hose connections. Note conduit and hose connections should always slope away from the terminal enclosure.