

Minimizing Thermal Fluid Leaks

Reasons to minimize thermal fluid leaks

1. Hot metal increases in length (and diameter). Bolts stretch. Piping runs increase up to 4" per 100' of length. Hot fluid is also much thinner than cold (thinner than water above 400°F). In new and old systems, the biggest source of leaks are flanges. Sometimes the carbon crust that eventually forms will seal the leak but why take the chance? Besides, the solids may get caught in the gasket. So get out the wrench and re-torque the flanges. If you have to remove the insulation to get to the flange, make sure you read about insulation fires in the upcoming TipSheet. Use fluorocarbon based thread sealant or Teflon tape on threaded fittings and tighten them down.
2. Screwups. The following tips come from actual case histories. All of the drain valves should be closed before adding fluid. All of the block valves should be closed before opening a line. Pressure gauges should have isolating valves and be located so that they cannot be accidentally removed with a fork truck. Leaking pump seals should be replaced before they flush out the bearing grease. The expansion tank level should be checked before startup.