

ANALYSIS OF A CREEP DEFLECTION OF A ZINC PRESSURE REGULATOR VALVE

PURPOSE: Evaluate the ability of a valve to maintain a seal under long term creep deflection

An FEA model was developed to stimulate a zinc valve under long term creep. Creep properties were obtained from literature and converted to rational polynomial creep equations for ANSYS. Internal spring forces and uniform working pressure loads were applied, and critical stresses were checked in the valve body. A long term creep analysis was conducted under these loads to evaluate the displacements as a function of time, and thus the valves ability to maintain a seal over time.

