

EXAMPLE:

Thin walled plastic pipe subjected to an internal pressure of 0.7MPa. The service life of the pipe should be 20000 hrs with a maximum strain of 2%.

If the pipe diameter, d, is 150mm what is a suitable wall thickness?

Data to be considered:

- creep curves for material
- 20000 hr isochronous (σ - ϵ) curve
- hoop stress in pipe wall