

THEORETICAL BURST PRESSURE CALCULATION

The theoretical burst pressure of tubing at ambient temperature can be calculated by using the ID and OD dimensions in inches and the tensile strength at yield in pounds per square inch.

The following formula is to be used as a guide in the design process. It does not consider factors such as steam pressure and elevated temperature. Values for some fluoropolymers are listed.

Markel performs burst testing of tubing using the device shown.

$$P = \frac{T (OD^2 - ID^2)}{OD^2 + ID^2}$$

P = Theoretical Burst Pressure, psi
T = Tensile Strength at Yield, psi

PTFE 2,500 - 4,000

FEP 3,000 - 3,600

PVDF - 3,000

PFA 4,000

EFEP 6,000 - 7,000

ETFE - 6,500

