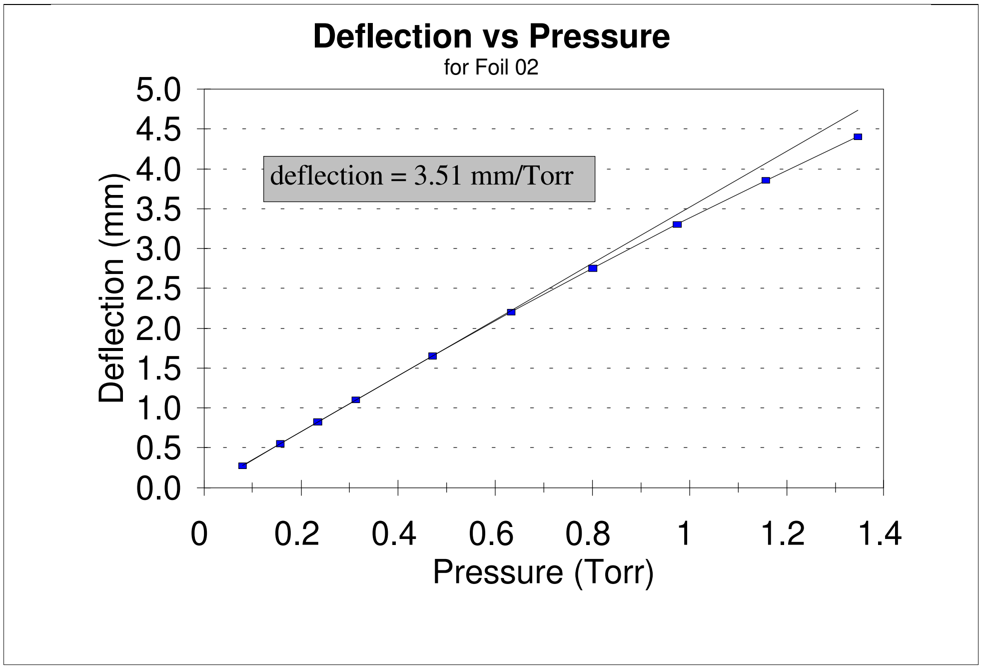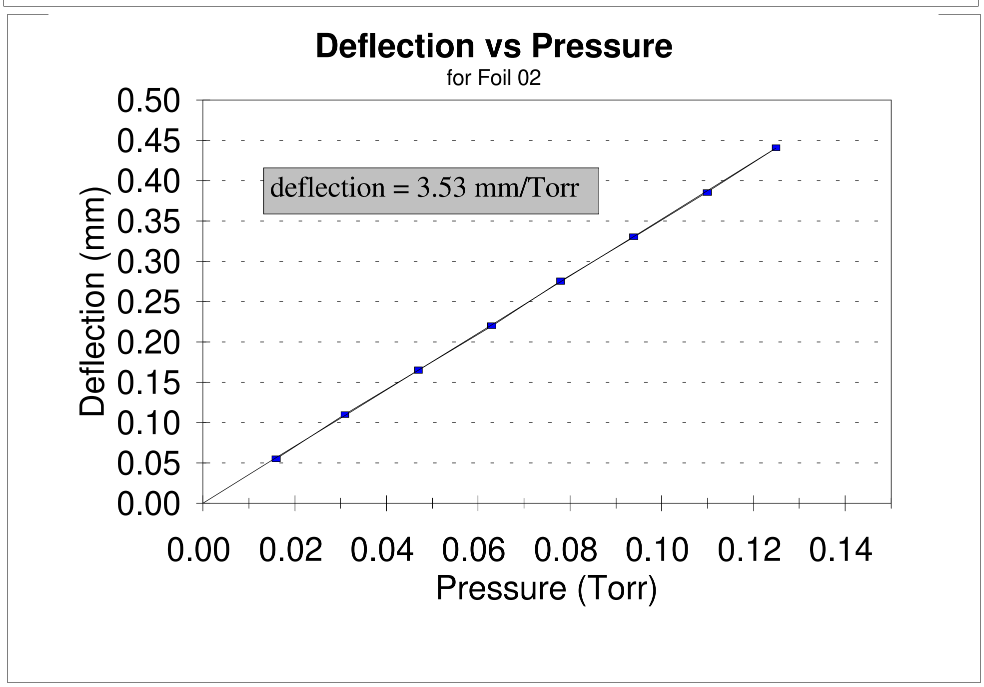V = Ft = (b(Pi)r^2)/2

b = (2Ft)/((Pi)r^2)

gas compression ~ 761/760   is negligible