tested at 300°C, and Figures 18 and 19 show similar data for EN3 cylinders tested at 300°C. Other data for Hykro cylinders at 20 and 300°C, Vibrac cylinders at 20 and 370°C and EN3 cylinders at 20 and 160°C have been obtained and are tabulated in the next section.

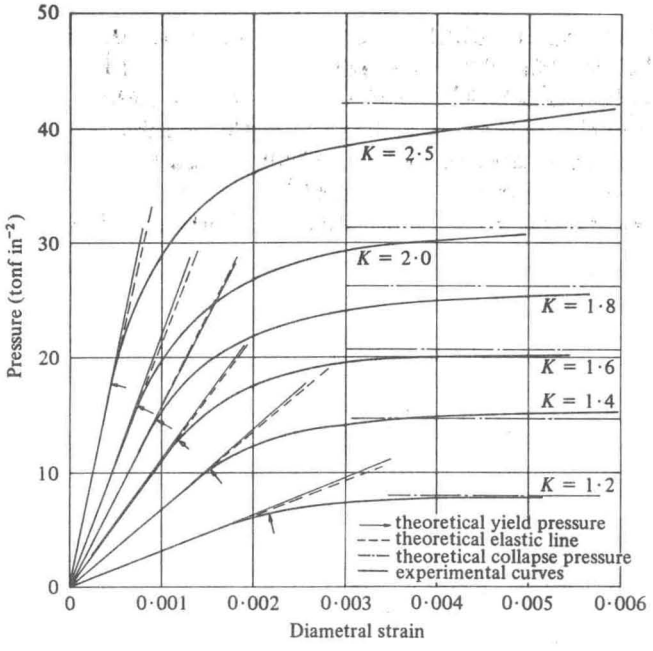


**Figure 16.** Pressure-expansion curve at small strains for Vibrac cylinders tested at 300°C.

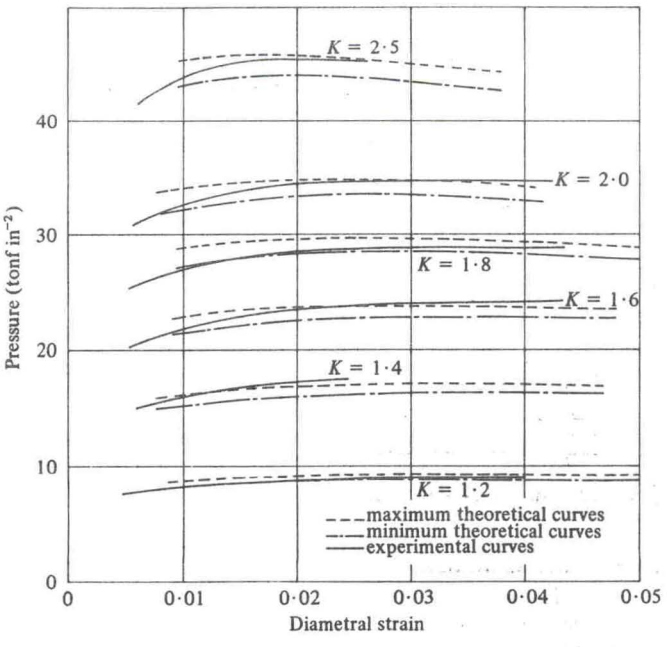


**Figure 17.** Pressure-expansion curve at large strains for Vibrac cylinders tested at 300°C.

## Discussion of results

*Hykro* (EN40)

At 20 and 300°C the elastic line and yield pressure have been calculated from torsion data given in Table 2, using the equations in Appendix 1. Good agreement between these theoretical values and the experimental curves from cylinder tests was obtained, similar to that depicted in Figure 16 for Vibrac.

The pressure-expansion curves at large strains have been calculated from the maximum and minimum shear stress-strain curves of Figures 7 and 8, using the theory proposed by Crossland, Jorgensen and Bones (1958) or Crossland (1964), which was based on the theory given by Manning (1945). There is reasonable agreement between these theoretical curves and the experimental pressure-expansion curves. The peak pressure or ultimate pressure can be read off these theoretical pressure-expansion curves and compared with the experimental values. The data are given in Table 3;

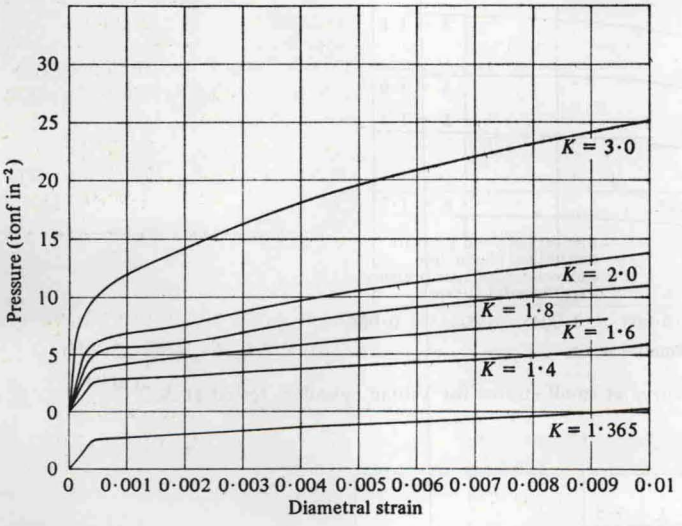


Figure 18. Pressure-expansion curves at small strains for EN3A cylinders tested at 300°C.

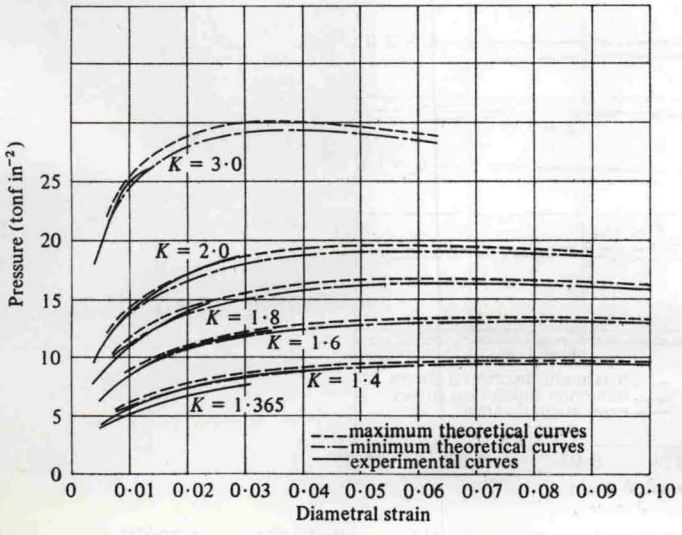


Figure 19. Pressure-expansion curves at large strains for EN3A cylinders tested at 300°C.