plastic-elastic boundary has reached the outer surface

$$\frac{P_y}{\sigma_y} = \log_e K, \qquad \dots\dots\dots\dots\dots\dots\dots (7)$$

a result obtained by van Iterson (1912) by a slightly different method. Using this the Leinss factor $a$ may be derived

$$= \frac{(K-1)\sigma_y}{P_y} = \frac{K-1}{\log_e K}. \qquad \dots\dots\dots\dots\dots\dots (8)$$

For values of $K$ between 1·5 and 4·0 this approximates to a linear relation between $a$ and $K$ with a slope of 0·4. It allows, however, no variation of slope with $\sigma_y$ and, therefore, cannot fully describe the experimental results.

The Leinss equation remains a most useful empirical relation between easily measured properties of a metal and the maximum allowable internal pressure for a cylinder of that metal.

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plastic-elastic boundary [illegible]

$$\log k \ldots \quad (7)$$

a result obtained by [illegible] by a slightly different method. Using this the [illegible] may be derived

$$\ldots \quad (8)$$

For values of $k$ between 1.5 and [illegible] this approximates to a linear relation between [illegible] and $k$, with a slope of [illegible]. [illegible], however, no variation of slope with [illegible] cannot fully [illegible] experimental results.

The [illegible] equation remains a most useful empirical relation between easily measured properties of a metal and the maximum allowable internal pressure for a cylinder of that metal.

V. Acknowledgements

The author is indebted to Mr. [illegible], Department of Civil Engineering, University of [illegible], for carrying out the tensile tests; to Mr. [illegible] for fabrication of the cylinders and bolts; and to Dr. [illegible], High Pressure Laboratory, [illegible] University of [illegible], for valuable discussions and advice.

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