

Linear elastic: $U_{\infty} = \sigma^2 / 2E$

rubber: $\lambda_x = \lambda \rightarrow \lambda_y = \lambda_z = 1/\lambda$

LEFM:

$$\sigma_f = \sqrt{\frac{J_{IC} E}{\pi a}}$$

$$\begin{aligned} \rightarrow J_{IC} &= \frac{\pi a \sigma_f^2}{E} = 2\pi a \cdot \frac{\sigma^2}{2E} \\ &= 2\pi \frac{a_0 U_{\infty}}{\sqrt{\lambda}} \end{aligned}$$

a_0	λ	U_inf	G_ic
4.50E-03	2.21	3.30E+05	6.28E+03
5.00E-03	2.00	2.50E+05	5.55E+03
8.60E-03	1.82	1.70E+05	6.81E+03
1.10E-02	1.60	9.00E+04	4.92E+03
1.60E-02	1.62	9.50E+04	7.50E+03

average ==> 6.21E+03 (J/m²)