

Manuscript

1. P. F. and D. J. GILL, "FRACTURE MECHANICS OF POLYMER IRRADIATED BY HIGH ENERGY RADIATION," *J. Polym. Sci.*, Part A, 1963, 1, 101.

The dependence of the mechanical properties of irradiated polymers on the dose rate has been examined by the methods of linearized fracture mechanics.

2. L. C. LEE AND D. J. GILL, "THE EFFECT OF RADIATION ON POLY(1,3-PHENYLENE TERPHENYLIC ACID) POLYMERS," *J. Polym. Sci.*, Part A, 1963, 1, 111.

The properties of poly(1,3-phenylene terphthalic acid) irradiated at different doses and dose rates have been determined. The effect of dose rate on the mechanical properties of the polymer has been examined by the methods of linearized fracture mechanics. The results show that the dose rate has a marked influence on the mechanical properties of the polymer. The dose rate dependence of the mechanical properties of the polymer is attributed to the effect of dose rate on the crosslinks and the chain scission. The dose rate dependence of the mechanical properties of the polymer is attributed to the effect of dose rate on the crosslinks and the chain scission.

3. D. J. GILL AND D. J. GILL, "THE EFFECT OF RADIATION ON THE MECHANICAL PROPERTIES OF POLY(1,3-PHENYLENE TERPHENYLIC ACID) POLYMERS," *J. Polym. Sci.*, Part A, 1963, 1, 121. The effect of radiation on the mechanical properties of poly(1,3-phenylene terphthalic acid) polymers has been examined by the methods of linearized fracture mechanics. The results show that the dose rate has a marked influence on the mechanical properties of the polymer. The dose rate dependence of the mechanical properties of the polymer is attributed to the effect of dose rate on the crosslinks and the chain scission. The dose rate dependence of the mechanical properties of the polymer is attributed to the effect of dose rate on the crosslinks and the chain scission.

In the first of the two boundary-crossing events which still contains significant amounts of gas bubbles, the gas bubbles are found to exist in large-scale clusters of size and density in the grain boundaries during rapid heating as a result of rapid migration of small bubbles at low temperature or stress gradient. During this process the bubbles may coalesce, but will not relax to equilibrium with the lattice if the flux of vacancies from grain boundaries is insufficient. The flux of vacancies is driven by the bubble excess pressure but it occurs that even for transients with a timescale of one or a few seconds equilibrium is not attained.^{3,4} In such cases large overpressures will be available

and the other two were found to be identical with the original sample, excepting that the first was slightly more dilute. The second sample was also found to be identical with the original sample.

the first time, and the author has been unable to find any reference to it in the literature.

1. The first step in the process of creating a new product is to identify a market need or opportunity. This can be done through market research, competitor analysis, and customer feedback. Once a need is identified, it is important to define the product's unique value proposition and target audience.

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The temperature of the metal at the center of the specimen was measured by a thermocouple inserted through a hole in the center of the specimen. The temperature of the specimen was measured by a thermocouple inserted through a hole in the center of the specimen. The temperature of the specimen was measured by a thermocouple inserted through a hole in the center of the specimen.

Fig. 1. The relationship between the mean and the standard error of the estimated distributions of the two species at two times.

and the temperature distribution. These, of course, yield temperatures at the center of the expanding gas, which is unreasonably assumed to remain constant in the outer regions of the expanding flame. The first will be used, since the maximum fuel temperature in the flame extrapolated back to the distributor face, a value of 7700K is obtained.

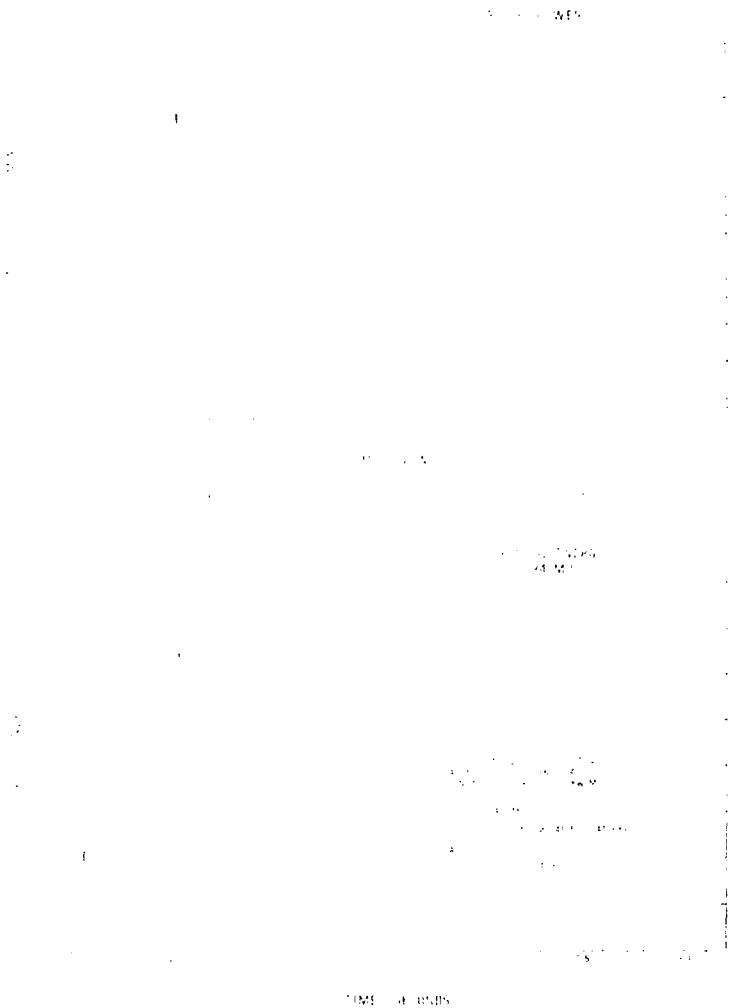


FIGURE 1. Density, energy dissipation and velocity history in 1D 1.6.

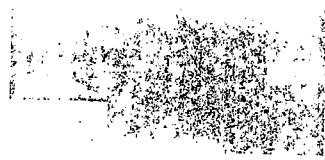
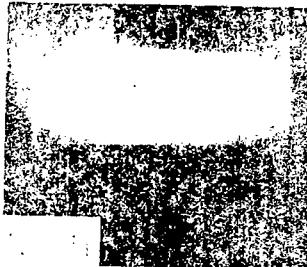
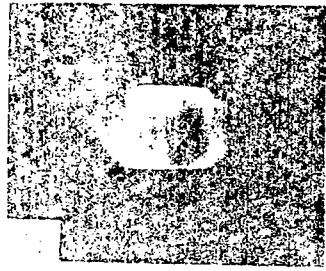


Figure 1. Four examples of high-contrast, black-and-white scans of the same document page.

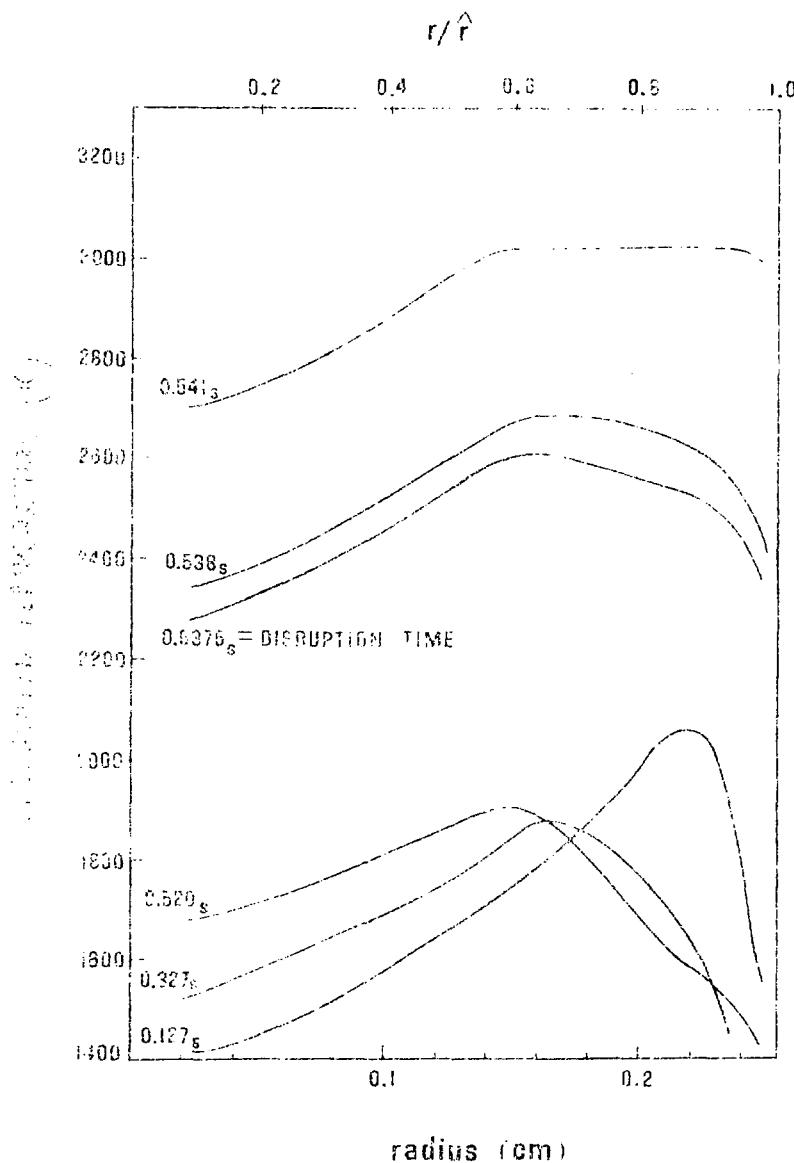


Fig. 1. Transient temperature history at the axial extremity of the fuel pellet.

times using the two sets of data obtained at heat transfer properties, the values of the intrinsic diffusion coefficient and the recombination time of 2650E, the diffusion coefficients of the various solutes are no more than one-tenth of the corresponding values determined by the first step of the hypothesis that the diffusion coefficient is constant during the transition from the nucleate to the melt point.

DISCUSSION

The first intragranular mechanism which is the gradient intragranular or intergranular swelling has been selected to model gas release and swelling in the present series. The second mechanism, diffusion of grain boundary diffusion, will also be considered. The program in the Harwell code REACT^b with consideration of the proposed mechanism of gas release and random release of gas bubbles into the grain boundaries, the latter gradient mechanism of REACT^b will be incorporated. The specific aspects of the mechanism of intergranular swelling are not yet fully understood; the main problem is to identify intragranular or intergranular mechanisms of diffusion paths.

In the case of a small size bubble, the diffusion of the gas may be controlled by the intergranular paths as well as across the grain boundaries. The diffusion of gas in a small release is rather easily calculated by assuming a constant diffusion coefficient and concentrations within the experimental range of grain sizes. However, a distribution of grain sizes about the mean grain size is required. In the calculations we prefer the answer by a diffusion in either direction.

When the question of what grain boundary problems have the tendency to disrupt the grain boundary diffusion is relevant, it may be noted that the grain boundary is the condition of the experiment, roughly 24 releases per unit area, grain boundary coverage by the grain boundary at equilibrium is not sufficient for larger size bubbles remaining at overpressures of 1000 atm. It is therefore believed that the disruption of the grain boundary is caused by the loss of grain boundary adhesion, although this will be limited to instabilities of adhesion.

The rate of grain boundary bubble growth between two may be made in the form of equation 10 and might be written. Facilitation is assumed to be proportional to fusion along the grain boundary. The rate of increase of radius is given by:

$$\frac{dr}{dt} = \frac{P_{\text{ex}} A}{2 \pi \rho \sigma} \left(\frac{r}{r_0} \right)^{\frac{1}{2}} \quad (10)$$

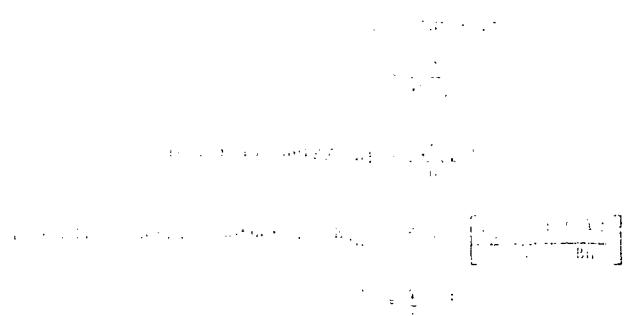
where r is the radius of the grain boundary, P_{ex} is the excess pressure, ρ is the density of the gas, σ is the surface tension, A is the area of the width w of the grain boundary, r_0 is the initial radius of the bubble, P_{ex} is the initial excess pressure, and σ is the value of $0.00013 \text{ dyne/cm}^2$ for this problem.

If the radius calculated is exist in the transient ($r > 7 \text{ nm}$, $P > 3.5 \times 10^9 \text{ atm}$) of equilibrium, it will remain true that the excess bubble pressure approximately equals bubble gas pressure. Then, using a reduced Van der Waals equation-of-state

It is of interest to note that the energy requirement for the removal of one cubic centimeter of air from a spherical cavity is proportional to the square of the radius of the cavity. This is true because the volume of air removed is proportional to the square of the radius of the cavity. The energy requirement per cubic centimeter of air removed is proportional to the reciprocal of the radius of the cavity. Thus, the energy requirement per cubic centimeter of air removed is proportional to the reciprocal of the square of the radius of the cavity. This is true because the energy requirement per cubic centimeter of air removed is proportional to the reciprocal of the square of the radius of the cavity.

Another important consideration in the problem of bubble evacuation, from the point of view of similarity theory, is the change in radiation on account of the change in the initial bubble pressure. As discussed earlier, the initial pressure of a bubble is known to be a little over 100 times the vapor pressure. The amount of energy required per bubble to remove the air contained in a spherical cavity is about three times larger than the amount of energy required to remove the air contained in an idealized spherical cavity of the same radius. The increase in energy above the vapor pressure is due to the fact that the number of magnitude smaller bubbles which are formed during the cavitation process are generated, and the energy required to remove them is also increased.

Fig. 1. Effect of initial bubble pressure.



It is of interest to note that the effect of extension, or the bubble pressure, on the energy requirement is not of the first kind, see texts the effect of extension on temperature being in the manner of an addition to the vapor pressure. The initial bubble pressure is known to be a little over 100 times the vapor pressure. The amount of energy required per bubble to remove the air contained in a spherical cavity is about three times larger than the amount of energy required to remove the air contained in an idealized spherical cavity of the same radius. The increase in energy above the vapor pressure is due to the fact that the number of magnitude smaller bubbles which are formed during the cavitation process are generated, and the energy required to remove them is also increased.

It is of interest to note that the energy requirement, particularly with respect to the removal of air from a spherical cavity, is the energy requirement for the removal of air from a cavity which is formed at such rapid transients.

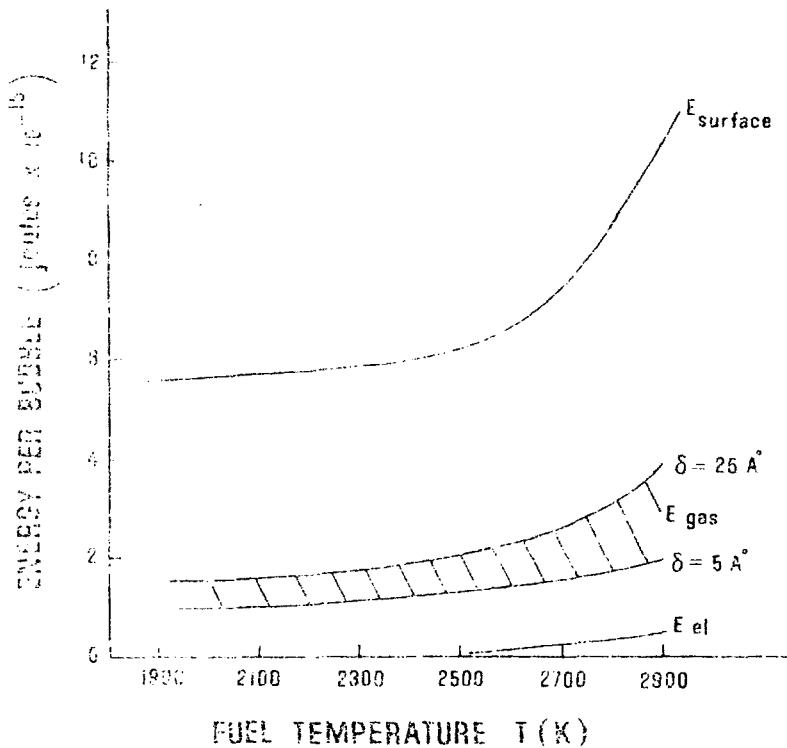


Fig. 4. Dependence of energy required to heat and availability for combustion of the propellant in Fig. 3, 1, 6.

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and the other two were
left out. The first of
these was a very heavy
one, and it was difficult
to get it up, so we had to
leave it where it was, and
then we took the other one,
which was much lighter.
We were now about half
way across the lake, and
we were getting very tired.
The wind was still blowing
strongly, and it was making
it difficult for us to row.
We had to stop frequently
to rest, and it was taking
us longer than we had
expected to cross the lake.

• The first time I saw him, he was sitting in a chair, looking at me with a serious expression. He had short, dark hair and was wearing a light-colored shirt.

and the following year he was appointed to the faculty of dentistry at Loma Linda University.

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1960-1961. The author wishes to thank Dr. R. J. G. van der Veen, Alkmaar, for his

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and the development of the human species. Behavior in single species of animals has been explored (cf. 1972); also, "A history of the development of the study of animal behavior," by J. R. Krebs and N. B. Davies, in *Animal Behaviour*, 1976, 21, Div. 1, pp. 1-12.

¹ See also, the 1970s and 1980s "globalization" of private condominiums of work.

and the corresponding two-dimensional structures. In the process of the interaction, the two-dimensional structures are markedly changed.

The second stage of the interaction is the formation of the V-shaped structures. The V-shaped structures are formed by the interaction of the two-dimensional structures. The V-shaped structures are formed by the interaction of the two-dimensional structures. The V-shaped structures are formed by the interaction of the two-dimensional structures.

The third stage of the interaction is the formation of the V-shaped structures. The V-shaped structures are formed by the interaction of the two-dimensional structures. The V-shaped structures are formed by the interaction of the two-dimensional structures.

The fourth stage of the interaction is the formation of the V-shaped structures. The V-shaped structures are formed by the interaction of the two-dimensional structures. The V-shaped structures are formed by the interaction of the two-dimensional structures.

The fifth stage of the interaction is the formation of the V-shaped structures.

The sixth stage of the interaction is the formation of the V-shaped structures.

The seventh stage of the interaction is the formation of the V-shaped structures.

The eighth stage of the interaction is the formation of the V-shaped structures.

The ninth stage of the interaction is the formation of the V-shaped structures.

The tenth stage of the interaction is the formation of the V-shaped structures.