

Table 1 Values of  $T_{g,\infty}$ ,  $A$  and  $B$  for various liquids

Liquid	$T_g$ (K)	$A$ (g/mol)	$B$ (g/mol)	Reference
Poly(dimethyl siloxane)	149	7580	42.8	8
n-Alkanes	184	30 200	195	9
Polypropylene	270	49 800	267	10
Poly(vinyl chloride)	351	85 800	382	5
Polystyrene	373	100 000	378	3, 6, 7
Poly(methyl methacrylate)	387	270 000	2880	4
Polycarbonate	436	259 000	1270	11
Poly( $\alpha$ -methylstyrene)	446	448 000	2400	12

The values of  $T_{g,\infty}$ ,  $A$  and  $B$  obtained from fitting data for various polymers are listed in Table 1. As may be seen, values for both  $A$  and  $B$  tend to be larger, the higher the value of  $T_{g,\infty}$ ; however, there does not appear to be any simple correlation among these parameters. Further work on this problem is in progress.

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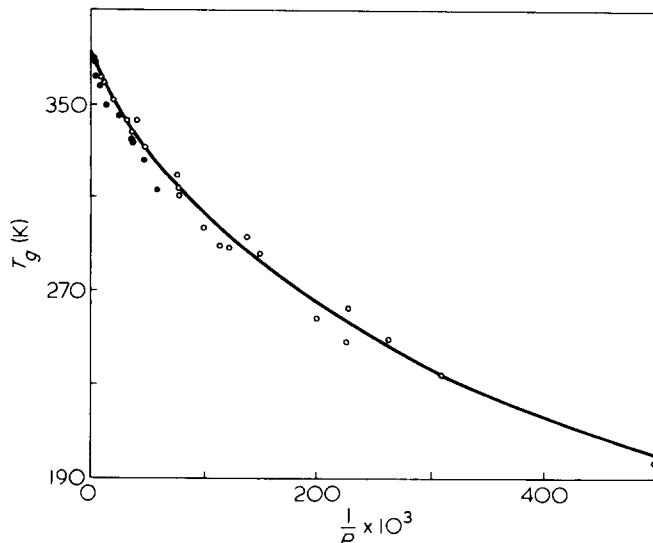


Figure 3 Dependence of the glass transition temperature of polystyrene on the reciprocal of the degree of polymerization. Points are experimental data: ref 7, ●; refs 3 and 6, ○. The full curve is the prediction of equation 2

## Book Review

### Encyclopaedia of PVC, Volume 3

Leonard I. Mass

Marcel Dekker, 1978, pp. 610

This is the last volume of PVC Encyclopaedia; it involves ten chapters, involving the main kinds of PVC processing and includes also interesting environmental and disposal considerations, as well as subjects of specifications, health and safety, testing and quality control, operation of plants for production and profit maximization.

The two first chapters treat the main aspects of PVC extrusion and injection moulding: flow behaviour of PVC resin and compounds, single- and twin-screw extrusion, degassing of extruder feed stock, unplasticized and plasticized PVC applications, injection moulding machines, injection moulding technology, economics of PVC moulding, applications for moulded PVC.

The chapter regarding calendaring and calendaring laminating contains problems concerning principal and auxiliary equip-

ment, equipment-material relations, process control and instrumentation; it ends with a useful comparison of the calender-laminator sequence with other processes.

The following three chapters (4, 5 and 6), discuss spread coating, coating operations using vinyl powders and liquids, postfabrication, decorating, and finishing.

Chapter 7 approaches some economic aspects such as: effect of rate of processing, profits through quality control, cost of plant labour, maximum use of equipment, material shrinkage and loss, etc.

The eighth chapter is entitled 'Testing rigid PVC products - analysis of test results'; among the aspects treated here are mentioned rigidity, stress-strain measurements, ultimate elongation, toughness, thermal properties, weathering resistance, chemical resistance, environmental considerations in

manufacturing, using and disposing of PVC materials and products.

This third volume, with its content, completes harmoniously the former volumes which comprise vinyl chloride production and polymerization, and respective principal aids for PVC modifying and processing.

Like the other volumes, this one has a great number of figures and tables which lightens the understanding of the problems.

The whole work is presented at a high scientific level and it is very useful for researchers, engineers and technologists of the field of synthesis and processing of PVC.

Dorel Feldman