

Abstract Submitted
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Measurement of the Viscoelastic Bulk Modulus¹ YAN MENG,
SINDEE SIMON, Texas Tech University — A new piston-cylinder type pressur-
izable dilatometer has been developed to measure the time-dependent bulk modulus
of viscoelastic materials. The PVT behavior and the glass transition temperature of
a polystyrene have been measured as a function of pressure. Preliminary measure-
ments of the time-dependent bulk modulus have also been made. The isothermal
bulk modulus is important because its magnitude is directly related to isotropic
residual stress development in curing thermoset-reinforced composites; in addition,
by comparing the bulk and shear responses, proposed differences in the molecular
origins can be explored.

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