Tensile elastic modulus and storage modulus

What is tensile modulus?

Young's modulusis referred to as tensile modulus. It is totally different material property other than the storage modulus. The storage modulus refers to how much energy was stored by the material when subjected to oscillating/periodic loads. Modulus is simply related to the stress and strain in particular conditions. Dear Sir,

What is the difference between tensile modulus and storage modulus?

I have recently done a DMA test using the same machine. Young's modulus is referred to as tensile modulus,which is totally different material propertyother than the storage modulus. The storage modulus refers to how much energy was stored by the material when subjected to oscillating loads.

Is Young's modulus the same as storage modulus?

While Young's modulus,which is calculated from the slope of the initial part of a stress-strain curve,is similar conceptually to the storage modulus,they are not the same. Just as shear,bulk and compressive moduli for a material will differ,Young's modulus will not have the same value as the storage modulus

What is the difference between Young's modulus and tensile modulus?

Young's modulus is referred to as tensile modulus,which is totally different material property other than the storage modulus. The storage modulus refers to how much energy was stored by the material when subjected to oscillating loads. Did you use the tension modulus in your test? I disagree with the Youssef in some points.

What is tensile modulus of elasticity?

Traditionally, we are determining the tensile/ modulus of elasticity (also known as elastic modulus or Young's modulus) of various polymeric materials (specimens made by injection or other techniques, films, sheets, etc.) using specific standards.

What is a storage modulus?

The storage modulus is a measure of how much energy must be put into the sample in order to distort it. The difference between the loading and unloading curves is called the loss modulus,E ". It measures energy lost during that cycling strain. Why would energy be lost in this experiment? In a polymer,it has to do chiefly with chain flow.

Viscoelasticity is studied using dynamic mechanical analysis where an oscillatory force (stress) is applied to a material and the resulting displacement (strain) is measured. o In purely elastic materials the stress and strain occur in phase, so that the response of one occurs simultaneously with the other.o In purely viscous materials, there is a phase difference between stress and strain, where strain lags stress by a 90 degree (radian) phase lag.

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