

APPLICATION SHEET

Polymers · Adhesives
DMA 242 E Artemis

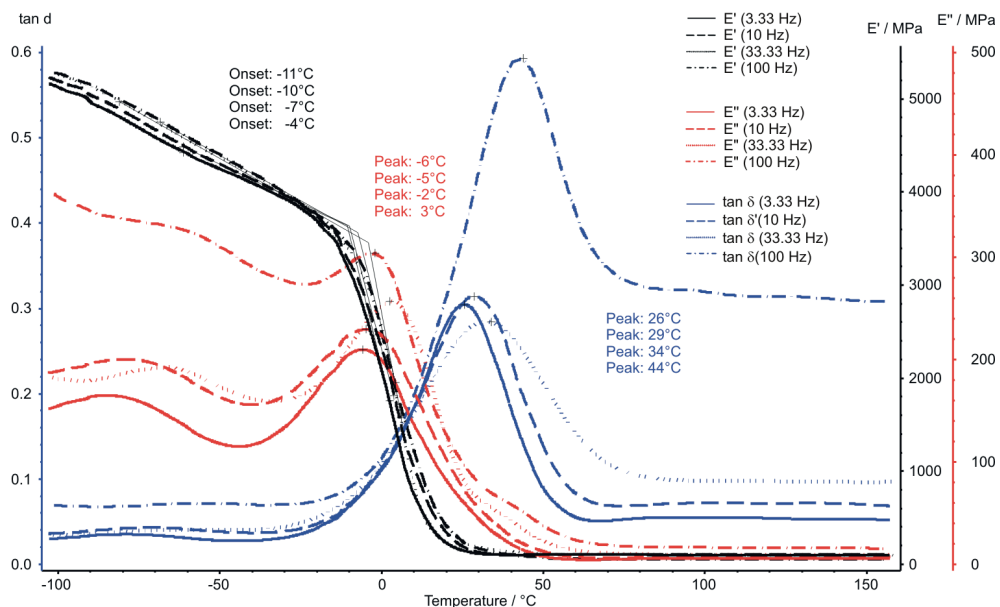


Adhesive Film

Introduction

Adhesive tape is an adhesive-coated fastening tape used for temporary or, in some cases, permanent adhesion between objects. Adhesive tape that will stick with application of pressure only (i.e., without activation by water, solvent or

heat) is known as pressure-sensitive tape. Adhesive tape was invented in 1926 by Richard Drew of 3M. The original tape was a paper-backed masking tape. Transparent and other tapes grew from this invention. Transparent Tape ("Sticky Tape") like Scotch Tape and Sellotape is cellulose-based and transparent.



Test Conditions

Temperature range:	-100 °C ... 150°C
Heating rate:	10 K/min
Atmosphere:	Static air
Sample holder:	Tension
Proportional factor:	1.1
Max. dynamic force:	7.2 N
Frequencies:	3.33, 10, 33.33 and 100 Hz

Test Results

The storage modulus is increasing with an increasing frequency. The glass transition started at -11°C (extrapolated onset) at a frequency of 3.33 Hz. With an increasing frequency, the glass transition temperature was shifted from -11°C (3.33 Hz) to -4°C (100 Hz). The corresponding peaks for the loss-modulus curves were measured between -6°C (3.33 Hz) and 3°C (100 Hz). The same effect can also be evaluated as a peak in the tan δ curve at 26°C (3.33 Hz), 29°C (10 Hz), 34°C (33.33 Hz) and 44°C (100 Hz).