EFFECT OF REINFORCING FILLER ON DYNAMIC MECHANICAL PROPERTIES OF ELASTOMERS

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The determination of dynamic mechanical properties of ribbed smoke sheet (RSS), deproteinized rubber (DPNR) and chlorobutyl rubber with a laboratory built torsion pendulum is described. Results for elastic (in phase) shear modulus G' viscous (out of phase) shear modulus G' and loss angle tan δ at 0.25 Hz for vulcanizates of the above rubbers are discussed. It is shown that HAF filler raises tan δ values comparatively more in DPNR than RSS vulcanizates whereas SRF filler affects these two rubbers equally. Chlorobutyl rubber exhibits comparatively high damping in both cases. Relevance of these results in engineering applications of elastomers is discussed.