

MACROSCOPIC PROPERTIES OF NOVEL CORROSION RESISTANT AND TAMPER EVIDENT VISCOELASTIC POLYMERS, BASED ON HYBRID CYCLIC PHOSPHAZENE MATERIALS

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Abstract

Three novel materials have been developed based on hexachlorocyclotriphosphazene and octachlorocyclotetraphosphazene. The core phosphazene ring is substituted with varying ratios of fluorinated side groups and with 4-hydroxybenzaldehyde to allow a Schiff base reaction with diaminodiphenylmethane (DDM) to form a cyclomatrix or cycloliner polymer compound. These compounds give excellent water repellence combined with good adhesion and viscoelasticity. In addition, the new materials undergo a surface reaction on exposure to atmosphere such that subsequent disturbance of the surface causes virgin material to become exposed giving clear evidence of such disturbance.

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