

Effects of Ammonia Gas and Steam Heat Treatment on the
Morphology and Physical Properties of PET Tired Cords

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The depression of PET Tire Cords by heat generation give rise to the decrease in the strength and the modulus, which are the most important properties of Tire Cords.

Therefore, in order to clarify morphology and physical properties with the degradation mechanism of PET Tire Cords in rubber, ammonolysis in ammonia gas and hydrolysis in a saturated steam of Tire Cords were investigated at a various time and temperature.

The properties such as tensile property, intrinsic viscosity, orientation, dynamic viscoelasticity, crystallinity, morphology, and thermal behavior, etc. were measured.

Shrinkage and crystallinity of PET Tire Cords were found to increase with increase of treatment time, specific stress and crystallite size of those to decrease. Depression in the melting point increased with increased treatment time.