

Abstract Submitted  
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**UV curable hard coatings on polyesters** TEA DATASHVILI, WITOLD BROSTOW, DAVID KAO, University of North Texas — UV curable, hard and transparent hybrid inorganic-organic coatings with covalent links between the inorganic and the organic networks were prepared using organically crosslinked heteropolysiloxanes based on the sol-gel process. The materials were applied onto polyester sheets and UV cured. The deposition was followed by a thermal treatment to improve mechanical properties of the coatings. High light transmission and the resulting thermophysical properties indicate the presence of a nanoscale hybrid composition. The coatings show excellent adhesion to polyesters even without using primers. Further mechanical characterization shows that the coatings provide high hardness and good abrasion resistance.

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