Effects of Zone-drawing Condition on the Piezoelectricity of Poly(vinylidenefluoride) Films

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Mechanical and piezoelectrical properties of Zone-drawn poly(vinylidene fluoride) films were studied. Effects of draw ratio and drawing temperautre on mechanical and piezoelectrical behavior were investigated. They were compared with those of hot drawn films.

As draw ratio increases, so does the piezoelectric constant. But the increase of Zone-drawn films is higher than that of hot-drawn films.

The optimum Zone-drawing temperature to have the highest piezoelectric constant is about 125^{o}C.

The glass transition temperature determined by mechanical experiment tends to increase with the draw ratio, but that determined by piezoelectric experiment is independent of draw ratio. The above results are the same in both hot and Zone-drawn cases.