

Physical Properties of Silk Kayagum Strings Treated with Chemical Agents

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Objective

Kayagum strings are usually made of raw silk. It is in need of good vibration and durability during playing the Kayagum. This study was carried out to increase durability of the strings by treatment of water soluble acrylic adhesive.

Materials and Methods

Materials : raw silk (60d)

Adhesive : MKW-810(water soluble acrylic adhesive, Myung Kwang Chemical Ind co.)

Poly (vinyl alcohol)

Methods

Tenacity, elongation and number of extension cycling to breaks of the strings

: material testing machine (Zwick) at 26 °C, RH 55%

Result and Discussion

1. Tenacity and elongation of adhesive treated strings are similar to those of untreated one.
2. Number of simple extension-cycling to break of the strings are largely increased by chemical treatment.
3. Moisture contents of adhesive treated strings, measured at 32oC, RH 90%, were higher than those of untreated one. On the other hand, when it was measured at at 26oC, RH 55%, moisture contents of strings were similar regardless of adhesive treatment.
4. The stiffness of adhesive treated strings was similar to that of untreated one.
5. The vibration of strings tended to a little increase by treatment of adhesives.

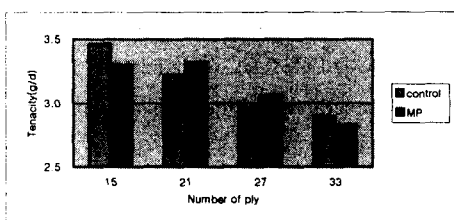


Fig 1 Tenacity of stings

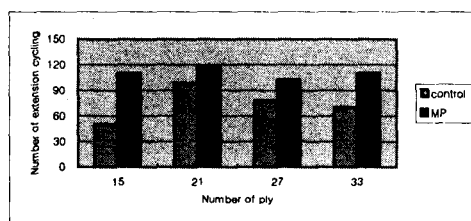


Fig 2. Number of extension cycling of the strings