25. On the Plastic Aftertreatment on the High Tenacity Rayons. (III)

Narao Saito.

In continuation of the research into the plastic aftertreatment on the high tenacity rayon fibers, the author tried to elucidate the mechanism of the treatment in respect with the microstructure of the fibers, applying the method that was found optimum for ordinary one bath rayon yarn to those rayons of different microstructures, i. e. (1), (2) rayon yarns and staples, prepared by the two bath stretch-fixing method, and by the " low alkali-,low acid-, low-temperature-bath method ", and (3) fibers of specially thick skin, and also (4) other cellulosic fiber as Bemberg yarn.

An interesting series of results of a stepwise range of effects as revealed in the increments of wet strengths versus knot elongations at break was obtained, independent of the slight differences of applied plastics and curing methods.

This is supposed to be due to the difference in the penetrating degree of the treating liquid in each sample. The place where and how the plastic sets in the microstructure of the fiber is of primary importance, which will be discussed later. A lately adopted method seems to produce a better result in this respect, which will be shown fully on other occasion.

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26. Studies on Silicone Resins. (V)

On the Molding Products.

Kiyoshi Abe, Minoru Toyoda and *Yoshinao Iida.*

This (V) and the next (VI) reports are both on the methylethyl silicone resins which are manufactured on trial at the Laboratory in Shimadzu Mfg. Co. Kyoto.

Glass fiber is used as the filler for our molding products, and as catalysers ethyl-borate, benzoic-peroxide and etc. are used chiefly. These mixtures with silicone resins are pressed at about 250°C. We find that our silicone resin molding products have a considerable heat-resistance and good electrical properties, and that they are able to drill and file.

(a) The insulating resistance is about $10^{11}\ \Omega$ -cm. at 220°C and $10^{15}\ \Omega$ -cm. at room temperature. And the characteristics between resistance and temperature show the interesting inclination.

(b) The arc resistance of our samples according to A. S. T. M. Standard shows 360 sec., while the bakelite shows only 15 sec.

(c) The dielectric strength measured in transformer oil is 40 kV at 4 mm. thickness.