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## Apparent Elastic Modulus of Scale Estimated from Bending Property of Single Wool Fiber

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**Abstract:** We measured the bending properties of a wool fiber having the complex internal structure in the natural fiber. Especially, the effect of the scale of wool fiber on the mechanical characteristic was examined. An original wool fiber and the wool fiber that had removed the scale were used. As the result, in the bending test, the flexural property of these wool fiber is greatly different, however, those tensile modulus was the same. By the finite element analysis, apparent bending modulus of the scale part was calculated from the skin-core structure model of the wool fiber.

**Key Words:** [Bending modulus](#), [Single wool fiber](#), [KES](#), [mechanical property](#)

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