

- The Yarn Abrasion Test Instrument simulates the principal stresses imposed on yarn during weaving
- The test method provides a measure of yarn resistance to breakage due to abrasive stresses and yarn interactions imposed by the loom and weaving action
- The potential weaving performance of yarn can then be assessed using a formula which relates the measured yarn abrasion properties (mean and variance of rubs-to-failure) to the cloth structure (number of picks)

The abrasion test instrument is designed to simulate the main stresses imposed on the yarn by the loom parts and the weaving action.

### Test Method

Specimens of yarn are mounted in mutually interfering pairs in the test instrument and stressed under a fixed load determined by the yarn count.



Each pair of specimens is rubbed by a three pin abrasion head and the number of rubs counted until the first yarn failure of each pair. The required number of yarn specimens is tested in this way, then the mean rubs to failure and the variance are calculated.

The instrument is designed to test ten pairs of yarn specimens simultaneously.

The abrasion head is oscillated at 200 cycles per minute, and the duration of the test depends on the abrasive strength of the strongest specimen. For worsted yarns of marginal weavability the strongest specimen may survive typically 2000 rubs, and so the test duration would be 10 minutes.