**Table 16.1.** Standards for tensile strength measurements.

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| **Standard** | **Content** | **Published** |
| TAPPI T 231 cm-07 | Zero-Span Breaking Strength of Pulp (Dry Zero-Span Tensile) | 2007 |
| ISO 2062 | Textiles—Yarns from Packages—Determination of Single-End Breaking Force and Elongation at Break Using Constant Rate of Extension (CRE) Tester (ISO 2062:2009) | 2009 |
| ISO 2060 | Textiles—Yarns from Packages—Determination of Linear Density (Mass per Unit Length) by the Skein Method | 1994 |

**Table 16.2.** Standard protocol for the tensile strength measurement of yarn at zero length.

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| Brief description | A yarn section is manually inserted into the upper clamp using an appropriate clip and fixed in position by closing the lower clamp. For measurement, the sample is stretched with constant deformation speed until break, and the maximum tensile strength and maximum tensile strength elongation are recorded. |
| Sample | Yarn section (twisted). |
| Sample length | 5.0 mm |
| Clamps | After TAPPI T 231 cm-07. |
| Clamp distance | 0.1 mm |
| Contact pressure | 6.0 mbar |
| Speed of measurement | 0.1 mm/min. |
| Preload | None |
| Sample condition | Diameter as homogeneous as possible. |
| Sample preparation | For samples of original paintings, primer and paint residuals must be excluded and sizing reduced. |
| Adjusting to the standard climate | After ISO 139. |
| Diameter-normalized maximum tensile strength | After ISO 2060. |
| Number of measurements per point | 12 (minimum). |
| Number of measurements used for calculation | Number of measurements per point  minus 2 (highest and lowest values excluded). |
| Statistical analysis | After DIN 53804-1. |