



PIA TEST METHOD 4108

The following commercial specification is adopted from the military document referenced without change to the content.

Note: Although many military quality and inspection specifications, drawings and standards have been discontinued or deleted, most have been replaced by industry and commercial documents. When the specification refers to a discontinued or deleted document, you should refer to the procurement document or your contracting officer for guidance.

STRENGTH AND ELONGATION, BREAKING; TEXTILE WEBBING, TAPE AND BRAIDED ITEMS

1. SCOPE

1.1 This method is intended for determining the breaking strength and elongation of textile webbing, tape and braided items.

2. TEST SPECIMEN

2.1 The specimen shall be a single length of 54 inches (1372 mm) and the full width of the material as received.

3. NUMBER OF DETERMINATIONS

3.1 Unless otherwise specified in the procurement document, five specimens shall be tested from each sample unit.

4. APPARATUS

4.1 The machine shall consist of three main parts:

- (a) Straining mechanism
- (b) Clamps
- (c) Load and elongation recording mechanism(s)

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PIA TEST STANDARD 4108

4.1.1 **Straining mechanism.** A machine wherein the specimen is held by two clamps and subjected to strain by a uniform movement of the pulling clamp.

4.1.1.1 Unless otherwise specified in the procurement document, the machine shall be adjusted so that the pulling clamp shall have a uniform speed of 3.0 + 1.0 inches (76 + 25 mm) per minute.

4.1.2 **Clamps.**

4.1.2.1 **Split drum.** Unless otherwise specified in the procurement document, the machine shall have two clamps, split drum type as shown In Figure 4108 and the distance between the clamps (gage length) shall be 10 + 1/2 inches (254 mm + 13 mm) center to center.

4.1.2.2 **Flat surface clamps.** When clamps are specified other than split drum type the machine shall have two clamps with two jaws on each clamp. Each jaw face shall have a flat, smooth gripping surface. The design shall be such that one gripping surface or jaw may be an integral part of the rigid frame of the clamp or be fastened to allow a slight vertical movement while the other gripping surface or jaw shall be completely movable. Unless otherwise specified the dimension of the jaws parallel to the application of the load shall measure one inch (25 mm) and the dimension of the jaws perpendicular to this direction shall be greater than the width of the specimen being tested. All edges, which might cause a cutting action, shall be rounded to a radius not greater than 1/64 inch (0.4 mm). The test specimen shall be a minimum of 6 inches (152 mm). The pulling clamp shall have a uniform speed 12 + 0.5 inches (305 + 13 mm) per minute. Unless otherwise specified, the distance between the jaws (gage. length) shall be 3 inches (76 mm) at the start of the test.

4.1.3 **Load recording mechanism(s).** Calibrated chart, dial or scale to indicate applied load. Unless otherwise specified for load determination, the machine shall be adjusted or set so that the maximum load required to break the specimen shall remain indicated on the calibrated chart, dial or scale after the specimen has ruptured.

4.1.4 **Capacity.** The machine shall be of such capacity that the maximum load required to break the specimen shall be not greater than 85 percent or less than 15 percent of the rated capacity.

4.1.5 **Machine efficiency.** The error of the machine shall not exceed 2 percent for loads up to and including 50 pounds (223 N) and shall not exceed 1 percent for loads greater than 50 pounds (223 N).