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**1. DEFINITION**

1.1 Unwind adhesion is the force required to remove the tape from the roll under prescribed conditions.

**2. SIGNIFICANCE**

2.1 Unwind adhesion determines the force needed in unrolling a roll of tape. Unwinding at high speed will give indication of the unwind performance in use.

**3. TEST SPECIMEN**

3.1 For test specimen conditioning, selection, and test conditions, see Appendices A & D.

3.2 The test specimen shall be a roll of pressure sensitive tape with a diameter of 229 mm (9") or less - preferably 24 mm (1") wide but no wider than 48 mm (2").

**4. EQUIPMENT**

4.1 An unwind machine capable of unwinding the roll at a constant rate of 60 m/min  $\pm$  3 m/min (200 ft  $\pm$  10 ft/min) having a means of sensing and indicating the unwind force measured parallel to the unwinding strip with a capacity to test rolls through 48 mm (2") in width and a diameter of 216 mm (9") wound on cores of a nominal inside diameter of 72 mm (3"). The force-measuring system shall have a sensitivity of 0.2 Newtons (0.05 lb.) with a capacity of at least 4.4 Newtons (10 lb.) and shall indicate the force on a scale calibrated to 0.2 Newtons (0.05 lb.).

**5. TEST METHOD**

5.1 Place specimen roll on unwind machine (see Figure 1). Initiate unwinding at 60 m/min (200 ft/min).

5.2 Read and record indicated unwind force at approximately 25%, 50%, and 75% of the way through the roll.

5.3 The tape unwound should be examined for transfer of adhesive, delamination, tearing, or other occurrence.

**6. REPORT**

6.1 Report the unwind adhesion value in grams per centimeter (ounces per inch) of width to the nearest 10 g (1 oz.) as the average of three readings recorded in 5.2. If other than 24 mm (1") widths are tested, 24 mm (1") values are found as the result of testing the observed value by the specimen width.

6.2 Report any observation made in paragraph 5.3.

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Figure 1: Setup of roll on Unwind Tester.