

**LINEAR ABRASION TEST FOR SHIFT KNOBS****Application**

This procedure is used to determine the amount of wear that shift knob materials can withstand in high-wear areas.

Apparatus Required**Mechanically Driven Linear Abraser: Model 5700 (See Figure 1)**

The Linear Abraser has a cylindrical arm extending vertically that holds a rubber finger 20 mm in diameter at the bottom of a "free floating head". The top of the arm is loaded with weights of mass 1100 grams. The "free floating head" follows the contour of the part, curved or flat, while moving in linear strokes of approximately 25 mm.

Source: Taber Industries
455 Bryant St
North Tonawanda, NY 14120, USA
PHONE: (716)694-4000

M238C4 Green Felt Squares – 50.8 x 50.8 mm (2 X 2 inch)

Source: Textile Innovations
3934 Airway Drive
Rock Hill, SC 29732, USA
PHONE: (803)329-2133

Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Modifications to the test method shall be employed when the area or size of the test specimen prevents normal contact of the surface to be tested. Modifications employed may include the use of a clamp to hold part/specimen in place, a shorter stroke, or other changes, providing the test closely duplicates the conventional Linear Abraser test method.

Modifications of the test method must be noted in detail on the test report.

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.

Date	Action	Revisions
2011 01 04	Activated	

Procedure

1. Mount a 50.8 x 50.8 mm green felt square over the end of the finger of the Linear Abraser and tighten metal strap to keep the felt from bunching or falling off.
2. Position part/specimen under Linear Abraser arm so that the high wear area (see figure 2 for example) of the part/specimen is contacted by the Linear Abraser finger for the length of the stroke. Part/specimen may need to be clamped/fastened to lab bench in order to prevent it from moving out of position.
3. Set Linear Abraser stroke speed to 40 strokes per minute and adjust the weights on top of the arm to 1.1 kg.
4. Run the Linear Abraser for 1000 cycles.
5. Stop the Linear Abraser after 1000 strokes and clean any felt from the test specimen with soap and water and examine part/specimen for signs of wear and note in test report. If significant wear through the material is present, stop testing and provide photographs of the wear in the report.
6. Remove the green felt and mount a fresh green felt square on the finger of the Linear Abraser.
7. Repeat Steps 4 – 6 for a total of 2000 cycles.
8. Run an additional 500 strokes before stopping to clean the felt from the specimen and examining for wear.

Figure 1: Linear Abraser