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Fabric Hand: Guidelines for the Subjective Evaluation of

Developed in 1990 by AATCC Committee RA89; reaffirmed 1991, 1992, 2006; revised 1996 (with title change); editorially revised 1997; editorially revised and reaffirmed 2001, 2011.

1. Purpose and Scope

1.1 This evaluation procedure describes guidelines for the presentation of fabrics for the evaluation of hand. Its purpose is to standardize the conditions under which a fabric is evaluated for one or more of the constituent elements of hand (for references on constituent elements of hand see Appendix A).

1.2 These guidelines may be used in the following circumstances:

1.2.1 When different people at different times wish to follow the same protocol for examining fabrics.

1.2.2 In training evaluators to detect and distinguish among different constituent elements or components of hand.

1.2.3 When an individual wishes to duplicate the conditions under which a fabric has been previously evaluated.

1.2.4 With a panel of individuals evaluating the same fabric(s).

2. Principle

2.1 An evaluator is presented a specimen in a prescribed manner and is asked to handle the specimen in a prescribed sequence.

3. Terminology

3.1 **hand**, n.—the tactile sensations or impressions which arise when fabrics are touched, squeezed, rubbed or otherwise handled.

3.2 **constituent elements of hand**, n.—those components, qualities, attributes, dimensions, properties or impressions which make the sensation of touching one fabric different from that of touching another.

NOTE: The various terms comprising elements of hand can be categorized by physical attributes of compression, bending, shearing and surface (see Appendix A).

4. Uses and Limitations

4.1 Effective use of these guidelines is

limited by the ability of the evaluator to describe the sensations being felt. Care should be taken to determine if any evaluator exhibits impairment in touch and to determine if any variation between evaluators exists.

4.2 The validity of the data collected will be dependent on prior agreement regarding which constituent elements of hand are to be evaluated and mutual acceptance of a scale for evaluation.

5. Specimens

5.1 Test Specimens.

5.1.1 Take large enough test specimens from each sample to allow an evaluator to hold the specimen in both hands. In general, cut all specimens to greater than 200 mm (8 in.) and less than 900 mm (35.4 in.) in either length or width direction. All specimens are to be cut to the same size and shape, even if ratings are done at different times/dates.

5.1.2 Identify the length and width direction of each specimen to provide a means to assess differences that may exist.

5.1.3 Avoid using a specimen more than one time for evaluation because stretching and crushing may change the fabric hand.

5.1.4 The number of specimens of each sample used is to be consistent with accepted statistical analysis and with the number of evaluators.

5.2 Specimen Marking.

5.2.1 Prior to conditioning and evaluation, specimens are to be prepared and marked by someone other than the evaluator.

5.2.2 Mark specimens to denote sample and specimen identification, the surface of the specimen to be evaluated and the length direction of the fabric (see 5.1.2). Use a pen or pencil, not attached labels, to mark the specimens with identification, directional and surface information.

5.2.3 Condition specimens prior to testing according to ASTM D1776, Standard Practice for Conditioning and Testing Textiles (see 11.1). Report if other conditions are used (see 9.6).

6. Evaluator Preparation

6.1 Evaluators are to wash their hands 0.5 h prior to the evaluation of specimens using the same washing procedure and soap, preferably a hand soap that does not

contain moisturizers.

6.2 Evaluators are to dry their hands with the same toweling; i.e., all use cotton fabric towels or all use paper towels.

6.3 Evaluators are to avoid activities involving extreme exercise and should not expose hands to temperature changes or moisture after washing hands prior to specimen evaluation.

7. Procedure

7.1 Evaluation Set-up.

7.1.1 The evaluator is to be relaxed and comfortable in a room free of distractions. The evaluation may be performed seated or standing.

7.1.2 The evaluator is to be assisted by a facilitator who is to provide instructions about the specific elements of hand to be evaluated, the rating scale to be used, the number of samples and specimens to be rated or compared, the order of presentation, the expected duration of the rating session, and other pertinent information regarding the evaluation protocol.

7.1.3 Evaluators may communicate evaluation ratings, rankings and other tactile responses verbally to the facilitator or to a recording device. They may record hand sensations on a rating form.

7.1.4 The evaluator may or may not view specimens during a judging session. Blocking the view of specimens is generally preferred (see 11.2). This may be accomplished by handling the specimens behind a screen or drape, closing the eyes and/or using a blindfold.

7.2 Handling Sequence.

7.2.1 The facilitator is to place a specimen on a smooth, nonmetallic surface. The specimen is to be placed with the surface to be evaluated uppermost and correctly aligned as indicated by the markings on the specimen.

7.2.2 If the thermal element of hand (warm/cool) is to be evaluated, the evaluator is to make this assessment first with the initial contact of the finger tips to the fabric surface.

7.2.3 While still on a flat surface, the specimen is to be held down with one hand and stroked or touched with the other hand (see 11.3).

7.2.4 The evaluator is to then touch the specimen by lightly pressing it with the fingers and palm of the hand.

7.2.5 The evaluator is then to pick up the specimen and rub it between the thumb and fingertips.

7.2.6 Next, the evaluator is to squeeze