

Historical Background for ASTM Committee E-18

The American Society for Testing and Materials (ASTM) is an international, nonprofit, technical, scientific, and educational body for “the promotion of knowledge of materials of engineering and the standardization of specifications and methods of testing.” ASTM provides a forum for persons of diverse experience and academic background and representing a variety of affiliations. Through the Technical Committees of the Society, those people may join together to promote advances in the science of measurement for their respective fields. These advances may be in the form of analytical standards, specifications, or symposia on selected subjects. No other technical organization in North America is historically or organizationally sufficiently flexible to provide such an opportunity. It was natural, therefore, that individuals concerned with sensory evaluation should find a common meeting ground in ASTM.

In 1945, ASTM appointed an Administrative Committee on Ultimate Consumer Goods to consider what might be done within the Society regarding engineering test methods for consumer goods. Interest in this area had developed primarily in the work of Committee D-13 on Textiles, which had several subcommittees assigned to problems that concerned individual rather than institutional users.

The new Administrative Committee appointed two subcommittees, one in the natural science and the other in the social science field. It became apparent that the social science approach, without engineering or economic considerations, was insufficient to determine quality control limits and to specify test methods for materials and products that are designed for ultimate users. When these two subcommittees were discharged, it was decided to appoint a joint committee to bring together the natural and social science viewpoints. The first result was a Symposium on the Measurement of Consumer Wants held at the ASTM Annual Meeting at Atlantic City in 1951. The papers presented at this meeting appeared in 1952 as *ASTM STP 117*.

In September 1957, Rutgers University held a Conference on Quality Control and the Consumer, bringing together engineers and others from government, industry, and consumer services. At this meeting the work that ASTM had done in this field was reviewed. The papers presented at this Conference were published by Rutgers University.

The Administrative Committee, renamed the Administrative Committee on End-Use Products, was discharged after its last meeting on 3

December 1958. Its final recommendation was that ASTM set up a permanent committee to develop standards in the area of preference testing, psychophysical aspects, and other matters where human factors play a part in tests on materials.

The recommendation was developed by the Society in 1959, and an organization meeting was held on 14 January 1960. A steering committee was organized, and, at their first meeting on 29 April 1960, officers were appointed and a scope of activities defined. The new Committee was designated E-18 on Sensory Evaluation of Materials and Products.

Scope

A statement of scope as extracted from the Committee E-18 Bylaws is as follows:

The promotion of knowledge, stimulation of research, and the development of principles and recommended practices for the sensory evaluation (including discrimination and preference) of materials and products. These aims shall be furthered by:

1. Cooperation with other committees of the Society and with other organizations.
2. Preparation of standard definitions and nomenclature.
3. Establishment of principles of psychophysical test methods.
4. Preparation of recommended practices for design and conduct of tests, collection of data, and analysis and interpretation of results.
5. Fostering study of relationships between sensory evaluations and physical and chemical measurements.
6. Dissemination of information by technical publications and symposia.

Subcommittee I, Definitions and Nomenclature, is standardizing definitions of terms used in sensory evaluation. Definitions in existing compilations have been carefully considered, such as those issued by the Institute of Food Technologists; Amerine, Pangborn, and Roessler's *Principles of Sensory Evaluation of Food*; and others. The best possible compromise has been achieved in developing new definitions so that the result will not be just another list.

Subcommittee II, Principles of Psychophysical Test Methods, has compiled a critical and exhaustive dissertation on its subject which follows herein as ASTM STP 433. The resulting text should be of considerable value to those active in the field. Originally it has been proposed that analytical procedures be developed for various applications and issued as standards. However, the very nature of sensory testing and the diversity of possible applications dictated that a basis of common communication outside and within the committee be established. Production of STP's to serve as basic references was deemed the wisest first step.

Subcommittee III, Preparation of Recommended Practices, has also compiled an intensive examination of its subject particularly on odor

and taste. ASTM STP 434, *Manual on Sensory Testing Methods*, is a companion book to this one sponsored by Subcommittee II. As in ASTM STP 433 references have been produced of value for both the novice and experienced practitioner in the sensory field.

Subcommittee IV, Instrumental-Sensory Correlation, has as its major objective to ultimately recommend practices for the correlation of instrumental and sensory methods of analysis. The initial step in this admittedly long range objective is to critically review the existing literature, to select those publications that have degrees, hopefully high, of correlation. To this end 20 members of this subcommittee have been assigned specific journals for comprehensive coverage.

Subcommittee IV also decided to start its activities with the senses of odor and taste. It has sponsored a symposium on the Correlation of Subjective-Objective Methods in the Study of Odors and Taste at the 70th Annual Meeting of ASTM held in Boston, Mass., on 28 June 1967. The papers in that symposium are being published as ASTM STP 440 in conjunction with ASTM STP 433 and ASTM STP 434.

Fields of interest currently represented in the committee include: air pollution, clothing and textiles, metals and appliances, beverages and liquors, manufactured food products, flavors and fragrances, agricultural commodities, naval stores, tobacco, chemicals, paints and varnishes, paper and plastics, telephone, railroads, petroleum and allied products, laboratory equipment, packaging materials, and pharmaceuticals.

Some of the disciplines of committee members brought to bear on the subject of sensory evaluation are: psychometry, psychology, statistics, chemistry, food technology, engineering, marketing, metallurgy, biology, and physiology.

Some areas being considered for the future are: design and interpretation of experiments, texture (other than food), appearance, consumer tests, instrument-sensory correlation, sequence used for product testing (from laboratory to field test), panel costs, marketing, and computer use in sensory evaluations.

Suggestions are welcomed for other areas to be treated in the future.

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W. H. Danker

Chairman, Subcommittee II of Committee E-18.