Fabric hand evaluation: ISO/IEC 17025 Accreditation process of the triangle test methodology

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Sensory differences among fabrics can be determined by hand evaluation. The Triangle Test methodology is applicable for this purpose.

Standardized test procedures and environmental conditions must be used so to assure the validity of the results.

ISO/IEC 17025 accreditation in addition to ISO 9001:2000 certification has resulted in significant benefits for LATU. The extension of scope of the accreditation to Sensory Methods was a challenge for our laboratory and is part of the continuous improvement process.

Requirements for the implementation of new methods are defined in the ISO 17025 standard, which include provisions relating to staff, training, handling of test samples and reference materials, traceability of measurements/calibration, measurements uncertainty estimation as well as participation in Proficiency Testing schemes.

ACCREDITATION PROCESS: CRITICAL POINTS

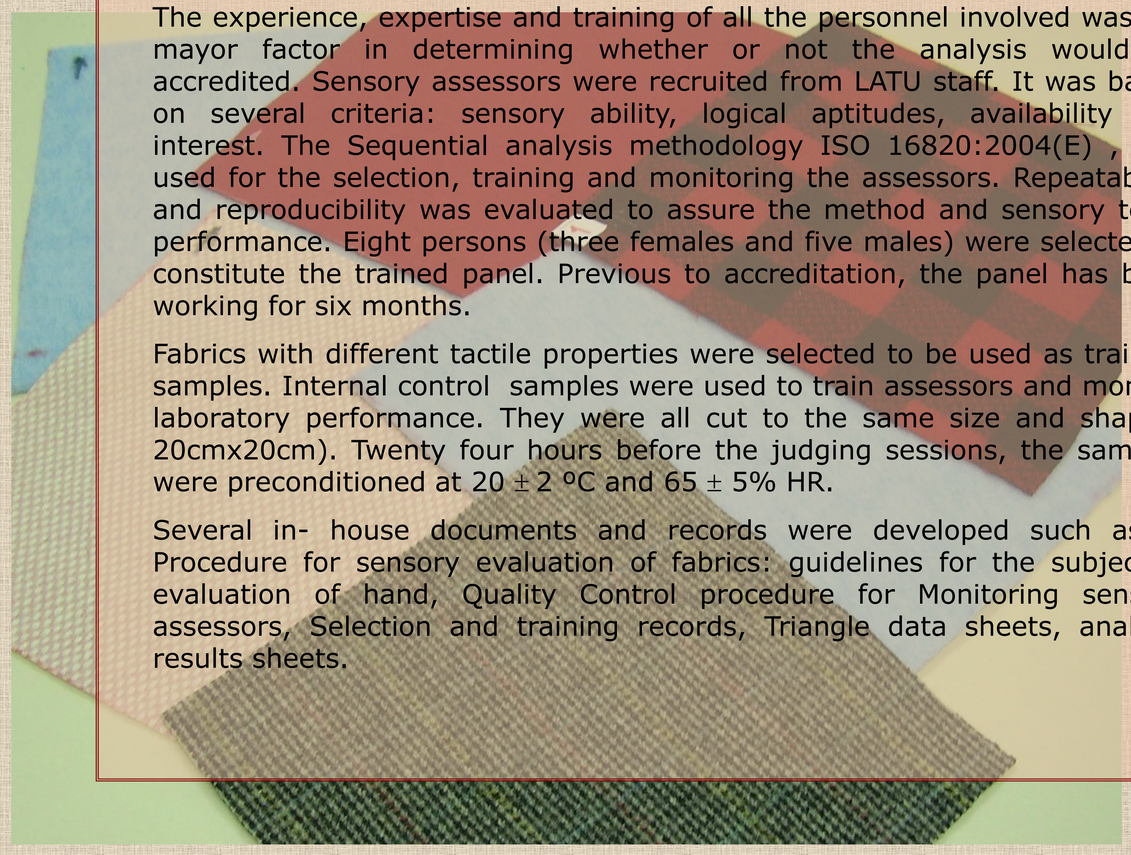
The triangle test was applied for determining perceptible differences between fabrics samples by hand evaluation, blocking the view of the specimens. This was accomplished by handling the samples behind a drape.

The laboratory used up-to-date methods, procedures established as standards*.

The experience, expertise and training of all the personnel involved was the mayor factor in determining whether or not the analysis would be accredited. Sensory assessors were recruited from LATU staff. It was based on several criteria: sensory ability, logical aptitudes, availability and interest. The Sequential analysis methodology ISO 16820:2004(E) , was used for the selection, training and monitoring the assessors. Repeatability and reproducibility was evaluated to assure the method and sensory team performance. Eight persons (three females and five males) were selected to constitute the trained panel. Previous to accreditation, the panel has been working for six months.

Fabrics with different tactile properties were selected to be used as training samples. Internal control samples were used to train assessors and monitor laboratory performance. They were all cut to the same size and shape (20cmx20cm). Twenty four hours before the judging sessions, the samples were preconditioned at 20 ± 2 ºC and 65 ± 5% HR.

Several in- house documents and records were developed such as: - Procedure for sensory evaluation of fabrics: guidelines for the subjective evaluation of hand, Quality Control procedure for Monitoring sensory assessors, Selection and training records, Triangle data sheets, analysis results sheets.



During 2004, LATU has achieved UKAS accreditation (United Kingdom Accreditation Service), according to ISO/IEC 17025, of the Triangle Test- Sensory Methodology for the evaluation of perceptible hand feel differences between fabrics without seeing the samples

**** REFERENCES***

- ISO/IEC 17025
- EAL-G16 ACCREDITATION FOR SENSORY LABORATORIES (Ed.1995)
- ISO 4120:2004 (E) SENSORY ANALYSIS- METHODOLOGY-TRIANGLE TEST
- ISO 16820:2004 (E) SENSORY ANALYSIS- METHODOLOGY- SEQUENTIAL ANALYSIS
- AATCC EVALUATION PROCEDURE 5 FABRIC HAND: GUIDELINES FOR THE SUBJECTIVE EVALUATION OF (1998)

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