

LEATHER AND SHOE RESEARCH

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LEATHER RESEARCH ASSOCIATION

Advisory Committee.—Messrs. A. E. Lawry (Chairman), C. Arlington, F. Astley, S. L. Wright, R. L. Andrew, and F. Johnson.

Standards for Sole Leather.—The difficulties attached to the formulation of standards for sole leather are great. Research workers in many countries, as well as in New Zealand, are attacking the problem from many angles. Up to the present little progress appears to have been made on the positive side, but the information obtained has increased the knowledge of the properties of leather. It will only be when this store of knowledge has grown sufficiently to fill in the necessary details that the problem of standards for sole leather will be solved.

Flexibility of Sole Leather.—The investigation of the factors affecting the flexibility of sole leather in both the wet and dry states, begun in 1942, was continued during 1943. Quality in sole leather is generally determined by feel, handle, and appearance in the dry state. Some people, however, judge quality by its feel and handle after being tempered in water. Factors affecting flexibility in both wet and dry conditions have been determined.

Field Trial.—A field trial on a small scale was made to determine whether any relation could be established between wet rigidity and actual wearing value. Thanks are due to the Army Department for their co-operation. As a result of tests in two military camps it has been demonstrated that there is no relation between wearing value and rigidity while wet. One set of soles which in the wet condition was twice as rigid as the other set wore equally well during the very wet winter of 1943. Another result from these trials was that some of the soles which wore out first were from the best part of the hides. The life of a sole is determined by the amount and type of abrasion. If the abrasion be concentrated by continuous wear under severe conditions, such as children continually running about on concrete playgrounds, or soldiers marching along shingle roads, then the life of a sole will be short. A life of three weeks or less may be a better performance under certain conditions than three months under other conditions. These field trials are still being carried out under drier and hotter conditions than was previously the case.

Abrasion Values of Sole Leather.—During the year further investigations have been made to determine whether it is possible to correlate wear values with abrasion values obtained on the abrasion machine. The results are not as yet far enough advanced to draw definite conclusions. Factors affecting abrasion values and abrasive index have been established, but it remains for the field trial to show whether these have any important relation to actual wear values.

Routine Work.—Checking of factory processes, raw materials, and finished leathers has, as usual, been carried out during the year.

SHOE RESEARCH ASSOCIATION

Advisory Committee.—Messrs. W. Denby, P. E. Edwards, W. S. Livingstone, D. I. McDonald, and R. L. Andrew.

Sole leather tends to be a variable product. When once the bend is cut up and indications as to what position on the hide the soles have come from are lost, the question of quality or the establishment of standards of quality becomes very involved. The demand for lighter and still lighter soles for town wear, irrespective of the fact that wearing-quality is directly related to the thickness, places a very severe test on sole leather and on the grader of soles, who has only his own personal experience of feel, handle, and colour to guide him in his selection. Failures, which are not always avoidable, can be reduced if the general public will buy sturdier footwear for general use and not use footwear for purposes other than those for which it was originally intended.

Flexibility of Shoes.—For foot comfort to reach a maximum in a well-fitted shoe the latter should be as flexible as possible so as to impose the minimum amount of work on the foot muscles during the flexing of the shoe at every step. Shoe flexibility depends on the flexibility of materials and on methods of construction. An investigation is being made on the effect of method of construction on the flexibility of the shoe. When this has been determined it will be linked up with the results of the work on flexibility of sole leather carried out during the year.

Shoe-construction.—The importance of attention to details of construction, especially in connection with sole attachments in welt shoes and sandals, has been demonstrated during the year. When skilled labour and suitable raw materials are becoming scarcer, very good supervision is essential if quality is to be maintained. The full effects of the investigation into sandal-sole attachments will not be fully appreciated until stocks, which may or may not be defective from a constructional point of view, have been exhausted.

Factory Problems.—During the year many difficulties outside the scope of the Association's activities have tended to overshadow technical difficulties of less immediate importance. The value of the Association to the trade has again been confirmed by the confidence with which technical problems are submitted on a broader basis than before.

Circular Letters.—The monthly circular letters have maintained their reputation as a very valuable asset to the activities of the Association.

Pelt Research.—Though carried out on a much less extensive scale than formerly, pelt research is producing concrete results due to the institution of chemical controls in processes and the checking of the curing process in the finished pickled pelts.