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United Nations Industrial Development Organization

ID/WG.153/13
19 November 1973
ORIGINAL: ENGLISH

Seminar on the development of footwear manufacturing and leather goods manufacturing in developing countries

Madras, India, 4 - 13 February 1974

QUALITY CONTROL AND STANDARDIZATION IN FOOTWEAR AND LEATHER GOODS INDUSTRIES FOR CONSUMER PROTECTION 1/

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CONTENTS

	Page
Abstract	3
Importance of quality control and standardization	4
Supply of raw material	5
Quality control of raw materials	6
Physical characteristics	6
Chemical characteristics	6
Special characteristics	7
Quality control of fabricated products and future possibilities	7
Scale of sampling	8
Standards for the footwear and leather goods	9
Training in quality control and standardization in footwear and leather goods industries	9

ABSTRACT

The need for introducing quality control and standardisation in footwear and leathergoods industries and the various quality control measures in respect of raw materials and finished products is discussed. The future course of action in the field of application of quality control in these industries through introduction of newer test methods, newer and appropriate testing instruments and training is also outlined.

1.0 IMPORTANCE OF QUALITY CONTROL AND STANDARDISATION

Quality control and standardisation in the footwear and leathergoods industries, apart from augmenting the sales-value and maintaining the reputation of exports, ensure confidence in the production and marketing units and ultimately the consumer. It is imperative for any industry that the quality control and standardisation measures are practised side by side with the production to make a positive impact on the sales-front, right at the start of the release of the products for sale either in the international or local market. Again an industry is often judged for its performance and could sustain competition not by the quantity but by the quality in production. Once the quality in production is streamlined and the consumers offer favourable reception, it is easier to increase the production quantitatively. Moreover, unlike the role of standardisation in the industry producing intermediate products, i.e. the end-products that are not directly used by the consumer/common man, that in the footwear and leathergoods industries is of greater significance in that it is expected to meet the consumers' requirements. The finished goods not only need present an aesthetic appearance and ensure comfort to the user but also contain components of good quality meeting the respective standards and guarantee freedom from spurious materials; this is all the more important in that the footwear and leathergoods industries in many of the developing countries are in the small scale/cottage scale sector with very few mechanised large scale units. The variations in the nature and type of raw materials, methods of fabrication etc. as obtained

in these different production centres should be properly accommodated and aligned in order to ultimately stand the standard specifications for the given type of the product. The design and the nature of the components of the goods should take into account the conditions in respect of climate, terrain, atmosphere etc. factors in which they are meant to be used. This is a very important point which is often neglected and even the best footwear made of best quality material is found to fail when used under the conditions improper for its use. Utmost care is needed in the choice of the raw material towards producing satisfactory products.

2.0 SUPPLY OF RAW MATERIAL

As for any industry, the success of the footwear and leathergoods industries depends much on the raw materials that are used as the components. The quality of the raw material often decides the quality of the fabricated unit made of that raw material. The footwear and leathergoods manufacturer should know what type of material he handles and this is seldom the case. Even in the highly developed countries the dialogue between the tanner and the footwear/leathergoods producer is far from satisfactory and not a single opportunity is left without reference to this undesirable position and both the supplier and the user of the raw material are exhorted to develop mutual confidence. The footwear manufacturer, for instance, should know what type of fatty matter, finishing agent etc., the tanner had used, in order to choose the correct type of adhesive and temperature conditions during the moulding. The difficulties facing both the parties, if any, should be discussed between themselves and mutual confidence should

be built up. It would often be better to fix the quality and standards for the raw materials under transaction which naturally leads to healthy conventions in the trade.

3.0 QUALITY CONTROL OF RAW MATERIALS

The raw materials for the footwear and leathergoods industries are mainly finished leathers. There are different types of finished leathers that go into the production of footwear and leather goods and a particular type of footwear/leathergoods consists of more than one type of finished leather. Different types of leathers possess different characteristics and the requisites of a particular type of leather should conform to its respective specifications.

3.1 Physical Characteristics

The physical characteristics of leathers are tensile strength, stitch tear strength, tongue tear strength, buckle tear strength, elongation at break, temporary elongation, permanent elongation, dynamic water absorption, static water absorption, water vapour permeability, air permeability, apparent density, resistance to hydrothermal shrinkage, flexing, ageing and perspiration, area/linear shrinkage under the conditions of storage/transportation, grain crackiness strength, bursting strength, fastness of the finish to dry/wet rubbing, solvents and heat, thermal conductivity etc.

3.2 Chemical Characteristics

The chemical characteristics of leathers are the moisture, free fatty matter, combined fatty matter, water soluble matter, total and insolubie inorganic matter, mineral tanning matter, fixed organic matter, hide substance, leather substance, degree of tannage, pH of water solubles, difference figure etc.

3.3 Special Characteristics

The finished leathers as well as the fabricated goods should have sufficient resistance to mould, fungi, moth etc. Special treatments, keeping in view of the extraordinary conditions of packing/transportation/storage of the leathers and finished goods made of them, if any, carried out, should be checked for their efficacy.

3.4 Besides the finished leathers, the accessory materials such as thread, eyelet, rivet, screw wire, heel pin, buckle, fabric lace, cotton drill, canvas, staple wire, adhesives etc. should conform to the respective prescribed material specifications. Standard specifications are available for some of these materials. The requirements for others can be as agreed to by the supplier and the user. Most of these physical and chemical characteristics mentioned above are determined on the components of the footwear/leathergoods prior to fabrication and ifthey are to be carried out on the fabricated units, the same could be dismantled and the components subjected to testing.

4.0 QUALITY CONTROL OF FABRICATED PRODUCTS AND FUTURE POSSIBILITIES

It is quite obvious that the use of quality tested components in the fabrication leads to the production of quality goods. Testing of the components after dismantling the fabricated Units of a lot necessarily amounts to destroying a certain number of units. It is worthwhile examining the possibilities of checking the fabricated footwear/leathergoods in-tact without dismantling. This non-destructive testing and a mark of certification on the product will act as proofs of master-checks on the quality of the product regarding its utility. Besides the consumers, the

production units can also derive benefits out of these non-destructive testing techniques; the production units can subject their fabrication products to testing, after random sampling, without undue wastage of the goods. At present a certain number of non-destructive testing techniques are applied e.g. flexing of the shoe simulating the walking-condition, ageing tests etc., but these techniques have not fully been utilised in the leather, footwear and leathergoods industries. The World research laboratories connected with these industries can devote necessary attention in the field of application of non-destructive testing techniques in the respective industry.

Applications of ultrasonics, thermography, xeroradiography, neutron radiography, high energy particle accelerators, infra-red scanning etc., techniques broadly-classified under the optical, mechanical, chemical, atomic, nuclear, thermal, electrical, magnetic, penetrant, elastic, radiological etc. methods are the usual non-destructive testing possibilities. Proper choice of the technique to detect a particular type of flaw in a given fabricated unit could be made and applied with advantage. Research activities can also be augmented in the field of fabrication of newer types of testing instruments/apparatus to simulate the conditions of usage of the fabricated products and to obtain greater information on the performance of the products.

5.4 SCALE OF SAMPLING

The Scale of sampling is an important factor while enacting the quality control measures in an industry. It should be in accordance with the lot size while at the same

time fair enough to the producer. There are set scales of sampling for different types of fabricated products and the same could be scrupulously followed. With the development of non-destructive testing techniques as applicable to the footwear and leathergoods industries, and with the application of the appropriate technique to a particular type of product(s), the scale of sampling could be properly adjusted in such a manner that comparatively smaller number of fabricated goods are subjected to destructive testing without sacrificing the interests of the consumers. The sampled goods are completely tested/analysed for the various characteristics as per the standard methods and the data compared with the requirements set out in the respective standard specifications.

6.0 STANDARDS FOR THE FOOTWEAR AND LEATHERGOODS

Standards for various types of footwear and leather goods have been prescribed by national Standards Institutions, Government departments, Defence establishments etc., and also among the buyer and the seller. In most of these specifications the physical and chemical requirements of the individual components of the fabricated unit are usually prescribed. These specifications undergo periodical revisions to cope with the changes in the processing techniques of the components and in the techniques of fabricating the products. All the requirements in the standards specifications, while serving as the norms during the production of the quality goods, ultimately protect the interests of the consumers.

7.0 TRAINING IN QUALITY CONTROL AND STANDARDISATION IN FOOTWEAR AND LEATHERGOODS INDUSTRIES

In view of the equal importance of quality control

and standardisation in the process of fabricating units of leather, footwear and leathergoods industries, the implementation of the same should be entrusted to the properly trained personnel. Training centres should be established in important places to impart training in the methodology of quality control and standardisation. It should be ensured that the trained personnel are made available to the industry alongside with the starting of production. The present trend as obtaining in the developing countries is highly significant and promising in that the necessity of establishing such centres of training in the fields of production/development of the footwear and leathergoods and their simultaneous quality control and standardisation is being duly felt and concerted actions on the part of international organisations and national institutions are in progress. The training centre proposed to be established at the Central Leather Research Institute, Madras under the auspices of the United Nations has much scope of contribution towards the overall development of the footwear and leathergoods in this part of the world.

ACKNOWLEDGEMENT

The author wishes to thank Dr.M.Santappa, Director, CLRI, Madras for his kind permission to present this paper.

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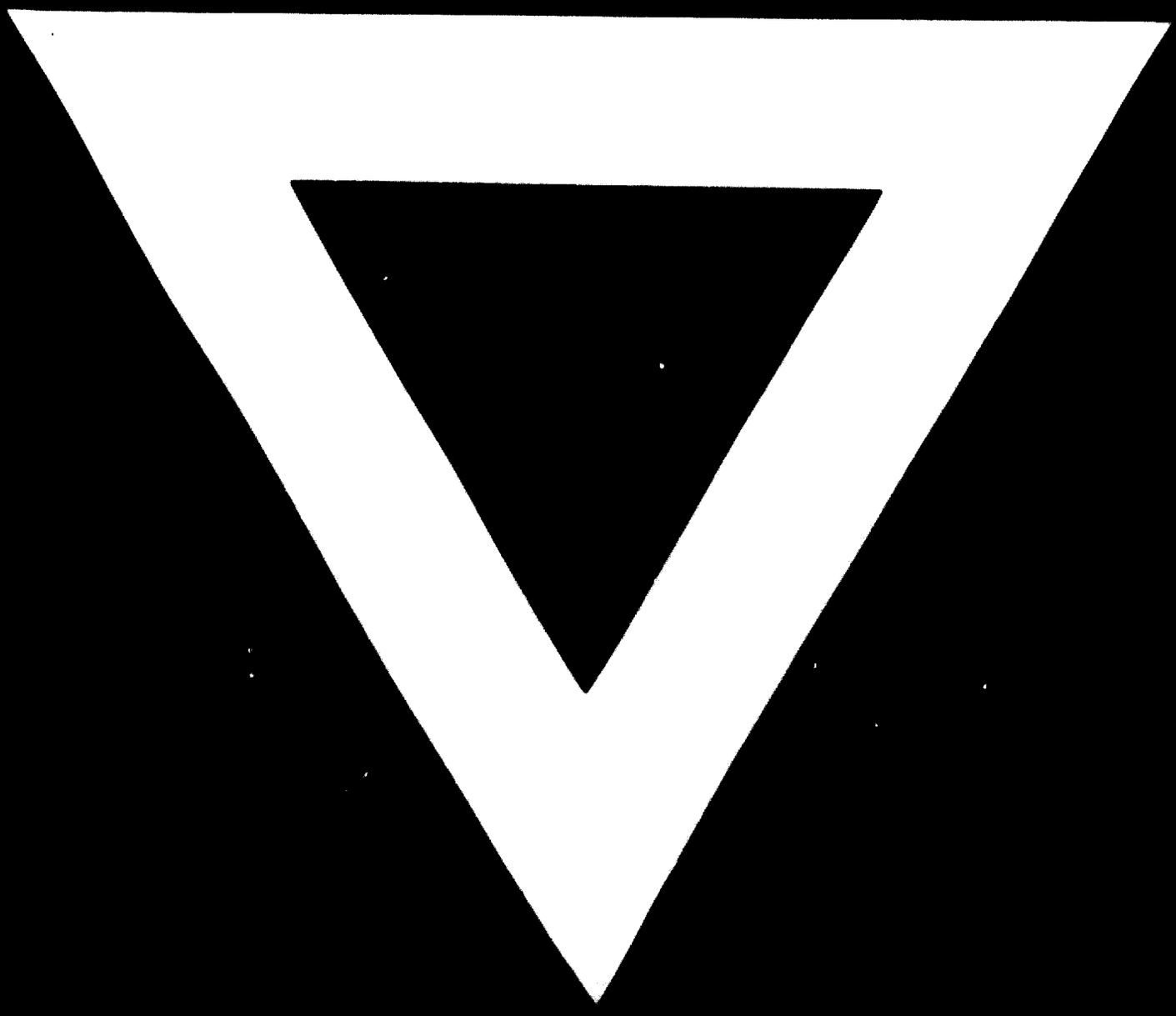

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