



ISO/TC 137

Footwear sizing designations and marking systems

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BUSINESS PLAN

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ISO/TC 137

Footwear sizing designations and marking systems

EXECUTIVE SUMMARY

The scope is as follows:

Standardization of footwear sizing systems based on the measurement of the foot, and the designation and marking of such sizes, standardization of sizing ranges (unit and intervals), standardization of a system of surveying the last or equivalent equipment, including the use of the digital data, and terminology.

The primary objective of ISO/TC 137, Footwear sizing designations and marking systems is to respond to the increasing requirements of a dynamic consumer/retail and manufacturing environment worldwide, thereby proliferating customer satisfaction and in the long term to reduce costly customer returns due to poor fit footwear. The secondary objective is to eliminate trade barriers by harmonizing the practices of size measurement and marking worldwide. This will facilitate a common understanding between the different key role-players for e.g. the manufacturers, retailers, consumers, etc. thereby increasing the quality of the production and fit of footwear irrespective of whether this is through customers physically going into the store to shop for footwear or when purchasing footwear online.

Globalization of the marketplace has now necessitates the need for ISO/TC 137 to contribute greatly to facilitate the above objectives, this to encourage world trade and commercial exchanges in the footwear sector, that are aligned to international best practices through the publication of standards that are used and understood world-wide. Sustainable development goals covers various aspects example, no poverty, good health and well-being, quality education, gender equality, affordable and clean energy, decent work and economic growth, industry and innovation and infrastructure, responsible consumption and production and peace, justice and strong institutions are just a few.

Digitalization moves at a rapid rate thus increasing production and worldwide trade, especially online shopping. A reliable shoe size marking is the important criteria to ensure the customer is satisfied with the shoes purchased. The marking has to be based on standardized foot dimensions to guarantee correct fit and to avoid unnecessary returns. Different shoe sizing systems are used in the countries, , therefore, the shoe sizing systems have to marked in that way that the customer find it easy.

Foot, lasts and shoe are three dimensional objects. It is impossible to describe them only with one dimension just like shoe size (shoe length), therefore, further dimensions are necessary as selection criteria. The shoe width is an additional dimension to find correct fitting shoes. The method of the shoe size analysis whether mechanical measuring device or 3D scanning, will not have an influence in finding the correct size. The fitting is influenced by a lot of different factors, eg. the shoe size based on all the dimensions of the last and the shoe is the only factor. Finally, the customer purchases by a try-on basis.

1 INTRODUCTION

1.1 ISO technical committees and business planning

The aim of every ISO Technical Committee is to develop a business plan that is aligned to the ISO work programs that articulates the business environmental needs and trends hence allowing the ISO/TCs to prioritize needs among the different projects. This will enable the ISO/TC, to identify the benefits expected from and the availability of International Standards to ensure that adequate resources are available for the implementation on identified projects throughout the planning and development stages.

1.2 International standardization and the role of ISO

The foremost aim of international standardization is to respond to the requirements of the marketplace and in the case of ISO/TC137, to enhance the method and accuracy of measurement of foot, lasts and footwear, standardize sizing and marking systems and facilitate the exchange of goods and services through the elimination of technical barriers to trade through the development of standards together with interested organisation/standardisation bodies/industries and research institutes worldwide by addressing specific business needs in the industries in which these standards are disseminated.

The standardisation bodies responsible for the planning, development and adoption of International Standards: ISO (International Organization for Standardization) is responsible for all sector standards, excluding the Electrotechnical, which is the responsibility of IEC (International Electrotechnical Committee), and majority of the Telecommunications Technologies, which are largely the responsibility of ITU (International Telecommunication Union).

ISO is a legal association, the members of which are the National Standards Bodies (NSBs) of some 140 countries (organizations representing social and economic interests at the international level), supported by a Central Secretariat based in Geneva, Switzerland. An International Standard embodies the essential principles of global openness and transparency, consensus and technical coherence. These are safeguarded through its development in an ISO Technical Committee (ISO/TC), representative of all interested parties, supported by a public comment phase (the ISO Technical Enquiry). ISO and its Technical Committees are also able to offer the ISO Technical Specification (ISO/TS), the ISO Public Available Specification (ISO/PAS) and the ISO Technical Report (ISO/TR) as solutions to market needs. These ISO products represent lower levels of consensus and therefore do not have the same status as an International Standard.

2 BUSINESS ENVIRONMENT OF ISO/TC 137

2.1 Description of the Business Environment

The ISO/TC137 business scope and work environment is primarily concerned with foot, lasts and footwear measurement and size designation and marking systems worldwide. The role of footwear related standards is through active stakeholder engagement i.e. manufacturers, learning institutions, retailers and consumers worldwide. This will result in a common understanding and a shared guideline for footwear size conversions. This guideline is perceived as an essential tool for improving communications and trade between and within countries, both nationally and internationally targeting footwear manufacturers, designers, retailers, small business owners, educational institutions and the consumers in general. The guide for size conversion of footwear is a vital tool if improvements are to be made in communication and trade between suppliers and consumers.

The market covered by ISO/TC137 is a very wide one, including the final products: from sandals, casual footwear, sports shoe to leather shoes etc. Footwear is a basic commodity for people, which are made up of many kinds of materials like rubber, fabric, leather, plastic, polymer etc., that has a close relationship with many other industries.

The changes in the footwear market makes it necessary to include the use of digital data concerning foot, last and shoe in the work of TC 137. The committee addresses the technology used within the sector for accuracy of measurement (digital scanning) and digital and virtual fitting for mainly online shopping. Standardizing the terms and attributes of the virtual foot can improve communication in the footwear market. This includes the communication between the shoe manufacturer and their component producers like outsoles, insole, lasts, heels and so on.

At present different sizing designation systems are used in the world, such as Mondopoint, UK sizing, Paris Point, Japanese sizing, US sizing etc. Footwear producers are distributed throughout the world. Although size is the base factor of fit for consumers, all footwear/last producers, dealers/retailers and importers/exporters have to face different sizing systems.

The fit of a shoe depends amongst other things on the design, shape and dimension of last, material and structure etc. The shoe last must represent the anatomical information of the foot, at the same time giving the finished shoe a pleasing and fashionable appearance.

Each "shoe last " is designed for a particular heel height, toe shape, and type of footwear. Many styles (upper patterns) of shoes can be made on the same shoe last, but the toe shape and heel height will be the same for each pair made on that shoe last. If you want to have shoes with different toe shapes or heel heights, then it is necessary to create more than one pair of shoe lasts.

A proper fitting pair of shoe lasts is a solid investment, and the first step towards creating proper fitting footwear. Accurate and precision measurement of lasts is addressed by the committee.

2.2 Quantitative Indicators of the Business Environment

The footwear industry is labour intensive. Consequently, the growth of the industry is limited by land resources, labor cost, material supply, environmental protection and the market. The producers and consumers are located in separate regions but because of the globalization of the world economy trade in footwear also becomes more global. A growing worldwide trend is for footwear to be offered via the internet to accelerate the trade of footwear.

The developing countries in Asia and South America experience a strong upward trend in footwear production, study on new materials and technology, and the foundation of new brand. Hence, appropriate sizing and designation and subsequent better fit are of paramount importance. Global footwear manufacturing industry have experienced relatively slow growth over the five years to 2017. In the five years to 2024, the global footwear manufacturing industry is forecast to perform better than it did over the past five years. Improving economic conditions in developed economies are expected to generate more demand for footwear, pushing revenue up 430 billion dollars. The global footwear market was valued at 365 billion dollars in the year 2020. The market size is estimated to reach 530 billion dollars by end 2027. China was the world's leading producer of footwear in 2019, with a total of approximately 13,5 billion pairs of shoes produced. China, India, Vietnam, and Indonesia are leaders in footwear production. Ethiopia was the country with the lowest labour costs for manufacturing footwear.

Industry Opportunities

Improving economic conditions in developed economies are expected to generate more demand for footwear, thus raising revenue. China has been the center of footwear production during the past decade. Other noteworthy trends in the market like growing popularity of dimethylformamide free PU synthetic materials etc., in the manufacture of footwear supported by benefits such as design freedom and environmental benefits; increased consumer involvement in sports and fitness activities and the ensuing demand for athletic footwear; and growing commercial value of eco-friendly footwear and increased research and development interest in plant-based shoe materials (leather alternative) and recycled materials.

The rise of multifunctional fashion is driving the prominence of conventional shoes go well with a wide range of dresses. Athletic shoes constitute one of the leading categories of the footwear market, supporting the active lifestyles of consumers who are increasingly getting 'sporty'. Key footwear brands within the segment as well as small-sized brands and companies that offer a wide range of footwear for diverse customer segments. Companies operating within the segment are also constantly innovating on functionality, performance and comfort to improve competitive advantage. During the COVID-19 pandemic from the year 2020, increase in sales of casual/sport shoes as most many people are working from home.

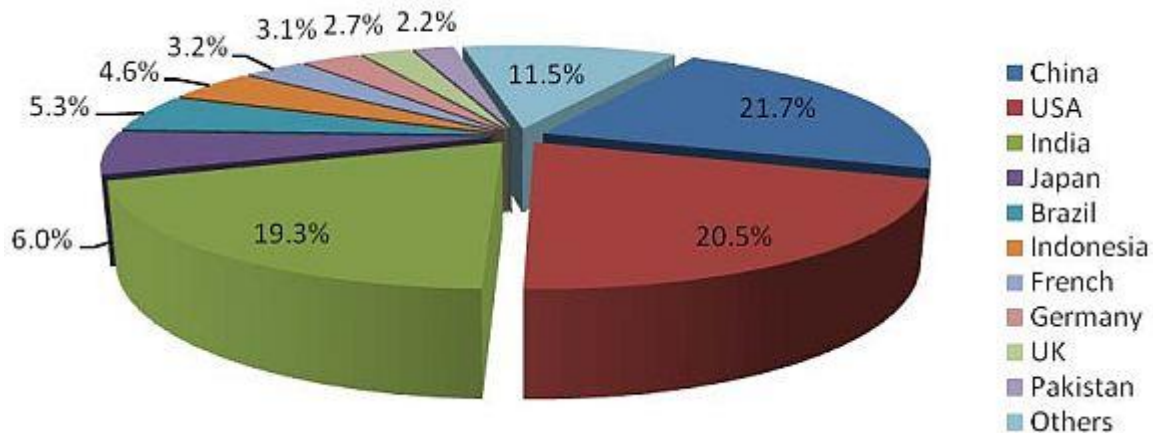


Figure 1 – Footwear consumption, Countries

https://www.google.co.za/search?safe=strict&tbm=isch&sa=1&ei=EyYdWoavE6jlgAavvKjICQ&q=global+footwear+industry+statistics&oq=global+footwear+&gs_l=psy-ab.1.2.016j0i7i30k112j0i30k1j0i8i30k1.267065.283143.0.285584.17.17.0.0.0.0.395.2370.2-6j2.9.0...0...1c.1.64.psy-ab.8.8.2362.0..0i67k1j0i8i7i30k1.205.zTGvSsiDFRo#imgrc=4zS-wqRBhdx9aM:&spf=1511860017886

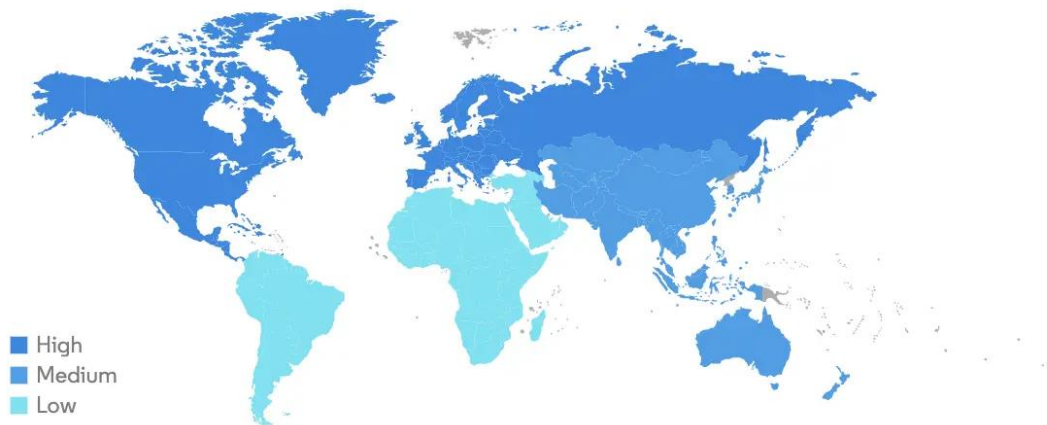


Figure 2 - Athletic footwear market, Market size (%) – Global 2020

<https://www.mordorintelligence.com/industry-reports/athletic-footwear-market>

Factors driving growth in the market include rise of smart concepts such as connected fabrics, footwear internet of things and materials innovations including leather alternatives derived from fruit, palm, mushrooms, pineapples and cactus. 3D printing is increasingly becoming mainstay of shoe manufacturing with the technology enabling manufacturers to cope with overwhelming demand for a wide variety of shoe designs and mass customization. Shoes can be manufactured more individualized.

2.3 Major factors which may have an impact on the development of the markets

Undoubtedly the major factor impacting the development of the market for footwear is the shift of manufacturing from the West to the low labour cost regions of the East. This is driven largely by the resourcing companies and the major footwear brands.

One out of every three footwear purchases made online is returned. However, online retail is a different beast, especially when it comes to footwear. Online shoppers are unable to try on items, figure out the right size, touch and feel the product, and only have a limited ability to see intricate details. Sizing and fit top the list of reasons why consumers make returns. By integrating tools like virtual and digital fitting to help shoppers make smarter fit decisions, online retailers can dramatically reduce their return rates. Retailers and suppliers must consider the carbon footprint when purchasing and manufacturing footwear. Most countries are sourcing local produced products to enhance national economy and local job creation. This ultimately reduces the carbon footprint.

However, a growing worldwide trend' is for footwear to be sold via the internet and in some countries/regions, through conventional mail order that is becoming very popular. Hence the appropriate sizing and subsequent better fitting footwear is of paramount importance. Research suggests that most returns are due to internet sales purchases of poor fitting footwear and/or incorrect size marking on the garment labels, resulting in a significant cost in lost sales to retailers. Innovation to digitally enhanced formats that you are able to insert your foot dimensions and virtually fit the shoe of your choice to verify fit.

The industry must ensure the creation of decent jobs, no child labour. The second-hand market trade is growing, reuse and recycling of footwear. Labelling is vital as second hand goods are sent to other countries where the labelling can still be relevant, clear and understandable. The industry is being digitally enhanced, innovation as to the way business is carried out is being transformed to ensure greater profit margins and stable economic environment by improving the online platforms, virtual fittings and more functions to ensure customer satisfaction from the comfort of your home.

3 BENEFITS EXPECTED FROM THE WORK OF THE ISO/TC

ISO/TC 137 will help in the size marking of shoes and to improve the fitting of the shoes based on accurate foot measurements.

ISO/TC137 ongoing challenge to expand the awareness and encourage the use of ISO standards. Published standards are readily accessible all over the world, and therefore complement the international nature of the footwear industry.

Standards uphold contractual obligations between buyers and producer of footwear. Make trade of footwear products successfully and fairly.

New products made from new last design, new materials, new technology based on standards may satisfy the demands of the market and gain considerable interest.

4 REPRESENTATION AND PARTICIPATION IN THE ISO/TC

4.1 Representation

14 - Participating Members

25 - Observing Members

<https://www.iso.org/committee/52496.html?view=participation>

Associations

CEC, European Confederation of the Footwear Industry

WFSGI, World Federation of the Sporting Goods Industry

Liaison to TC137

<https://www.iso.org/committee/52496.html>

ISO/TC 94/SC3, Foot protection

ISO/TC 133, Clothing sizing systems - size designation, size measurement methods and digital fittings

Liaison from TC137

ISO/TC 38, Textiles

ISO/TC 94/SC 3, Foot protection

ISO/TC 133, Clothing sizing systems - size designation, size measurement methods and digital fittings

ISO/TC 159/SC 1, General ergonomics principles

ISO/TC 159/SC 3, Anthropometry and biomechanics

ISO/TC 216, Footwear

4.2 Analysis of participation

Currently the participation is less than it should be. Technical committees should have more participating countries than observing countries. Footwear sizing is important for mainly correct fit and comfort. Common sizing system will ensure easier trading amongst countries and decrease returns especially via the online shopping websites. Countries like Vietnam, Indonesia and India should have active participation within the committee as they are some of the larger manufacturing countries of footwear.

5 OBJECTIVES OF THE ISO/TC AND STRATEGIES FOR THEIR ACHIEVEMENT

5.1 Defined objectives of the ISO/TC

The ISO/TC 137 will publish standards as per the scheduled time period.

The standards shall be clear and concise that promotes knowledge and do not create barriers to trade.

The technical committee should address the industry needs and shall ensure that standards developed are within the scope of the committee.

5.2 Identified strategies to achieve the ISO/TC's defined objectives

Use of available national, regional or other standards (such as CEN standards via the Vienna Agreement) as source documents on which to base International Standards;

Increase the technical exchange and cooperation with other established organization in the preparation of international standards

Reinforce the communication and cooperation amongst the TC members

Regular review of deliverables to ensure market relatedness

Concerted efforts should be continued to get other countries on board

Response to emails or queries shall be at least within 72 hours whenever possible. Acknowledgement of email when received is required.

6 FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE ISO/TC WORK PROGRAMME

It is important to highlight the awareness of ISO voting procedures in order to facilitate the process of developing ISO/TC137 standards better.

Non-active countries need continuous encouragement to actively participate.

Moreover, in cases when a P-member does not have adequate knowledge about a certain standard to judge its relevance, or if the standard is not used in that particular country, a vote to "Abstain" must be submitted.

Increased competition has prompted rigorous efforts to improve the productivity of operations.

In many instances financial constraints has resulted in a depleted workforce at all levels of organization. There is less time and fewer individuals to participate in the process of developing standards, even though the need for these standards is greater than ever.

7 CURRENT PROJECTS AND PUBLICATIONS OF THE ISO/TC 137

PUBLISHED STANDARDS

<https://www.iso.org/committee/52496/x/catalogue/p/1/u/0/w/0/d/0>

STANDARDS UNDER DEVELOPMENT

<https://www.iso.org/committee/52496/x/catalogue/p/0/u/1/w/0/d/0>