



TANZANIA BUREAU OF STANDARDS (TBS)

IN CONTEXT



Analysts at work in the Food Laboratory

TANZANIA BUREAU OF STANDARDS (TBS)

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TBS_Tanzania



tbs_viwango



TBS Viwango TV

Tanzania Bureau of Standards (TBS) was established under the Ministry of Industry and Trade by an Act of Parliament, the Standards Act No.3 of 1975 as the National Standards Institute and became operational in April 1976. It was subsequently renamed Tanzania Bureau of Standards through an amendment to the Act by Act No.1 of 1977. The Standards Act No. 3 was later repealed and replaced by the Standards Act No. 2 of 2009, which gave the Bureau more powers in carrying out its mandate.

FUNCTIONS

The main functions of TBS are:

- a) Formulation and promulgation of Tanzania standards in all sectors of the country's economy. Priorities have been established for national standards in the fields of textiles, leather, agriculture, food, chemicals, engineering and environment;
- b) Implementation of the promulgated standards through third party certification schemes;
- c) Improving the quality of industrial products both for export and local consumption through various certification schemes;
- d) Promotion of standardization and quality assurance services in industry and commerce through training of personnel in Company Standardization, Quality Assurance and Management Systems, Quality Improvement, Laboratory Techniques and Accreditation, Packaging Technology and Hazard Analysis and Critical Control Points (HACCP);
- e) Undertaking testing of product samples drawn by TBS inspectors in the course of implementing standards (certification samples), requested by manufacturers themselves (type-testing samples), brought by consumers (consumer complaints samples) or for checking laboratory proficiency (proficiency testing samples);
- f) Undertaking calibration of industrial and scientific measuring equipment and instruments in the areas of mass, length, volume, energy, temperature, etc.
- g) Inspect and Register Premises such as Hotels, Restaurants, Godown, Butchers, Carterers, Slaughters, Supermarkets, Food and cosmetics shops and production or manufacturing areas;
- h) Certify and Register food, food products and cosmetics.

HUMAN RESOURCE

TBS has a total staff of over 600, most of whom are university graduates mainly in science disciplines. Most of the technical staff have been trained abroad by reputable organizations dealing with standardization and quality assurance activities.

STANDARDS

Standards can be defined as consensus agreements between national delegations representing all the economic stake holders concerned, suppliers, users, government regulators and other interested groups, such as consumers. They agree on specifications and criteria to be applied consistently in classification of materials, in the manufacture and supply of products, in testing and analysis, in terminology and provision of services. In this way standards provide a reference frame work, or a common technological language between suppliers and their customers which facilitate trade and transfer of technology.

WHY STANDARDS MATTER?

If there were no standards we would soon notice. Standards make an enormous contribution in most aspects of our lives. It is when there is an absence of standards that their importance is brought home. For example as purchasers or users of products, we soon notice when they turn out to be of poor quality, do not fit, are incompatible with equipment we already have, are unreliable or dangerous. When products meet our expectations, we tend to take this for granted. We are usually unaware of the role played by standards in raising the level of quality, reliability, efficiency and interchangeability as well as in providing such benefits at an economical cost.

TANZANIA STANDARDS

TBS has an established National Standardization System through which national standards are formulated. This system is based on the worldwide 'consensus principle' which works through the use of technical committees. These committees draw members from all stakeholder groups including industries, government ministries and institutions, research institutions, institutions of higher learning, business organizations and consumers.

The finalized standards include product standards, test methods, codes of practice and codes of hygiene. The standards cover various sectors of the economy including food and agriculture, chemicals, textiles and leather, engineering, environment and general techniques.



A Technical Committee deliberates on draft standards.

IMPLEMENTATION OF STANDARDS

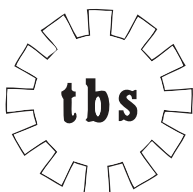
A number of industries and service organizations both in the public and private sectors have already adopted Tanzania standards in their manufacturing processes and purchasing programmes. Manufacturers producing products in conformity with Tanzania standards are granted licences to use the 'tbs' mark on their products. Nobody can ignore standards, as they affect every member of the society in whatever the activity is being done and wherever he/she is. By implementing standards, one is assured of better quality, safety, health and avoids unnecessary costs and wastages, hence increased productivity.

Also standards serve as guide for production of goods and services, provide basis for trade transactions, help technologists judge quality and performance and provide solutions to recurring problems.

THE STANDARDS MARK SCHEME

TBS operates a Standards Mark Certification Scheme, which allows manufacturers who have conformed with Tanzania standards to use the 'tbs' standards mark on their products.

The 'tbs' standards mark on a product indicates that samples of that product are independently and routinely tested and certified by TBS against relevant Tanzania standards. The 'tbs' mark is a registered trade mark owned by TBS. Licence to use the mark is granted only to manufacturers conforming to the rigorous quality requirements of the standards mark licencing procedures. The mark is a sign of product quality and gives assurance to both manufacturers and buyers that the product can be used safely and reliably.



TZS.....

MARK APPLIED ON THE PRODUCT WITH A
NUMBER FOR THE RELEVANT TANZANIA
STANDARD (TZS.....)

BATCH CERTIFICATION

As part of implementation of Government Notice No. 672 of 1998 (The Standards Compulsory Batch Certification of Imports) Regulations, TBS implements a Batch Certification Scheme for all imports covered by compulsory standards. This is to avoid Tanzania being turned into a dumping ground for substandard goods by unscrupulous traders.

Since the establishment of the Batch Certification Scheme, a number of imported consignments have been condemned as substandard. These include hand hoes, fertilizers, edible oils, cement, bicycle tyres and toothbrushes, just to mention a few.

Training and Consultancy

The Quality Control Section organizes in-plant and group training courses on implementation of ISO 9001 Quality Management Systems, ISO 14001- Environmental Management Systems, ISO 22000 Hazard Analysis and Critical Control Point (HACCP) and ISO 17025 Testing and Calibration. Tailor made courses on quality management are also organized according to customers' needs. These courses target industrial personnel covering shop floor workers, supervisors, managers and chief executives.

Technical Assistance to Importers and Exporters

The technical assistance to importers and exporters is a service which provides exporters and importers with essential information and advice on foreign technical requirements such as standards, regulations, codes of practice, testing and approval procedures in foreign markets. This is done through a variety of services and publications including technical enquiry, library, pre-shipment inspection, and technical research and consultancy.

THE TBS ANNOUNCER

The Bureau issues a biannual bulletin 'the Announcer' that gives details of standards published by TBS, International Organization for Standardization (ISO), Codex Alimentarius Commission (CAC) and other national standards bodies abroad.



Information dissemination in the TBS Library

The TBS Test House was established in 1982 to assist manufacturers to improve the quality of their products, provide facilities for the testing of products to ensure suitability for their intended use, and verify pre-export and pre-import product quality. The TBS Test House provides quick, accurate and confidential test facilities for type-testing, audit testing, technical guidance and advice on test methods and training of laboratory personnel.

The Test House covers the following testing facilities:

1. Chemistry Laboratory

The Laboratory has been established to provide test facilities and services for all chemical and allied products, including petroleum products.



***Testing of Research Octane Number (RON)
in petrol in the Chemistry Laboratory.***

2. Building and Construction Laboratory

The TBS Building and Construction Laboratory is designed for the testing of building materials as well as building components for properties such as strength and deformation properties, tightness, composition and dimensional changes. The Laboratory also performs field investigations for various load tests and drilling of concrete cores from completed constructions for testing of strength.



Quality is not an act. It is a habit



sample analysis in the Building and Construction Laboratory

3. Mechanical Engineering Laboratory

The Mechanical Engineering Laboratory is equipped with facilities for testing metallic materials with a wide range of tests being carried out to determine different properties of metals. The Laboratory also offers consultancy services such as suitability for use of products needing general mechanical tests using local, national and international standards. This Laboratory is **Accredited** by SADCAS.



Testing of steel bars in the Mechanical Laboratory

4. Electrical Engineering Laboratory

The Electrical Engineering Laboratory is equipped with electrical equipments catering for tests in various electrical fields.

It is designed for testing households and similar electrical appliances as well as electrical material and accessories This Laboratory is **Accredited** by SADCAS.

5. Food Chemistry Laboratory

This Laboratory carries out proximate analysis, mycotoxins, pesticide residues and higher alcohols. It also carries out pH. The Laboratory is implementing Laboratory Quality management System and is ISO 17025 **Accredited** by SADCAS.



Sample analysis in the Food Laboratory

6. Microbiology Laboratory

This Laboratory carries out analysis of hygiene indicator micro organisms and spoilage microorganisms such as total plate count, Enterobacteriaceae, coliforms, yeast and moulds.

The laboratory also carries out analysis of wide range of food pathogens such as Salmonella, E.coli, Staphylococcus, Vibrios, Pseudomonas, Listeria, Enterococcus etc. Food laboratory is also EAC PT National coordinator for fruit juice and honey. Currently it provides proficiency Testing for Honey in the area of HMF, acidity water insoluble matter, ash content lead and zinc and Fruit juice in the area of pH, brix, acidity, vitamin C. Alcohol, Copper, lead, arsenic and Iron.

7. The Cotton, Textile And Leather Laboratory

The Cotton, Textile and Leather Laboratory was established in 1982 to provide test facilities for both the textile and leather industries. The modern equipment in both the physical as well as the chemical sections enables it to accept work from any source – government departments, private companies, exporters as well as importers and research institutions. It also trains textile and leather analysts in good laboratory techniques. Physical testing is done at ISO commended atmospheric conditions for tropical countries.

The main textile testing equipment are the fibrograph, Pressley strength tester, cotton trash analyser, Ulster yarn evenness tester, and instron tensile strength tester. Other important test equipment are xenon arc for testing colour fastness to artificial light, exposure rack for testing colour fastness to daylight, perspirometer and washing machine.

Leather testing equipment includes the water vapor permeability tester, tensometer, permeometer, penetrometer, flexometer and shrinkage temperature apparatus, The leather testing equipment can test various types of leather including shoe upper, solo, garment and upholstery.



Sample preparation in the Textile and leather laboratory

8. Packaging Technology Centre (PTC)

The Packaging Technology Centre was established to offer the following services: Training of industrialists in packaging technology, certification of packages, provision of testing facilities and supplying worldwide packaging information to exporters.

The Centre is already furnished with necessary equipment to enable it to implement its objectives, including supporting a coordinated development of the packaging industry by strengthening the existing standardization and testing capability in the area of packaging, offering training on structural and graphics design of packages, provision of third party certification for packaging materials and packages produced according to acceptable standards and provision of testing services for packages and packaging materials.

9. Dimension Metrology Laboratory

This Lab is Accredited by SADCAS and comprises of two (2) Metrology fields:

i) Length Metrology

This laboratory performs calibration of the following quantities/instruments: End Standards (gauge blocks, Feeler Gauge, Setting Piece); Handheld standards (Calliper, Micrometer, Dial Gauges, Thickness Gauge, Height Gauge, Penetrometer, Sieves, Go no Go Gauges, Flackness Gauge, Elongation Gauge, Moulds); Line standards (Rule, Tape Measure, Dip Tape, Diameter Tape, Circumference Tape, Measuring Wheel, Stage Micrometer); and

ii) Angle metrology

This laboratory performs calibration of sine bar, Protractor, Square Rule, Angle Bar.

10. Chemical metrology laboratory

This laboratory performs calibration of the following quantities/instruments: Density meter (portable and benchtop), Hydrometer, Alcohol meter; Moisture (Moisture analyzer, Grain moisture meter); Refractometer (Brix refractometer); pH meter, Conductivity meter and Turbidity meter.

11. Thermometry Metrology Laboratory

This Laboratory is Accredited by SADCAS and comprising of three (3) Metrology fields:

i) Temperature and Humidity Metrology

This field performs calibration of the following quantities / instruments: Thermometers (Liquid-in-glass thermometer, Digital Thermometer, Clinical Thermometer, Infra-Red-Thermometer, Temperature Data Logger, RTD Sensor, Thermocouple Sensor, Temperature transmitter, Electrical Metrology, Time & Frequency Metrology); Temperature Installations (Oven, Incubator, Refrigerator, Liquid bath, Furnace, Cold room, Blast Freezer, Hot plate, Autoclave, Temperature dry Block, Thermomixer); Humidity (Hygrometer, Thermo-hygrometer, Humidifier, Humidity Cabinet/Chamber);

ii) Electrical Metrology

This field performs Calibration of the following Instruments: Multimeter, Clamp Meter, Earth Resistance Tester (Earth Ground Tester), Installation Tester, Energy Meter, High voltage tester, CT & PT Tester, Micro Ohm Meter, Resistor, Electrical Appliances tester, Battery Charger, Terameters, Electrical calibrator; and

iii) Time & Frequency Metrology

This field performs Calibration of the following Instruments: Time Interval Measurement (Timer, Stopwatch) and Rotational Measurement (Centrifuge, Rotator, Thermomixer, Vortex Mixer, Roller Mixer, Los Angeles), Stomacher, Tachometer and Tachometer Calibrators.

12. Mass and Related Quantities Laboratory

This Laboratory is Accredited by SADCAS and comprises of four (4) Metrology fields:

i) Mass Metrology

This field performs calibration of Mass pieces (weights), Balance, Batch plant and Weigh bridges);

ii) Volume Metrology

This field performs calibration of Micropipette, Glassware, Storage tank and Strike measures;

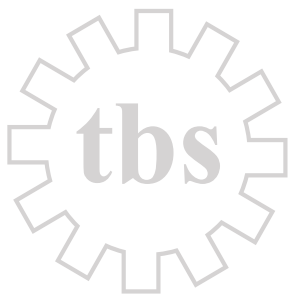
iii) Pressure Metrology

This field performs calibration of Pressure gauge, Pressure transmitter, Pressure switch, Pressure balance, BP Machine, Pressure Safety Valve (PSV), Barometer, Manometer, Static Pitot Tester, Differential pressure gauge, Differential pressure transmitter, Level transmitter, Pressure level switch and Hydraulic pressure test; and

iv) Force and Torque Metrology

This field performs calibration of the following quantities/instruments: Force (Compression machine, CBR Machine (Proving ring), Tensile machine, rebound hammer, Piles test, Jack, Gyrotory compactor, Marshall machine, Axle weigher and Load cell); Torque (Torque wrench, Torque meter and Torque transducer).

The Metrology Laboratories provide technical assistance to customers in the different areas such as the use of calibration Certificates; In-house checks of the equipment; Writing of Standards Operating Procedures (SOPs), Attachment-training and Handling of measuring equipment.



“USE TBS CERTIFIED PRODUCTS”

TBS mark – A symbol for quality

FOR MORE DETAILS CONTACT:

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TBS ZONAL OFFICES

SOUTHERN HIGHLANDS ZONE

(Iringa, Mbeya, Njombe and Songwe)

NHIF Building, 7th Floor

Along Avenue Road

P.O. Box 1674 Mbeya, Tanzania

Tel: 025 2502848 / **Fax:** 025 2502848

LAKE ZONE

(Geita, Kagera, Mara, Mwanza,
Simiyu and Shiyanga)

NSSF Building, 3rd Floor

P.O. Box 1814 Mwanza, Tanzania

Tel: 028 2505044 / **Fax:** 028 2505044

NORTHERN ZONE

(Arusha, Kilimanjaro, Manyara and Tanga)

Ngorongoro Tourist Center, 6th Floor

P.O. Box 2399 Arusha, Tanzania

Tel: 027 2520143 / **Fax:** 027 2520143

CENTRAL ZONE

(Dodoma, Singida and Tabora)

Kambarage Tower, 6th Floor

P.O. Box 2956, Dodoma, Tanzania

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SOUTHERN ZONE

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PSSSF Building, Sokoine House, 3rd Floor

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WESTERN ZONE

(Katavi, Kigoma and Rukwa)

NSSF Mafao House Building, 2nd Floor

P.O. Box 1276 Kigoma, Tanzania

Tel: 028 2804023 / **Fax:** 028 2804023

EASTERN ZONE

(Dar es Salaam, Morogoro and Pwani)

PSSSF Commercial Complex, 4th Floor

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