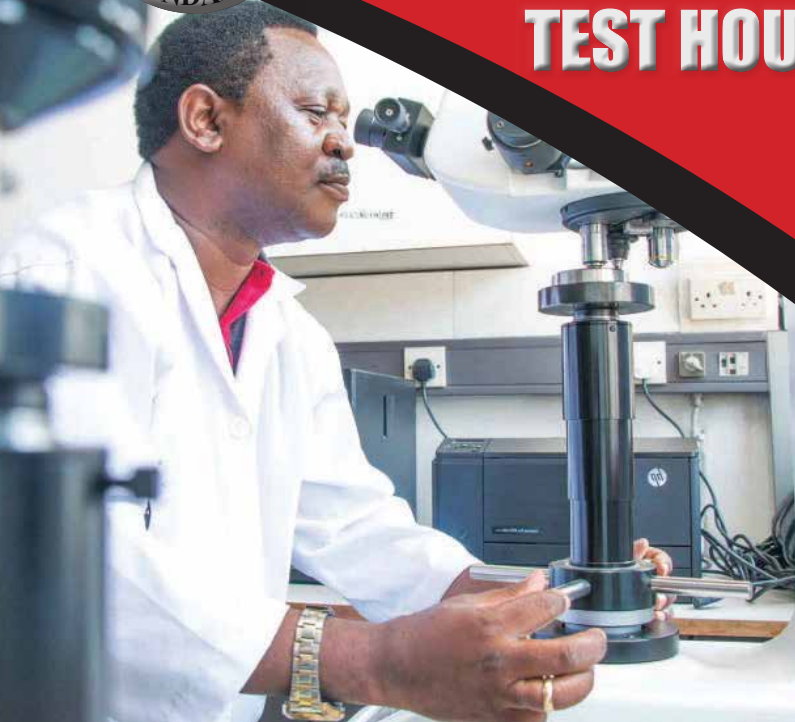


TANZANIA BUREAU OF STANDARDS (TBS)



THE TBS TEST HOUSE



“Know the quality status of your products before buying them”



Standards Mark of Quality

Mark applied on the product with a number for the relevant Tanzania Standard (TZS....)

“The Home of Standards”

INTRODUCTION

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 their 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.

1. CHEMISTRY LABORATORY

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

The laboratory is well equipped with instruments like the Atomic Absorption Spectrophotometer (AAS), Flame Photometer and UV/Visible Spectrophotometer enable the laboratory to give accurate and quick test results. The samples tested cover a large variety e.g. soaps, detergents, mosquito coils, water, industrial chemicals, petroleum, pharmaceuticals and cosmetic products.

Currently it provides Proficiency Testing for Fertilizer and Salt samples for East Africa country members.



The CFR machine used to test Research Octane Number (RON) in petrol

2. BUILDING AND CONSTRUCTION LABORATORY

The Building and Construction Laboratory is accredited laboratory which is designed for testing building materials as well as building components and completed structures. The section is well equipped with modern facilities e.g. three universal testing machines of different sizes for compression, tensile and bending tests and crushing machine for large structures.

Building materials that can be tested include pengrade bitumen and cutback bitumen, cement, aggregates, fresh and hardened concrete, timber and reinforced concrete structures. There are also resources for carrying out tests on building components such as bricks and blocks, concrete pipes, fibre boards, plastic pipes (UPVC, HDPE, LDPE, PPR Pipes), density and moisture content of compacted soil (troxler machine), wood poles and concrete poles, Thermoplastic road mark paint and glass beads and on constructions like geotextile materials, ICL, wall units and roof tiles and floor structures of timber.

Among the properties of building materials and products investigated are strength and deformation properties, tightness, composition and dimensional accuracy. In completed structures the laboratory can check material properties, carrying and design.

The Laboratory can also be at your service with field investigations like for instance various load tests and drilling of concrete cores from completed structures for testing of strength.

3. MECHANICAL ENGINEERING LABORATORY

The Mechanical Engineering laboratory is **Accredited** laboratory by SADCAS.

This laboratory is equipped with modern facilities for testing metallic materials with a wide range of tests being carried out to determine different properties of metals like tensile strength, impact strength, hardness, fatigue, heat treatment and crack detection.

Metallic materials that can be tested include cooking utensils, roofing sheets, iron ingots, steel plates, reinforcement bars, retro-reflective number plates, water pipes, agricultural equipment, and auto parts.

Tests include microstructural analysis of materials, bend tests, deep drawing on steel sheets and other non-destructive tests. The laboratory can also offer consultancy services on fields such as failure analysis of materials and suitability of use.

Other materials tested in the laboratory include helmets, tyres & tubes and furnitures.



Testing of hoses in the Mechanical Engineering Laboratory

4. ELECTRICAL ENGINEERING LABORATORY

The Electrical engineering laboratory is ISO/IEC 17025 **Accredited** laboratory by SADCAS. The laboratory performs various testing for electrical products from installation materials and equipment to electrical and electronic appliances. The lab performs safety and performance testing for conformity assessment against national, regional and/or internationally recognised standards. Also laboratory receives requests from customers who wish to perform type testing on their samples.

Apart from testing activities, the laboratory coordinates Inter laboratory Comparisons (ILCs) across East Africa region currently in the area of electric cable and solar modules testing.

Quality is remembered long after the price is forgotten. Always use TBS-certified products.



Sample analysis in the electrical engineering laboratory

5. FOOD CHEMISTRY LABORATORY

This Laboratory carries out proximately analysis, analysis of contaminants such as metals, mycotoxins, pesticide residues and higher alcohols. It also carries out analysis of other quality parameters such as acidity, pH, total solids, minerals etc.

The Laboratory is implementing Laboratory Quality management System and is ISO 17025 **Accredited** by SADCAS.

6. MICROBIOLOGY LABORATORY

This Laboratory carries out analysis of hygiene indicator microorganisms 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. This Laboratory is **Accredited** by SADCAS.



Sample analysis in the food chemistry laboratory

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 vapour permeability tester, tensometer, permeometer, penetrometer, flexometer and shrinkage temperature apparatus. The leather testing equipment can test various types of leather including shoe upper, sole, garment and upholstery.



Sample preparation in the Cotton, textile and leather laboratory

8. PACKAGING TECHNOLOGY CENTRE

In its efforts to support a coordinated development of the packaging industry, the government of Tanzania established the Packaging Technology Centre (PTC) at Tanzania Bureau of Standards. The packaging services provided by the Packaging Technology Centre include testing packages and packaging materials to ensure quality, provision of training to the industries and small and medium enterprises (SMEs) on matters concerning quality packaging designs, conducting research and consultancy work on issues pertaining to quality packaging and provision of third party certification for packaging materials and packages produced according to acceptable standards. Other services

are developing national standards on packages and packaging materials, facilitation of imports and exports of the packaging materials against relevant standards and provision of information on packaging standards, requirements and technology.



Testing of packaging materials in the Packaging Technology Centre

9. DIMENSION METROLOGY LABORATORY

This Laboratory is **Accredited** By SADCAS And Comprises Of Two (2) Metrology fields:

i) Length Metrology

This field 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 field 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 which 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 Measurement (Timer, Stopwatch, Stomacher) and Rotational Measurement (Centrifuge, Rotator, Thermomixer, Vortex Mixer, Roller Mixer, Los Angeles)

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).



“USE TBS CERTIFIED PRODUCTS”

TBS mark – A symbol for quality



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TBS_Tanzania



tbs_viwango



TBS V