

### LABORATORY

### PROFILE

Dodoma, Tanzania ERB Registered Laboratory No. 029L

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MATERIALS LABORATORY

# About US

AES Materials Laboratory is a private materials testing laboratory registered by the Engineers Registration Board (ERB) of Tanzania under No. 029L. The Laboratory is located along Morogoro road at Meriwa area in Dodoma, the central and capital city of the United Republic of Tanzania.

Being positioned at the geographic center of the country, we are reachable from north, south, east and west of the country through good highways, air transport and railway from Dar es Salaam to the western and Lake Victoria regions.

We offer a wide range of tests on geotechnical properties of materials for highways, airports, buildings, bridges through dams and tunnel projects, along with the Quality Control and Quality Assurance services for the construction projects.

We are organised and equipped to carry out most tests on the natural construction materials and processed materials and we are conducting mixes design, materials investigations and training of engineering practitioners in materials testing and quality control for construction projects. The major materials that we deal with are, but not limited to, the following:

- Soil Sand Sand
- s Concrete
- 🍩 Asphalt
- 🛸 Surface dressing
- Soil stabilisation

To become a modern materials testing and research laboratory that supports the engineering and construction industry.

MSSION

To carry out literal testing services that instil confidence to the client that value-for-money is achieved in a project.

Our Policy 02 03 04 05 01 Satisfying the Adherence to Commitment to Outstanding Customer care needs of our standards and professionalism delivery to the before, during, client. specifications. and ethics. terms of and after a contract. service.



## Our Staff



To offer our customers a quick, accurate and cost-effective service, our Laboratory has banked on good education and experiences of over 12 employees including the Manager and other four registered material engineers and a geologist.

With this team of proficient engineers who are conversant with a wide range of testing standards (e.g., CML, BS, BS EN, AASHTO, ASTM, etc.) and Quality Control system, testing in our Laboratory is carried out by a crew of four qualified technicians with an ordinary diploma (NTA Level 6) and other skilled technicians with extensive experiences on materials testing. With them, there are assistant technicians and a unit of auxiliary personnel (e.g., secretary, driver, security guards).

Our laboratory team is backstopped by a pool of experienced engineers stationed at the headquarters of the Advanced Engineering Solutions (AES) Ltd in Mikocheni, Dar es Salaam.



## Our Rates for Testing

We offer competitive rates never bid by any of our competitors in the testing services, this is because we need to operate in a sustainable business atmosphere. Our rates are listed in the Test Schedule in the next page. The rates are only for the execution of tests in the Laboratory and do not include the costs of personnel or transport which may be incurred in obtaining samples at remote sites instructed by the client.

In developing a mutually profitable business environment with our clients, a discount is offered on the sum of total bill for a service on receiving an advance payment within 30 days from the date of Proforma Invoice. The discounts is offered on the bill only when a number of samples submitted to the laboratory at the same time for the same test, is as follows:

🔊 1 to 20 samples – no discount

- 🔊 21 to 50 samples 🛛 5 % discount
- 🏓 51 to 100 samples 10 % discount
- States by negotiation
- Stating in the field by negotiation

Materials investigation - contract work, by negotiation

VAT charge will be imposed on the rates, irrespective of the number and type of tests instructed by the client, unless a valid Certificate of VAT Exemption is availed.

AES Laboratory reserves the right to alter the rates without notice. However, invoice and price validity shall be 30 days from date of issuing the Proforma invoice.





	No	Test Description	Unit	Rate (TZS)			
Soil / Gravel	1	Moisture Content	1	5,000			
	2	Atterberg Limits & Linear Shrinkage	1	25,000			
	3	Sieve Analysis (wet or dry sieving to 0.075 mm)	1	25,000			
	4	Hydrometer Analysis (0.075 mm sieve to 0.001 mm)	1	80,000			
	5	Proctor (MDD / OMC determination)	1	35,000			
	6	CBR (3 point - 4 days soaking)	1	45,000			
	7	Specific Gravity / Particle density	1	35,000			
	8	Organic Content (Loss on Ignition)	1	40,000			
	9	Density of Undisturbed Soil Specimen	1	20,000			
	10	Drained Shear Strength (Shear Box)	1	60,000			
	11	Consolidation Test (Odometer)	1	80,000			
	12	Triaxial Test - Unconsolidated Undrained (UU)	1	70,000			
	13	Triaxial Test - Consolidated Undrained (CU)	1	80,000			
	14	Triaxial Test - Consolidated Drained (CD)	1	90,000			
	15	Crumb / Dispersion Test	1	20,000			
	16	Shrinkage Limit (ASTM D 4943)	1	75,000			
	17	Permeability Test (Constant head or Falling head)	1	-			
	1	Sieve Analysis (wet or dry sieving)	1	25,000			
Rock	2	Shape Test (Flakiness Index or Elongation Index)	1	15,000			
	3	Loose Density	1	20,000			
	4	Specific Gravity & Water Absorptio	1	25,000			
	5	Sulphate Soundness (5 Cycles)	1	120,000			
	6	Aggregate Crushing Value (ACV)	1	30,000			
	7	Ten- percent Fines Value (TFV)	1	45,000			
	8	Los Angeles Abrasion (LAA)	1	45,000			
	9	Aggregate Impact Value (AIV)	1	25,000			
	10	Point Load on Rock Specimen	1	35,000			
	11	Bulk Density of Rock Specimen	1	20,000			
	12	Uniaxial Compressive Strength of Rock Specimen	1	30,000			

### Test Schedule and Rates - Excluding VAT



Sand	No	Test Description	Unit	Rate (TZS)			
	1	pH Value	1	15,000			
	2	Clay lumps and Friable Particles	1	20,000			
	3	Material Finer Than 0.075 mm	1	20,000			
	4	Organic Impurities (By Sodium Hydroxide Solution)	1	40,000			
	5	Sulphate Content	1	25,000			
	6	Chloride Content	1	25,000			
	7	Sand Equivalent Value	1	-			
	1	Slump Test (at Laboratory)	1	10,000			
	2	Making Concrete Cubes (at Laboratory)	1 Set	25,000			
Concrete	3	Compressive Strength ( Cube / Cylinder / Block / Brick / Core )	1	10,000			
	4	Preparation of Core for Compressive Strength Test	1	25,000			
	5	Concrete Mix Design and Reporting	1	500,000			
	1	Initial Consumption of Lime (ICL)	1	70,000			
Stabilised	2	Unconfined Compressive Strength (UCS)	1	10,000			
301	3	Design of Soil Stabilisation and Reporting	LS	500,00			
	1	Ductility (at 25oC)	1	-			
	2	Thin Film Oven Test (5 hr. 163 oC)	1	-			
	3	Kinematic Viscosity	1	-			
	4	Softening Point	1	-			
	5	Water Content	1	-			
	6	Solubility in Trichloroethylene	1	-			
Bitumen	7	Bitumen Penetration (at 25oC)	1	30,000			
& Asphalt	8	Flash and Fire Point (Claveland open cup method)	1	60,000			
	9	Bitumen Extraction in Asphalt Mix	1	150,000			
	10	Grading of Aggregate After Extraction	1	25,000			
	11	Specific Gravity of Asphalt Mix (Rice's Method)	1	80,000			
	12	Determination of Marshall Properties (Density, Stability, Flow, Voids)	1 Set	150,000			
	13	Determination of Core Density and Thickness	1	20,000			
	141	Asphalt Mix Design (Marshall Method) and Reporting	LS	2,500,000			

### Test Schedule and Rates - Excluding VAT



Bituminous Surface Treatments	No	Test Description	Unit	Rate (TZS)
	1	Average Least Dimension	1 Size	25,000
	2	Coating and Stripping Test	1 Size	45,000
	3	Design of Single Seal	LS	250,000
	4	Design of Double Seal	LS	275,000
	5	Determination of Application Rates (prime coat / bitumen / chipping)	LS	By negotiation
Materials Investigation & Testing in Field	1	Sampling of Alignment Soils	LS	By contract
	2	Exploration of Gravel Source	LS	By contract
	3	Exploration of Rock Source	LS	By contract
	4	Exploration of Sand Source	LS	By contract
	5	Exploration of Water Source	LS	By contract
	6	DCP Test on Pavement Layers	LS	By negotiation
	7	Compressive Strength by Rebound Hammer	LS	By negotiation
	8	Coring of Pavement Layer or Concrete Structure	LS	By negotiation

### Test Schedule and Rates - Excluding VAT









