RWANDA TRANSPORT DEVELOPMENT AGENCY / NATIONAL SOIL LABORATORY

List of Test and The Price done in Research and Quality Control Unit

| RE | F | TESTS | Rate (Frw) |
|----|------|---|------------|
| | | Laboratory Test | |
| | | Soil Test | |
| 1 | | Determination of Wet Density | 3,300 |
| 2 | | Determination of dry Density | 5,600 |
| 3 | | Absolute Density (Détermination du poids volumique absolu par pycnomètre) | 6,600 |
| 4 | | Porosity Test | 19,700 |
| 5 | | Natural Moisture Content | 3,300 |
| 6 | | Proctor Test: | |
| | 6.1 | - Standard Proctor | 20,200 |
| | 6.2 | - Modified Proctor | 24,900 |
| 7 | | Sieve Analysis: | |
| | 7.1 | - Dry Sieve Analysis | 13,300 |
| | 7.2 | - Wet Sieve Analysis | 19,700 |
| 8 | | Hydrometer Particle Size analysis | 23,000 |
| 9 | | Sand Equivalent | 6,600 |
| 10 | | Determination of Atterberg Limits | |
| | 10.1 | - Liquid Limit | 8,900 |
| | | - Plastic Limit | 8,900 |
| | 10.3 | - Limite de retrait | 9,900 |
| 11 | | Organic matter Content | 23,000 |
| 12 | | CBR Test | |
| | | - On compacted and saturated sample at the optimum after 4 days soaking | 26,600 |
| | | - On the compacted and saturated with the natural water content of the sample | 16,400 |
| | 12.3 | - On the intact sample | 13,200 |
| | | Aggregate Test | |
| 13 | | Los Angeles | 32,800 |
| 14 | | Micro-Deval | 32,800 |
| 15 | | Flakiness Index | 11,150 |
| 16 | | Methylene Blue Test | 9,900 |

| | Soil Test on Field | | | | |
|----|--|---------|--|--|--|
| | In Situ Test | | | | |
| 17 | Density in Situ by Sand Replacement method | 15,000 | | | |
| 18 | Density in Situ by balloon density | 15,000 | | | |
| 19 | Determination of Dry Density and Moisture Content by Troxler (Gamma Densitometer) | 27,700 | | | |
| 20 | Benkelman Beam (Without a Track) | 24.200 | | | |
| 21 | Plate Loading (Without a Track) | 27,100 | | | |
| 21 | Light Weight Dynamic Penetrometer | 19,420 | | | |
| | Concrete | | | | |
| | Test on Cement; Cement Paste; mortar; Fresh Concrete & | | | | |
| | Hard Concrete | | | | |
| 1 | Setting Time on Cement | 6,600 | | | |
| 2 | Consistency of cement | 6,600 | | | |
| 3 | Density (Volumetric) | 3,700 | | | |
| 4 | Density (Pycnometer) | 7,300 | | | |
| 5 | Le Chatelier Expansion | 11,800 | | | |
| 6 | Concrete Compression Test | 2,700 | | | |
| 7 | Slump Test | 6,600 | | | |
| 8 | Concrete Hummer Rebound | 10,500 | | | |
| | Bitumen & Asphalt | | | | |
| 1 | Vialit Test | 24,600 | | | |
| 2 | Extraction of Bitumen | 30,500 | | | |
| 3 | Marshall Test on Asphalt | 114,700 | | | |
| 4 | Mix design of Asphalt with 3 different Bitumen Composition | 98,300 | | | |
| 5 | Penetration Test | 8,900 | | | |
| 6 | Softening Point Ring and Ball | 24,600 | | | |
| 7 | Viscosity | 31,200 | | | |

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A. SERVICE OFFERED BY RESEARCH AND QUALITY CONTROL UNIT

1. Applying for Material testing (soil, aggregates, bitumen, cement and concrete)

| What the Service am I eligible? | Any private or public agency or an individual can apply for service of the laboratory for quality control to ensure the sustainability of his work (ouvrage) or for counter checking to ensure that standards have been respected at the end of the work. The Unit of Research and Quality Control tests the soil, |
|--|---|
| | aggregates, cement, concrete and bitumen. |
| Department to be approached | Research and Quality Control Unit |
| Where can I access the service? | Research& Quality Control Unit / National Laboratory for Public Works at Gikondo (Road MAGERWA-PSF) |
| When can I access the service? | Monday to Friday, from 7:00 a.m to 5:00 p.m |
| Once a request is made or an application is submitted, how | -For aggregates, bitumen and concrete crushing when the sample is received for testing, it takes not more than 5 |
| long will it take? | hours; |
| | - For complete identification of Concrete, the result can be provided within 7 or 14days, according to the demand of the client; |
| | - In Situ test, the result is provided the same day but the |
| | result can be extended due to the distance or/and the number of test to be conducted |
| | - For soil identification, the result is provided within 5 days. The time should be extended due to number of samples to be tested. |
| What, if any, are the costs for | Please refer to appendix no1 for more details about works. |
| What documents are required? | An approval letter signed by RTDA Director General for a free service or Bank slip |
| What is the procedure? | - Pay to Rwanda Revenue Authority (RRA) Bank Account |
| | - Introduce himself to the receptionist with RRA receipt and the sample, if it is about bitumen, complete identification and of the concrete crushing. For soil and aggregates, the sampling is done by the laboratory technician; |

| - The results are delivered to the date given by the Responsible of the laboratory. What, if any, other institutions do I need to visit to access the service? (Eg. for payment of service costs or to get additional documents) Is there a complaint procedure? Complaint letter can be addressed to the Director of Research and Quality Control Unit Get further information at the Office of Research and Quality Control Unit. Get further information at the Office of Research and Quality Control Unit. E-mail: labo@rtda.gov.rw No available form | | |
|--|----------------------------------|---|
| What, if any, other institutions do I need to visit to access the service? (Eg. for payment of service costs or to get additional documents) Is there a complaint procedure? Is there any additional information regarding this service that is useful to know? -Rwanda Revenue Authority for payment receipt -RTDA for approval letter for free service | | - The results are delivered to the date given by the |
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| Is there any additional information regarding this service that is useful to know? Control Unit. E-mail: labo@rtda.gov.rw | | Research and Quality Control Unit |
| service that is useful to know? E-mail: labo@rtda.gov.rw | Is there any additional | Get further information at the Office of Research and Quality Control Unit. |
| Service that is decid to know: | information regarding this | |
| Available forms No available form | service that is useful to know? | E-mail: <u>labo@rtda.gov.rw</u> |
| | Available forms | No available form |
| Relevant legal documents None | Relevant legal documents | None |

Technical Staff

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