

ALABAMA DEPARTMENT OF TRANSPORTATION
PROCEDURE FOR EVALUATION AND MAINTENANCE OF

LIST II-21

NUCLEAR GAUGES

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| 1. | Material: Moisture/Density Nuclear Gauge | 7.5 | company address, or company ownership. Advise and make available any software changes as the device is updated. |
| 2. | Specification: ALDOT-378 – Accepting New Nuclear Moisture / Density and Thin Layer Gauges, and Recalibrating / Quality Checking Used Gauges. | 7.6 | Notify the Department of any changes in production of the device. Any physical modification that alters the device's operation or any change in the chemical properties of the device will require a reevaluation. |
| 2.1 | ASTM D6938 / AASHTO T310 Density and Water Content of Soil and Soil Aggregate by the Nuclear Method | 7.7 | A reevaluation may be required whenever a device is upgraded or redesigned. This applies even if the device's name remains unchanged from that which is stated on List II-21. |
| 2.2 | ASTM D2950 / AASHTO T355 Density of Asphalt Mixtures by Nuclear Method | 7.8 | Every 5 years from a gauge's date of initial approval, the producer shall notify the State Materials Engineer if the as approved gauge is still available for purchase. If notification is not received within 10 business days of the date of initial approval, List II-21 will be updated to show the gauge as being unavailable for purchase on ALDOT projects. Contractors that currently own the gauge may continue to use it on ALDOT projects until the gauge is no longer functional. |
| 2.3 | ASTM D4125 Asphalt Content of Bituminous Mixtures by the Nuclear Method | | |
| 2.4 | ALDOT Spec.for Highway Const, Section 306, Density Requirements for Compaction | | |
| 2.5 | ALDOT Spec.for Highway Const, Section 410, Hot Mix Asphalt Pavements | | |
| 3. | Jurisdiction: Product Evaluation Board, State Materials Engineer, Nuclear Calibration Laboratory | | |
| 4. | Job Acceptance Requirements: New test devices will be checked (quality check) for precision prior to placement on project. | 8. | Laboratory Testing: The Department will conduct a full evaluation of the device. |
| 5. | Project Manager's Responsibility: Verify that the device is on the approved list. | 8.1 | Soil density and moisture aspects will be evaluated by comparing nuclear gauge readings to known block values to ensure the gauge counts within established tolerances. |
| 5.1 | Verify that the operator has been properly trained to operate and transport the device. | 8.2 | Thin layer aspects of the gauge will first be evaluated in the laboratory by simulating a calibration to a known overlay density to ensure the gauge will count within tolerances after the calibration is established. |
| 5.2 | Verify that the area where the device is being stored meets all Health Department Regulations. | 8.3 | A field evaluation will be conducted on at least two construction projects, where the gauge will be calibrated to an asphalt mixture. The asphalt materials used on these projects will be composed of various types of aggregates to ensure the gauge will calibrate on all types of materials. |
| 6. | Producer's Initial Requirements:
Companies wishing to have devices evaluated for placement on this list should furnish the Department's Product Evaluation Engineer with the following: | 9. | Contractors' Requirements: The prime contractor will be responsible for purchasing and using only approved products. |
| 6.1 | Name and address of the company manufacturing the device (complete the Department questionnaire) | 10. | Removal of Products: Devices will be removed from this list for any of the following: |
| 6.2 | Specification and Precision information for the device. | 10.1 | Failure to meet any of the Departments requirements for this type of device. |
| 6.3 | One nuclear testing device should be submitted to the Nuclear Calibration Laboratory for evaluation purposes. | 10.2 | Failure to work satisfactorily on the job. |
| 6.4 | Submittal and testing fees according to Department procedure ALDOT-355. | 11. | Correspondence: All correspondence concerning this list should be directed to the following: |
| 7. | Producer's Maintenance Requirements: | | Product Evaluation Board
Alabama Department of Transportation
3704 Fairground Road
Montgomery, AL 36110 |
| 7.1 | Produce the same quality device as the device supplied for the original evaluation. | | |
| 7.2 | Provide only approved devices to Department projects. | | |
| 7.3 | Provide a one-year or more warranty on all gauges. | | |
| 7.4 | Promptly report to the Department any changes in company name, device name, | | |