
Standard Specification for Weighing Devices Used in the Testing of Materials

AASHTO Designation: M 231-95 (2023)

Technically Revised: 1995

Reviewed but Not Updated: 2023

**Technical Subcommittee: 1b, Geotechnical Exploration,
Instrumentation, Stabilization and Field Testing**



**American Association of State Highway and Transportation Officials
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1. SCOPE

- 1.1. This specification covers requirements for scales and balances, and the loose standard masses used with balances, used in the testing of construction materials.
- 1.2. The requirements included are descriptive of the balances required by a number of AASHTO test methods. The general-purpose balances described herein may not be sufficiently accurate for certain tests, especially where a high degree of accuracy is required at large capacities. In such instances, the requirements for the balance should be included in the test method.
- 1.3. The requirements included herein are not sufficiently descriptive to be used as purchase specifications without amplification by the potential purchaser.
- 1.4. The values stated in SI units are to be regarded as the standard.

2. REFERENCED DOCUMENTS

- 2.1. *ASTM Standard:*
 - < E617, Standard Specification for Laboratory Weights and Precision Mass Standards
- 2.2. *National Institute of Standards and Technology:*
 - < *NIST Handbook 44* (1992 Edition)

3. CLASSIFICATION

- 3.1. Weighing devices are divided into two classes of analytical balances, designated A and B, and five classes of general-purpose scales or balances, designated G1, G2, G5, G20, and G100, based on readability.
- 3.2. Standard masses classified as Class 1, 2, 3, and 4, listed in ASTM E617, Standard Specification for Laboratory Weights and Precision Mass Standards, may be used with the analytical balances. Standard masses listed in Table 2, Section 2.23 of *NIST Handbook 44* (1992 Edition) may be used with general-purpose balances.