Weight Specifications

General Information

Troemner offers the most comprehensive selection of precision weights and mass standards. Our weight selection includes every imaginable size, class, and type from 10,000 kg stainless steel weights to the extremely precise, highly polished one and two-piece stainless steel weights.

At Troemner, careful attention is paid to every detail of production. Weight bottoms are slightly recessed to expose the smallest possible area to wear. Weight heads and necks are precisely shaped to give a solid, sure grip to forceps or weight lifters. Troemner uses the finest materials available for the production of all of our weights and mass standards. For your most demanding applications, our precision weights are manufactured from Troemner Alloy 8, which is a specially developed stainless steel. Troemner Alloy 8 possesses closely controlled density (8.03 g/cm^3), extremely low magnetic properties, good stability, and resistance to corrosion. We manufacture and calibrate weights to meet or exceed the highest tolerance standards of ANSI/ASTM, OIML, and NIST.

ANSI/ASTM E617

Standard Specification for Laboratory Weights and Precision Mass Standards

This specification covers various classes of weights and mass standards used in laboratories ranging from Class 000 to Class 7. Tolerances and design restrictions for each class are described in order that both individual weights and weight sets can be chosen for the appropriate applications. This specification also recognizes OIML R 111 that describes class E0*, E1, E2, F1, F2, M1, M2 and M3.

OIML R 111

Weights of Class E0*, E1, E2, F1, F2, M1, M2, M3

This international document describes the physical characteristics and metrological requirements of weights that are used for the verification of weights of a lower class of accuracy and with weighing instruments. This document includes a recommendation for seven classes of weights in tiers of uncertainty.

NIST Handbook 105-1

Specifications and Tolerances for Field Standard Weights

These specifications and tolerances are specific for reference and field standard weights (NIST Class F). Reference and field standard weights are used to test weighing devices where the weight of the item is required to determine the item's price. This document sets minimum requirements for standards used primarily to test commercial or legal for trade weighing devices for compliance with NIST Handbook 44. These devices include, but are not limited to, delicatessen scales, jewelry scales, postal and parcel post scales, and dairy product scales. This specification permits the use of a weight at its nominal value in normal testing operation, where the tolerance of the item under test is at least three times as great as the tolerance of the weight. This handbook also specifies the design, marking, adjusting cavities, and density of these weights. Any variation in design from Handbook 105-1 must be submitted to NIST for approval.

For more information visit www.troemner.com.

*E0 is a theoretical tolerance that is 50% of OIML R 111 Class E1

Selecting Weights and Certificates