Correct Weight Handling

10 Practical Tips

01 Store weights in original packaging

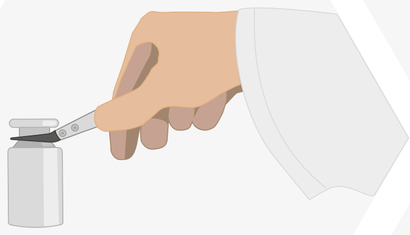
Did your weights come in an appropriate carrying case? Use it. It will keep your weights from gathering dust, and padded resting places for weights of different sizes will help prevent mix-ups. If weights are out of their case or stored under a bell jar, they should rest on sheets of clean, acid-free tissue (rather than on the base of the jar itself).

02 Store weights near the balance

Storing weights near the balance helps to ensure that both the balance and weights are similarly acclimatized. If you must bring the weights from a storage area to the balance, allow sufficient time for them to come to a similar state. Acclimatization will require more time if weights are larger and have been in an area with dissimilar characteristics.

03 Handle with care

This includes everything from wearing clean nylon or leather gloves when touching weights to using special tweezers with coated tips to lift them from their resting places. Beware of objects that can scratch the surface of the weight, and take particular care not to slide the weight across a balance's metal weighing pan to avoid microabrasions.



04 Clean according to OIML/ASTM recommendations

Under ideal circumstances, precision or mass calibration weights should never need cleaning. However, in practice this is not always the case. Whether you can clean a weight yourself or not depends on the weight's size and process criticality. In general, remove dust with a specially-designed brush, soft microfiber cloth, or rubber bellows.

05 Use specialized handles for bigger weights

Using specialized handles for lifting does more than protect the weight's surface finish. It also provides a more ergonomic lifting experience to protect the health of the operator.

06 Inspect for damage prior to use

Particularly if you share the weight set among various shifts or lab personnel, always check the surface for impurity, corrosion, or foreign substances before use. Issues to watch for include dust, fingerprints, or surface marks. If necessary, a magnifying glass or microscope can be used as an assistive aid.

07 Do not touch weights with bare hands

This is especially critical for weights with tighter tolerances and smaller nominal weights. Skin acids disrupt a weight's surface. Experience shows that fingerprints and the foreign matter they deposit can affect mass by up to +50 µg. Non-magnetic, nonabrasive tweezers or synthetic or leather gloves are generally recommended for handling. Weights of less tight tolerances can also be handled using clean cotton gloves.

08 Do not forget periodic recalibration

Even when weights are handled with care, they experience wear. Adhering to recalibration schedules stipulated by ISO 9001 helps keep processes accurate. Calibration results are documented in calibration certificates with details of conventional mass correction, uncertainty and traceability information according to ISO/IEC 17025.

09 Do not use a weight with dust or water on its surface

This can be especially problematic if weights have been stored outside their storage container or have been brought from one area to another where temperature and humidity differ. Allow weights to acclimatize and/or follow cleaning recommendations mentioned under point 4.

10 Do not clean with abrasive or caustic chemicals

Caustic or abrasive substances can damage the outer surface or "skin" of the weight. This can decrease weight mass by removing the oxidized layer or increase mass by causing additional oxidation or rust. Either way, accuracy is negatively impacted.

www.mt.com/weights

METTLER TOLEDO