

1.4.2 VERIFICATION

Under the current legislation, verification by a Trading Standards Officer (TSO) from a Notified Body, or by a self-verifier are equally valid and the process is generally the same no matter who carries out the verification. In cases where the manufacturer can demonstrate to the satisfaction of his assessment body that he has controlled procedures and operations in his production process that negate the need for specific tests to be carried out on the completed instrument, then he need not carry out all the tests that a TSO would. The actual verification process will depend on the type of equipment being verified.

Non-automatic weighing instruments (NAWIs)

NAWIs come under The Non-automatic Weighing Instruments Regulations 2000. The weights used to test the equipment must meet several requirements of the regulations; these are found in regulation 8 of the 2000 regulations. With the advent of modular equipment, not only will you need a Type Approval Certificate (TAC) but also possibly the relevant Test Certificate (TC) for such things as a cash register, indicator or PC.

Regulation 8 requires that the accuracy class of the weights used for verification is related to the accuracy class of the instrument being verified. Most verification is carried out on Class III instruments, and the regulation permits weights meeting the tolerance requirements for OIML Class M1 weights to be used. However, where a Class III instrument has more than 5000 scale intervals, the regulations require that the tolerance on the weights used does not exceed half of that permitted for M1 weights. This reduced tolerance may mean that these weights should be calibrated more frequently than is normal for M1 weights. The recently revised OIML Recommendation on weights, R111, specifies tolerances for standard weights and test weights up to 1000kg.

The International Organisation of Legal Metrology OIML drafted a standard in 2006 (OIML recommendation R76) to cover specifications and testing of NAWIs, this became European Norm EN45501 that was later adopted in this country as British Standard BS EN 45501. The regulations in force today are derived from the above and linked directly to them..

Section 8.3 of EN 45501 / OIML R76 details the assessment required for initial verification (i.e. when the unit is put in to service). This refers to several of the sub-sections of the standard for the specific tests to be performed. The tests can be summarised as follows:

- Checking of a declaration of conformity.
- Visual inspection of basic metrological characteristics (e.g. Min, Max, e, d, etc), markings and suitability of use.
- Errors on loading and unloading; gross, net and tare weighing (sections 3.5.1, 3.5.3, 4.6.2, 4.7.3; appendices A4.4 – A.4.6)
- Accuracy of zero setting and tare setting (A.4.2.3 & A.4.6.2)
- Repeatability tests (section 3.6.1 and appendix A.4.10)
- Eccentric loading tests (section 3.6.2 and appendix A.4.7)
- Discrimination tests (section 3.8 and appendix A.4.8)

Other tests may be performed in special cases and if the instrument is to be used in a different location then any difference in gravity shall be considered, if appropriate.

Automatic weighing instruments

The regulations in force depend on the type of instrument to be verified and the verification procedures will be outlined in the associated OIML recommendation.

In general the verifier will have to:

- Ensure that the unit under test complies with the type approval certificate
- Check the markings on the instrument
- Test the unit with the product or equipment to be processed and from the test results determine the accuracy class
- Ensure that the errors are within the appropriate maximum permissible limits

In addition to test weights verification may require a separate control instrument for comparative static reference tests.

