Using New Zealand's Weights and Measures System for SOLAS

What does 'trade approved equipment' mean?

Trade approved equipment means a weighing or measuring instrument that:

- Has a 'Certificate of approval'
- Is stamped with a 'mark of verification', and
- Is issued with a current 'certificate of accuracy'

in accordance with the Weights and Measures Act 1987 (the Act) and Regulations made under that Act.

Who is Trading Standards?

Trading Standards is a regulatory unit within the Ministry of Business Innovation and Employment (MBIE). Trading Standards Officers (also known as Weights and Measures Inspectors) administer and enforce the Act and the Regulations. Officers will routinely complete compliance inspections on weighing equipment.

How does weighing equipment obtain a 'certificate of approval' and what does it provide?

All weighing equipment that is used for trade in New Zealand must be of an 'approved type', with all equipment specifications being detailed within the 'certificate of approval'. When weighing or measuring equipment is submitted to Trading Standards for approval testing; the equipment is examined against the requirements of the legislation and international standards to determine its suitability for trade use in New Zealand.

What does verified mean?

It is a legal requirement for all weighing equipment that is in 'use for trade' to be stamped with a 'mark of verification'. The verification test occurs when it is either first put into use or following a re-calibration. A 'mark of verification' must be applied directly to the equipment following a successful examination and test. The mark can be stamped into a lead seal or be affixed by an adhesive, destructible label. It will take the form of either the Letters 'AP' followed by the technician's personal identification number or the 'crown stamp'.

What does a 'certificate of accuracy' provide?

'Certificates of accuracy' are renewed on an annual basis after the weighing equipment receives a detailed examination and physical test by an Accredited Person (AP). Maintaining a current 'certificate of accuracy' for weighing equipment is mandatory for weighing and measuring equipment that is used for determining the 'Verified Gross Mass' (VGM) of a container.

Having a current 'certificate of accuracy' in place provides the owner of the equipment with a 'defence' if the equipment is found to be 'false or unjust'. This defence is only available in situations where the operator or owner of the equipment neither knew nor had any reason to suspect or believe the equipment was false or unjust.

What is the legal standing for a 'calibration certificate' for weighing instruments?

A 'calibration certificate' affixed to a weighing instruments has no legal standing within the Weights and Measures Act 1987 or the Maritime Rule Part 24B. The 'calibration certificate' does not provide the owner with any of the protection provided by a 'Certificate of Accuracy'. There are no harmonised requirements for:

- the test procedures used
- the level of accuracy and tractability of the standard used for testing
- the form and duration of the certificate and

- the level of skill and knowledge of the person completing the calibration.

A 'calibration certificate' is suitable for non-trade purposes to provide confidence to the owner that their weighing or measuring equipment is accurate and within a declared tolerance. The equipment is often used for measuring ingredients or monitoring internal quantity control systems.

Who Are Accredited Persons?

Accredited Persons (APs) are accredited under the Weights and Measures Act 1987 and have the authority to apply a 'mark of verification' and affix a 'certificate of accuracy' to weighing equipment. APs may stamp any weighing equipment with the 'mark of verification' and/or issue a 'certificate of accuracy' at the request of the owner of any equipment that is in use for trade. APs can charge for the work they undertake.

APs do not have any powers of entry and may remain on the premises at the discretion of the owner. Where an AP declines to stamp any weighing equipment on the grounds that it does not comply with the Act and/or the Regulations, they must issue the owner of the equipment with a 'notice of non-compliance'. Where a 'notice of non-compliance' has been issued, the equipment cannot legally be used. The notice further serves to notify the owner of the equipment that continued use may result in legal action being taken by Trading Standards.

A list of Accredited Persons is available here.

How is the required accuracy of trade approved weighing equipment determined under the Weight and Measures legislation?

The required tolerance is determined by the Class of the weighing equipment, and the scale interval (e). The scale interval, in relation to a weighing or measuring instrument is:

a) in analogue indication, the difference between the values corresponding to two consecutive scale marks:

b) in digital indication, the difference between two consecutive indicated values.

The required tolerance for verification of the instrument is half the tolerance for subsequent in-service certification inspections. Table 9 in the Weights and Measures Regulation 1999 sets out the required tolerances.

For the purposes of container weighing, maritime rules require that weighing equipment must have a scale interval acceptable to the Director of Maritime New Zealand. Maritime New Zealand has determined that for Class III or IIII weighing equipment, a scale interval of 50 kg or less is acceptable. For other Classes of weighing equipment, the acceptable scale interval will be considered on a case by case basis.

To use a weighbridges as an example;

The majority of weighbridges in New Zealand that are in use for trade are Class III and operate a scale interval of 20kg (e = 20kg) with a maximum capacity of 60,000 kg.

In Table 9 of the Regulations, the allowable tolerance for the weighing equipment is dependent on the applied load and is expressed in multiples of the scale interval. The allowable tolerance for verification is half that for subsequent in-service certification inspections (for the purposes of applying a certificate of accuracy).

Weighing equipment tolerance for <u>verification</u> of a Class III weighbridge 20 kg x 60,000 kg:

Load (scale intervals)	**Allowable error for inspections (scale intervals)**	**Load**	**Allowable error**
0 – 500	0.5	0 – 10,000 kg	10 kg
Over 500 up to 2,000	1	10,020 – 40,000 kg	20 kg
Over 2,000	1.5	40,020 kg and over	30 kg

Weighing equipment tolerance for <u>certification</u> of a Class III weighbridge 20 kg x 60,000 kg:

Load (scale intervals)	**Allowable error for inspections (scale intervals)**	**Load**	**Allowable error**
0 – 500	1	0 – 10,000 kg	20 kg
Over 500 up to 2,000	2	10,020 – 40,000 kg	40 kg
Over 2,000	3	40,020 kg and over	60 kg

During the certification test of weighing equipment, there are a variety of tests carried out, using standards of mass. These include, but are not limited to, checking the equipment is capable of producing repeatable results and is accurate within the above tolerances across the full loaded range of the instrument.