



**Australian Government**  
**National Measurement  
Institute**

Bradfield Road, West Lindfield NSW 2070

# **Cancellation**

## **General Certificate of Approval No 1/0**

Issued by the Chief Metrologist under Regulation 60  
of the  
*National Measurement Regulations 1999*

This is to certify that the approval for use for trade granted in respect of  
Length Measures of 100 mm to 100 m  
has been cancelled in respect of new instruments as from 1 September 2008.

General Certificate of Approval No 1/0/A issued 1 October 2003 for Length  
Measures of 100 mm to 100 m is still valid for new instruments.

Signed by a person authorised by the Chief Metrologist  
to exercise his powers under Regulation 60 of the  
*National Measurement Regulations 1999*.

A handwritten signature in black ink, appearing to be 'J. H. T.', written in a cursive style.



# NATIONAL STANDARDS COMMISSION

## NATIONAL MEASUREMENT (PATTERNS OF INSTRUMENTS) REGULATIONS

### REGULATION 9

#### GENERAL CERTIFICATE OF APPROVAL No 1/0

This is to certify that an approval has been granted that the pattern of  
Length Measures of 100 mm to 100 m  
is suitable for use for trade.

This approval is subject to review on or after 8/10/89.

Certificate of Approval No 1/1 dated 23/8/72 was cancelled as from 8/10/84.

Signed

Acting Executive Director

#### Descriptive Advice

Pattern: approved 4/10/84

. Length measures of 100 mm to 100 m.

Technical Schedule No 1/0 describes the pattern.

#### Filing Advice

Certificate of Approval No 1/1 dated 23/8/72 is superseded by this Certificate and may be destroyed. The documentation for this approval comprises:

Certificate of Approval No 1/0 dated 25/10/84  
Technical Schedule No 1/0 dated 25/10/84.



# NATIONAL STANDARDS COMMISSION

## TECHNICAL SCHEDULE No 1/0

Pattern: Length Measures of 100 mm to 100 m

### 1. Description of Pattern

#### 1.1 Nominal Values

Length measures shall be limited to the following values:

100, 150, 200, 300, 500 mm and any whole number of metres up to 100 m.

The maximum length for rigid measures shall be 2 m.

#### 1.2 Construction

##### 1.2.1 Material

###### 1.2.1.1 Rigid Measures

Rigid measures shall be made from materials of adequate strength, stability and rigidity such as stainless steel, nickel or chromium-plated steel, brass, synthetic materials such as 'nylon' or 'makrolon', and suitable hardwood such as Maracaibo Boxwood.

###### 1.2.1.2 Flexible Measures

Flexible tape measures shall be made of carbon steel, stainless steel, coated steel, or etched steel. For tapes up to 30 m in length, flexible tape measures may be made of a suitable synthetic material of adequate strength and stability.

##### 1.2.2 Finish

Every measure of length shall be free from flaws.

Rigid measures shall be smooth and straight.

For measures not made of metal an exposed end or ends shall be tipped with metal and the tips shall be securely fastened.

The end surfaces forming two principal scale marks of end measures shall be flat and perpendicular to the longitudinal axes of the measures.

Measures of length with hinged joints shall be constructed so that the joints are firm and the measure is straight when extended.

Measures of length may be graduated on both sides.

In measures with sliding or calliper arms, such arms shall have no more play than is necessary for easy movement.

#### 1.3 Design of Linear Scales

##### 1.3.1 Scale Markings

Graduated scales on measures of length shall comply with the requirements of National Standards Commission Document 105, Design Rules for the Graduation of Analogue Scales, in as far as it is applicable to linear measurement.

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Measures of length which are not sub-divided shall be legibly stamped NOT SUB-DIVIDED.

The value of the scale interval shall be in the form  $1, 2$  or  $5 \times 10^n$  mm, cm or m where n is a positive or negative whole number or zero.

More than one form of graduated scale with different scale intervals may be marked on a measure.

Scale marks may take forms other than lines (e.g. holes, indentations etc.) provided that the scale interval is equal to or greater than 1 cm and all marks are denominated.

Only the following unit symbols shall be used:

metre	m
centimetre	cm
millimetre	mm

### 1.3.2 Marking

The name of the manufacturer marked on a measure of length shall be in letters not exceeding half the size of the letters indicating the denomination.

Measures of length shall not bear a trade or other mark which could be mistaken for either the denomination or verification mark.

### 1.3.3 Verification Mark

Provision shall be made for a verification mark to be applied.

## 1.4 Performance Requirements

### 1.4.1 Maximum Permissible Errors

Maximum permissible errors from zero to any scale mark shall be:

- $\pm 0,5$  mm for lengths up to 500 mm;
- $\pm 1,0$  mm for lengths over 500 mm but not over 2 m; and
- $\pm 0,05\%$  for lengths over 2 m.

### 1.4.2 Rules for the Determination of Errors

#### 1.4.2.1 Temperature

Every measure of length shall be correct at 20°C.

#### 1.4.2.2 Extensibility

Every flexible tape measure shall be tested when subjected to a tension ( $\pm 10\%$ ) of 20 N for synthetic materials and 50 N for metals, or as otherwise marked on the measure by the manufacturer. While under test, a length measure must be supported throughout its whole length on a level base or in such other manner as will enable its length to be correctly determined.

Notes:

1. The Commission's requirements for 1 m rigid length measures are met by those published in AS1508-1973, Commercial Length Measures.
2. Measures marked in both imperial and metric units are not permitted for trade use.



# NATIONAL STANDARDS COMMISSION

## NOTIFICATION OF CHANGE

### GENERAL CERTIFICATE OF APPROVAL No 1/0

#### CHANGE No 1

The following change is made to the approval documentation for

Length Measures of 100 mm to 100 m.

In Technical Schedule No 1/0 dated 25/10/84, clause 1.1 Nominal Values should be amended to include length measures of 600 mm.

Signed

A handwritten signature in black ink, appearing to read 'J. Birch'. The signature is written in a cursive style with a large initial 'J'.

Executive Director