



# NATIONAL STANDARDS COMMISSION

## NATIONAL MEASUREMENT (PATTERNS OF INSTRUMENTS) REGULATIONS

### REGULATION 9

#### CERTIFICATE OF APPROVAL No 2/1/3A

This is to certify that an approval for use for trade has been granted in respect of the pattern and variant of the

Ellwood Area Measuring Instrument

submitter by Fraho & Son Pty Ltd  
PO Box 69  
Turramurra NSW 2074.

This Certificate is issued upon completion of a review of approval No 2/1/3 which expired on 1/5/85 with the effect that no new instruments purporting to comply with that Certificate will be accepted for verification after that date.

#### Conditions of Approval

This approval is subject to review on or after 1/6/90.

Instruments purporting to comply with this approval shall be marked NSC No 2/1/3A.

This approval may be withdrawn if instruments are constructed and used other than in accordance with the drawings and specifications lodged with the Commission.

Signed

Acting Executive Director

#### Descriptive Advice

Pattern: approved 1/5/85

- . An instrument for measuring the area of opaque sheets of leather of up to 195 dm<sup>2</sup>.

Variant: approved 1/5/85

1. With a manually-operated measuring head replacing the motor-driven head of the pattern.

Technical Schedule No 2/1/3A describes the pattern and variant.

#### Filing Advice

The documentation for this approval comprises:

Certificate of Approval No 2/1/3A dated 12/11/85  
Technical Schedule No 2/1/3A dated 12/11/85  
Test Procedure No 2/1/3A dated 12/11/85  
Figures 1 and 2 dated 12/11/85



# NATIONAL STANDARDS COMMISSION

## TECHNICAL SCHEDULE No 2/1/3A

Pattern: Ellwood Area Measuring Instrument

Submitter: Fraho & Son Pty Ltd  
PO Box 69  
Turramurra NSW 2074

### 1. Description of Pattern

The pattern is an instrument for measuring the area of opaque sheets of leather. It has a clear glass table on which the leather is spread; this is traversed by a measuring head (Figures 1 and 2).

#### 1.1 Measuring Head

The head has two arms, one travelling above the glass table and one below. The higher arm carries a regular array of infra red light emitting diodes (LED's); the lower arm carries a matching array of photodetectors. The sensing head is activated at regular intervals by a slotted tape held behind the rear support rail. At each scan the number of detectors occluded by the leather is counted and the total number counted in the complete traverse of the head is summed, and divided by a scaling factor to produce an indication in  $\text{dm}^2$  on the seven segment indicator.

#### 1.2 Test Switch

A test switch is fitted to the measuring head to check operation. This should be done at least once per day. A notice adjacent to the switch is marked:

"Check before using instrument -

<u>Conditions</u>		<u>Indication</u>	
Table empty, light on	-	000 $\text{dm}^2$	) To be indicated when
Table empty, light off	-	195 $\text{dm}^2$	) measuring head tra-
			) verses table

Instrument not to be used if above checks indicate faulty operation".

#### 1.3 Markings

Instruments are marked with the following data, together in one location:

Manufacturer's name or mark	
Serial number	
NSC approval number	NSC No 2/1/3A
Maximum area	195 $\text{dm}^2$
Minimum area	20 $\text{dm}^2$
Verification scale interval	$e = 1 \text{ dm}^2$

A notice on the rear support rail of the glass table is marked:

"place leather with any straight edge at an angle to the direction of movement".

### 2. Description of Variant 1

With a manually-operated measuring head replacing the motor-driven head of the pattern.

A green LED provides indication of adequate speed. It must show a steady green light during the traverse.

TEST PROCEDURE No 2/1/3A

Measurement of the templets in the combinations of areas listed in Table 1 within tolerance will establish that the instrument performance is in conformity with the approved pattern.

TABLE 1

Test area	Templets	Tolerances on each of 20 measurements	Tolerance on mean of 20 measurements
dm <sup>2</sup>	dm <sup>2</sup>	dm <sup>2</sup>	dm <sup>2</sup>
20	20	± 1	± 0.25
30	10 + 20	± 2	± 0.75
70	20 + 50	± 2	± 0.75
80	10 + 20 + 50	± 3	± 1.25
100	100	± 3	± 1.25
120	20 + 100	± 3	± 1.25



2/1/3A  
8/7/86

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## NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 2/1/3A

CHANGE No 1

The following change is made to the approval documentation for the  
Ellwood Area Measuring Instrument

submitted by Fraho & Son Pty Ltd  
PO Box 69  
Turrumurra NSW 2074.

In Test Procedure No 2/1/3A dated 12/11/85, Table 1 is replaced by the Table included herein.

Signed

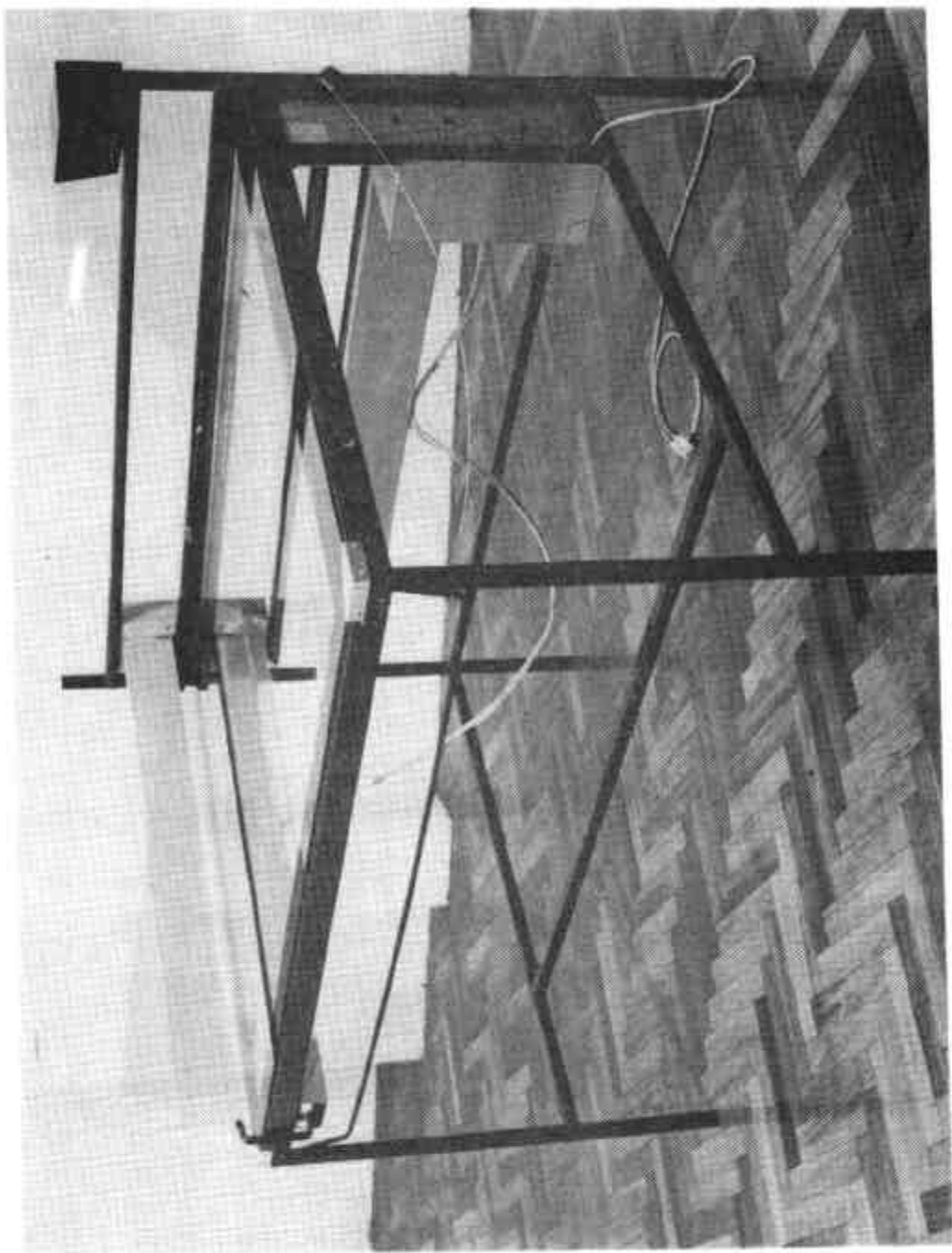
Executive Director

TABLE 1

Areas of Templets	Maximum Permissible Error (+ or -, for single measurements)
Not exceeding 25 dm <sup>2</sup>	1.0 dm <sup>2</sup>
Exceeding 25 dm <sup>2</sup>	1.0 dm <sup>2</sup> + 1 dm <sup>2</sup> for each additional 50 dm <sup>2</sup> or part thereof

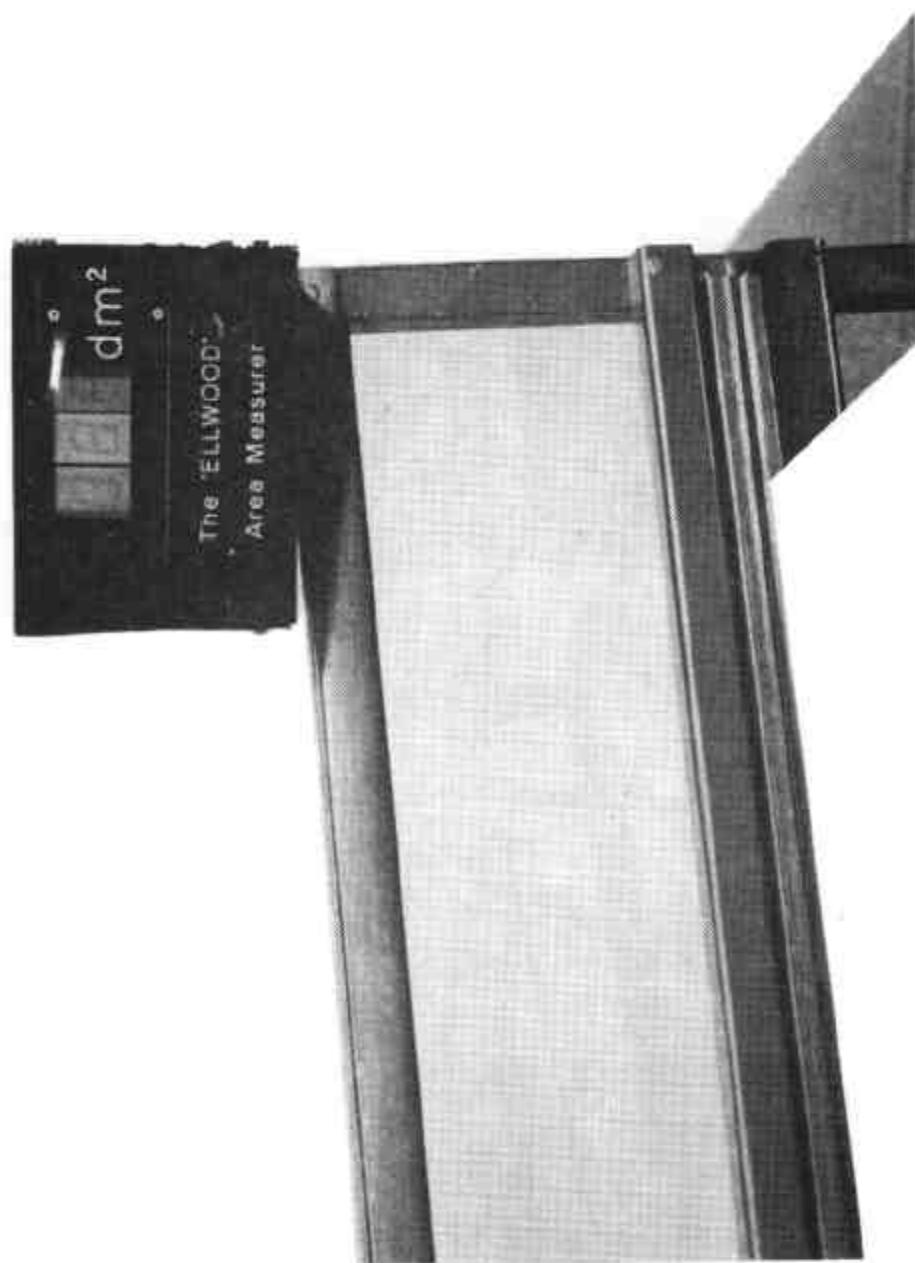
Note: The mean of 20 measurements shall not differ from the denominated value of the templet by more than one-half the appropriate maximum permissible error specified above.

FIGURE 2/1/3A - 1



Ellwood Area Measuring Instrument

FIGURE 2/1/3A - 2



Indicator