

# NATIONAL STANDARDS COMMISSION

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## CERTIFICATE OF APPROVAL No 2/1/3

### VARIATION No 1

This is to certify that the following modification of the pattern of the  
Ellwood Leather-measuring Instrument

approved in Certificate No 2/1/3 dated 25 February 1977

submitted by Fraho & Son Pty Ltd,  
184 Bobbin Head Road,  
Turramurra, New South Wales, 2074,

has been approved under the Weights and Measures (Patterns of Instruments)  
Regulations as being suitable for use for trade.

Date of Approval: 7 March 1978

The approved modification, described in Technical Schedule No 2/1/3 -  
Variation No 1, and in drawings and specifications lodged with the  
Commission, provides for the maximum area measured to be up to  
200 dm<sup>2</sup>.

The approval is subject to review on or after 1 December 1981.

All instruments conforming to this approval shall be marked with the  
approval number "NSC No 2/1/3".

Signed



Acting Executive Officer



# NATIONAL STANDARDS COMMISSION

## TECHNICAL SCHEDULE No 2/1/3

Pattern: Ellwood Leather-measuring Instrument

Submitter: Fraho & Son Pty Ltd,  
184 Bobbin Head Road,  
Turramurra, New South Wales, 2074.

Date of Approval: 26 November 1976

### Conditions of Approval:

1. The acceptance tolerance is to be  $\pm (1 \text{ dm}^2 \text{ up to } 25 \text{ dm}^2, + 1 \text{ dm}^2$  for each additional 50  $\text{dm}^2$  or part thereof) for each test templet, and for the mean of 20 measurements of the same test templet  $\pm (0,25 \text{ dm}^2 \text{ up to } 25 \text{ dm}^2, + 0,5 \text{ dm}^2$  for each additional 50  $\text{dm}^2$  or part thereof).
2. The service tolerance is to be the same as the acceptance tolerance.

All instruments conforming to this approval shall be marked "NSC No 2/1/3".

### Description:

The pattern (see Figure 1) is an instrument for measuring the area of opaque sheets of leather. The leather to be measured is spread out on a clear glass table and scanned by a measuring head comprising a row of photo-cells and a fluorescent light, which pass above and below the leather respectively each time the instrument is activated.

For each 12,5 mm of head movement a scan pulse generated by a series of holes drilled along the rear support rail of the glass table causes the photo-cells to scan the leather. At each scan a number of pulses, proportional to the number of photo-cells which are not illuminated by the fluorescent light, are counted. The total number of pulses counted during the passage of the head from one side to the other of the measuring table is divided by a scaling factor to produce an indication in  $\text{dm}^2$  on seven-segment indicators (see Figure 2).

Each pulse from the photo-cells represents an area of approximately  $156 \text{ mm}^2$  ( $0,0156 \text{ dm}^2$ ).

A test switch underneath the end of the measuring head is provided

so that the operator can check the correct operation of the measuring system. This should be done regularly, not less than once each day. A notice adjacent to the switch is marked:

"Check before using instrument

<u>Conditions</u>	<u>Indication</u>	
Table empty, light on - 000 dm <sup>2</sup>		) To be indicated when
Table empty, light off - 159 dm <sup>2</sup>		) measuring head traverses
		) table

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

(see Figure 3).

The instrument is marked with -

Manufacturer's name or mark  
 Serial number  
 NSC approval number: NSC No 2/1/3  
 Maximum area: 159 dm<sup>2</sup>  
 Minimum area: 20 dm<sup>2</sup>  
 Verification scale interval = 1 dm<sup>2</sup>

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"

The cover over the end of the measuring head is retained by a lead-plug seal (see Figure 4).

Special Tests:

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

Test Procedure — Ellwood Leather-measuring Instrument



# NATIONAL STANDARDS COMMISSION

## TECHNICAL SCHEDULE No 2/1/3

### VARIATION No 1

Pattern: Ellwood Leather-measuring Instrument

Submittor: Fraho & Son Pty Ltd,  
184 Bobbin Head Road,  
Turramurra, New South Wales, 2074.

Date of Approval of Variation: 7 March 1978

The modification described in this Schedule applies to the pattern described in Technical Schedule No 2/1/3 dated 25 February 1977.

All instruments conforming to this approval shall be marked "NSC No 2/1/3".

### Description:

The approved modification provides for the maximum area measured to be up to 200 dm<sup>2</sup>. The area indicated when the measuring head traverses the table with the fluorescent light turned off is marked on the test-instruction notice.

### Special Tests:

1. The tests applicable to the pattern are applicable to this variation.
2. The instrument should be tested when "hot" with a templet(s) adjacent to the black margin around the measuring area to check that the measuring head does not significantly overshoot the end of its travel and return on to the measuring area, thus measuring a part of the templet a second time.

2/1/3  
25/6/85



## NATIONAL STANDARDS COMMISSION

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

This is to certify that Approval No 2/1/3 for the  
Ellwood Leather-measuring Instrument

submitted by Fraho & Son Pty Ltd  
184 Bobbin Head Road  
Turramurra NSW 2074

expired in respect of new instruments on 1 May 1985.

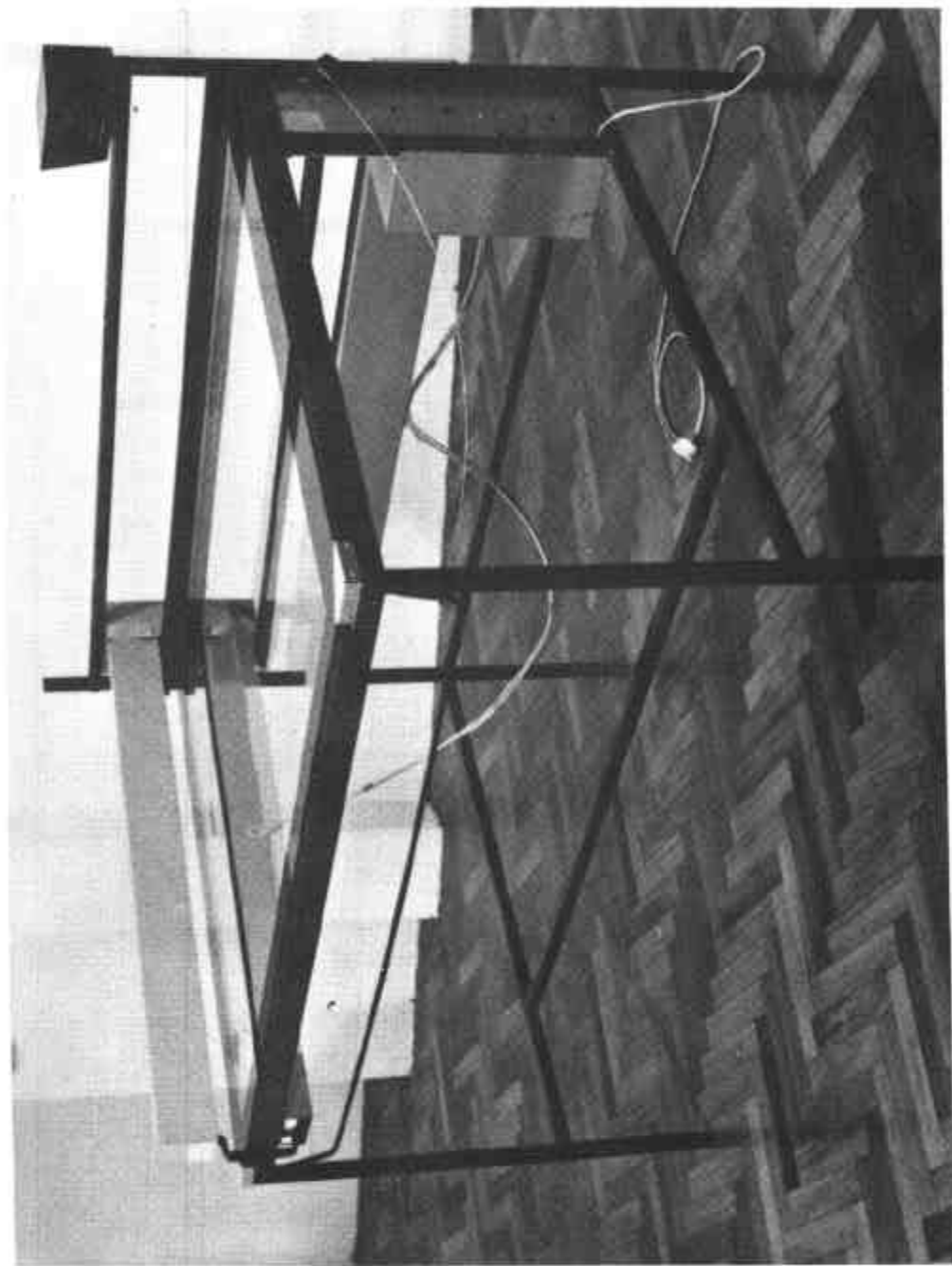
Instruments which were verified before that date may, with the concurrence of the State or Territorial verifying authorities, be submitted for reverification.

Signed

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

Executive Director

FIGURE 2/1/3 - 1



Ellwood Leather-measuring Instrument

25/2/77

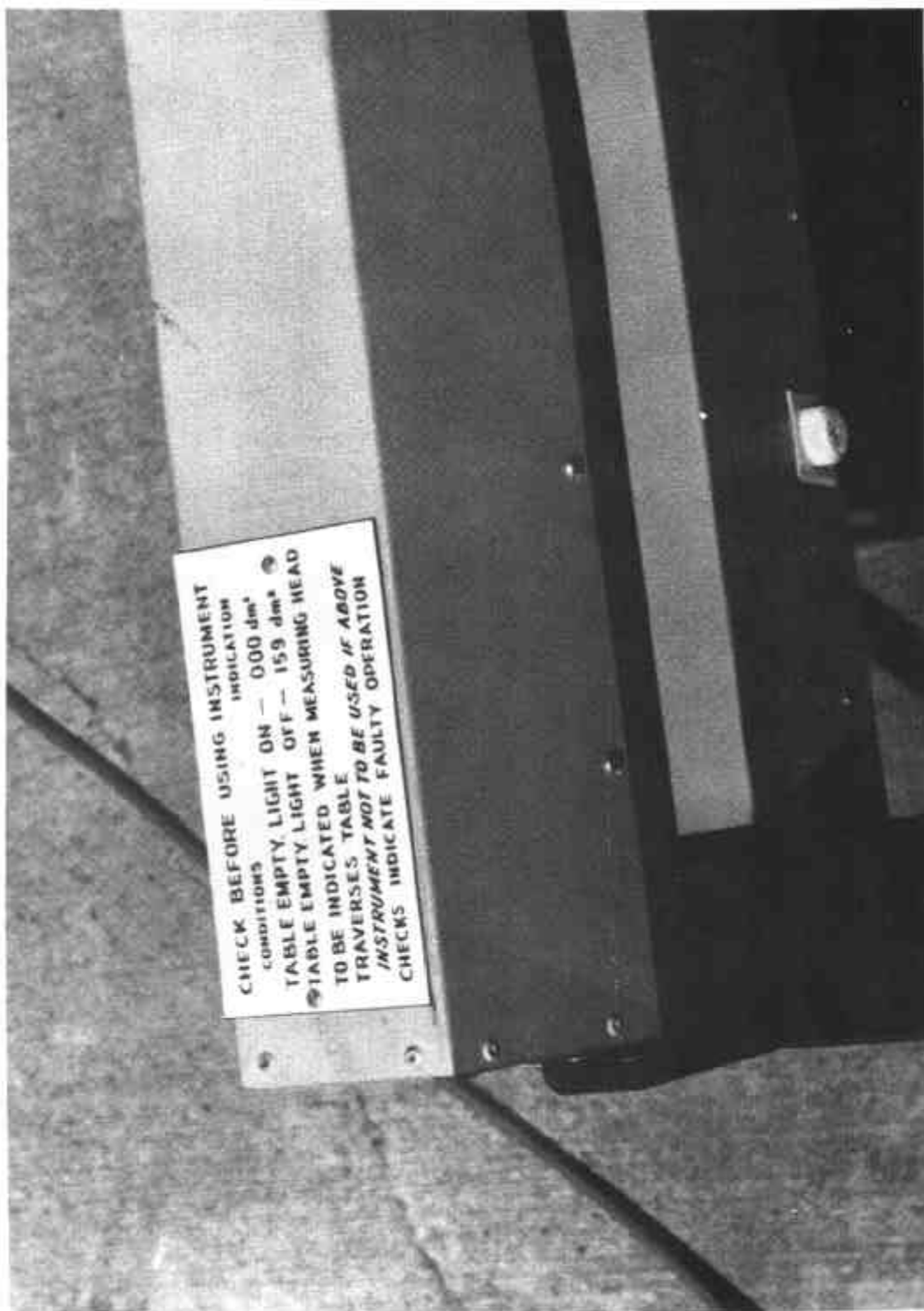
FIGURE 2/1/3 - 2



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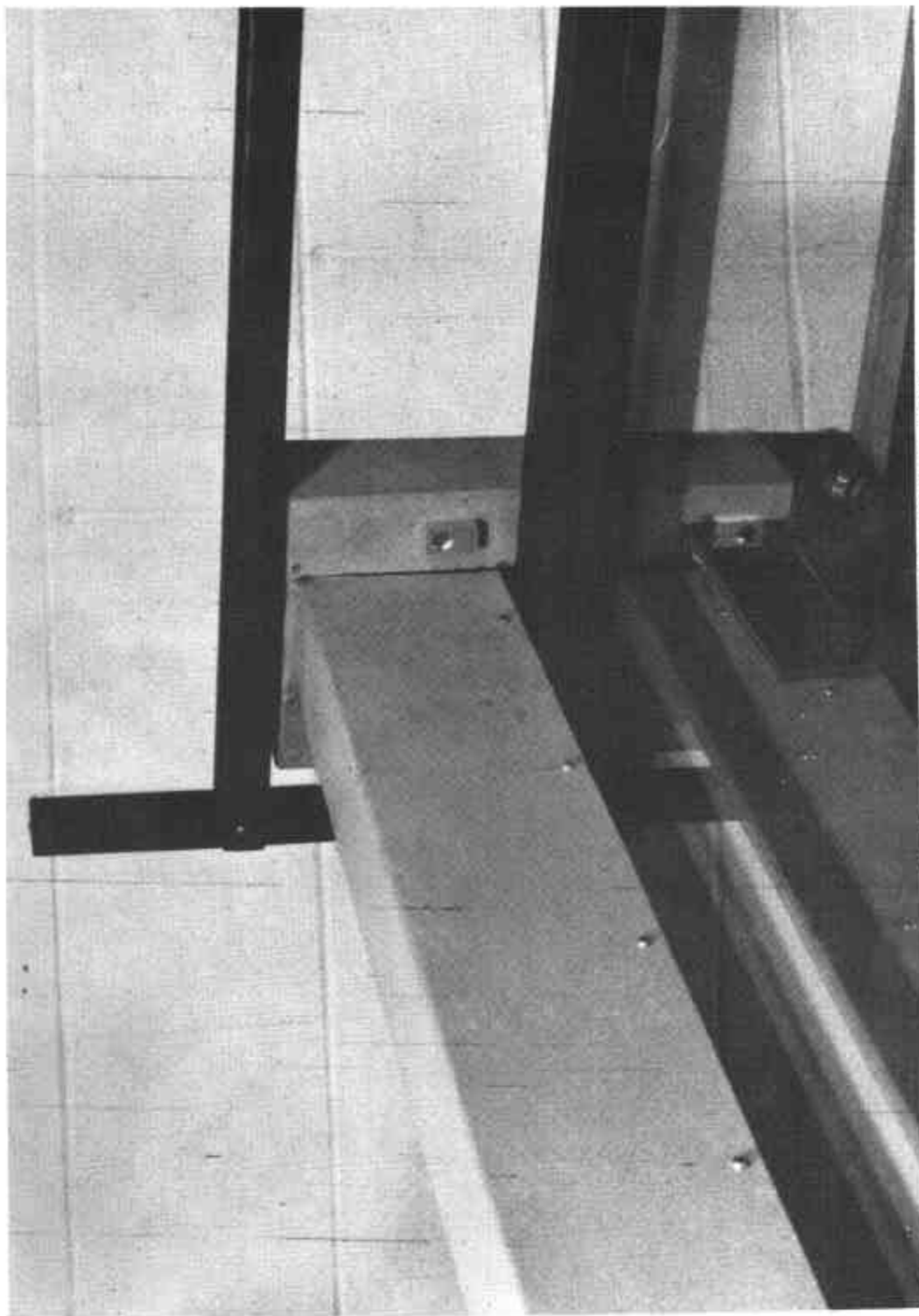
FIGURE 2/1/3 - 3



End of Measuring Head — Test Notice

25/2/77

FIGURE 2/1/3 - 4



Sealing of Cover over Measuring Head

25/2/77