

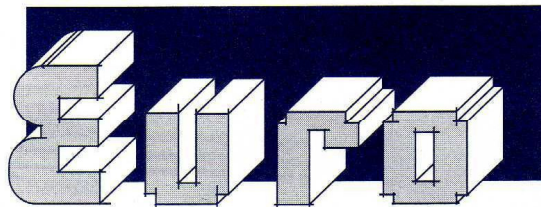
CERTIFICATE OF CALIBRATION

ISSUED BY EURO PRODUCTS CALIBRATION LABORATORY
DATE OF ISSUE march 04, 2008 SERIAL NUMBER 002114



0904

EURO PRODUCTS LIMITED



Yardley House, Yardley Street,
Stourbridge, West Midlands DY9 7 AT
Tel: (01384) 895000
Fax: (01384) 897000
E-mail: sales@europroducts.co.uk
Website: www.europroducts.co.uk

PAGE 1 OF 1 PAGES

APPROVED SIGNATORY

D. Perkins
T. Chandler
C. Perkins

Client: IMPACTA INSTRUMENTAÇÃO ME
I 0016

Impacta Instrumentos
Padrão: I 016
Validade: Indeterminado

Description: Rockwell Reference Hardness Tester Block

Block Serial Number: 5449

Date of Calibration: march 04, 2008

Calibration Details: The above Reference Hardness Block has been examined in the EURO PRODUCTS calibration laboratory and was found to comply with the requirements of BS EN ISO 6508-3 1999 clause 3 and ASTM E 18:2000 clause 16. The above Reference Hardness Block value was calibrated on a standardising machine complying with the requirements of BS EN ISO 6508-3 and ASTM E 18: 2000, having hardness scales traceable to the UK National Scales as defined by IMGC: the machine was also indirectly verified in the Rockwell with reference blocks calibrated by NIST.

Results: The above reference Hardness Block was found to comply with the requirements of BS EN ISO 6508-3 clause 7 and ASTM E 18:2000 clause 20 and the hardness values obtained are given below:

Mean Hardness Value:	HRB 89,9	Uniformity of Hardness:	0.4 units
Maximum Value	: Test 1: HRB 89,9	Test 2:	HRB 89,9
Minimum Value	: Test 3: HRB 89,4	Test 4:	HRB 89,4

Calibration made at: 23° C ± 2
Reference Hardness Block Thickness: 10,54mm

Uncertainty of Measurement: ± 1 HRB

Approved Signatory:

Validity: This Hardness Reference Block is only valid for the scale for which it was calibrated. It is recommended that the duration of the calibration validity should be limited to 5 years. The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.