

# CERTIFICATE OF CALIBRATION

ISSUED BY EURO PRODUCTS CALIBRATION LABORATORY  
DATE OF ISSUE July 18, 2005



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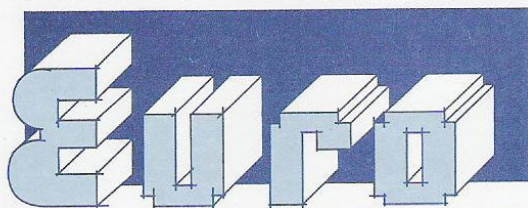
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APPROVED SIGNATORY

D. Perkins

T. Chandler

C. Perkins



Client:

Impacta Instrumentos

Padrão: I 014

Validade: Indeterminado

Description: Rockwell Reference Hardness Tester Block

Block Serial Number: 5438 I 014

Date of Calibration: July 18, 2005

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 C scale 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:	HRC 60.9	Uniformity of Hardness: 0.4 units	
Maximum Value : Test 1:	HRC 61.4	Test 2:	HRC 60.4
		Test 4:	HRC 60.7
Minimum Value : Test 3:	HRC 61.1		

Calibration made at: 23°C  $\pm$  2

Reference Hardness Block Thickness: 12,2 mm

Uncertainty of Measurement:  $\pm$  1 HRC

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.

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