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**СЕРТИФИКАТ КАЛБРОВКИ**  
**定标证书**  
**校正証明書**



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**Issued By: EURO PRODUCTS CALIBRATION LABORATORY**

**Date of Issue: 18 October 2019 Certificate Number: 999999**

**Customer: Euro Products**

**Description: Rockwell Testing Indenter  
 (Class B ASTM E18:2019 Clause A3.5)  
 (EN ISO 6508-2:2015)**

**Rockwell Indenter Number: 123546**

**Indenter Model/Type: Rockwell Indenter**

**SKU:**

**Calibrated Scales: HRA, HRC, HRD, HR15N, HR30N & HR45N**

**Date of Calibration: 18 October 2019**

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Description: Rockwell Testing Indenter (Class B ASTM E18:2019 Clause A3.5) (EN ISO 6508-2:2015)

Rockwell Indenter Number: 123546

Date of Calibration: 18 October 2019

Calibration Details: The above Rockwell Testing Indenter has been examined in the EURO PRODUCTS calibration laboratory and was found to comply with the requirements of EN ISO 6508-2 2015 clause 4.3 and ASTM E18 2019 clause A3.5. The performance of the above Rockwell Testing Indenter has been compared with a UKAS Reference Indenter No: E322 using a standardising machine complying to the requirements of EN ISO 6508-3 2015 clause 4 and ASTM E18 2019 section A2 having hardness scales traceable to the UK National standards as defined by NIST and PTB.

The conformity of the calibration does not take into account any uncertainty contributions.

Results: Rockwell Testing Indenter number 123546 has been performance checked against Rockwell Reference Indenter number E322.

The values obtained on four Reference Hardness Test Blocks, covering the scales HRC 22-28, HRC 60-65, HR15N 88-94 and HR30N 60-69, were found to be within ± 0.4 scale units of the values obtained using the UKAS Reference Indenter. Therefore the Rockwell Testing Indenter can be used to test on the A, C, D and N scales and the performance of the Rockwell Testing Indenter complies with the requirements of EN ISO 6508-2 2015 clause 6.2.3 Table 4 and ASTM E18 2019 Tables A3.6.

Calibration made at: 23 ± 2°C

Humidity: < 70%

Approved Signatory:



Validity: It is recommended that direct verification of the Rockwell Indenter be carried out at intervals of no greater than 2 years, as per Table 10 EN ISO 6508-2. This Rockwell Indenter is only valid for the Rockwell scales listed on the first page.

Required Measurements:

Table with 7 columns: MEASUREMENT, ASTM E18 SECTION, REQUIREMENT, EN ISO 6508-2 SECTION, REQUIREMENT, ACTUAL MEASUREMENT, UNCERTAINTY OF MEASUREMENT. Rows include DIAMOND POLISH DEPTH, MEAN ANGLE MEASUREMENT, ANGLE IN A SECTION MEASUREMENT, MEAN RADIUS MEASUREMENT, SINGLE RADIUS MEASUREMENT, and LOCAL DEVIATION FROM A TRUE RADIUS.

Table with 8 columns: MEASUREMENT, ANGLE ROTATION 1, ANGLE ROTATION 2, ANGLE ROTATION 3, ANGLE ROTATION 4, SECTION, UNCERTAINTY OF MEASUREMENT. Rows include ANGLE IN A SECTION MEASUREMENT and SINGLE RADIUS MEASUREMENT.

Table with 3 columns: Requirement, Checkmark, Reference. Rows include Surface of cone and tip shall blend in a tangential manner and Diamond polish inspection at 20x magnification for surface defects.

Extra Measurements:

Table with 7 columns: MEASUREMENT, ASTM E18 SECTION, REQUIREMENT, EN ISO 6508-2 SECTION, REQUIREMENT, ACTUAL MEASUREMENT, UNCERTAINTY OF MEASUREMENT. Rows include CONE AXIS, STRAIGHTNESS OF CONE FLANK, and LENGTH OF STRAIGHT FLANK.

Performance Verification:

Table with 4 columns: REFERENCE BLOCKS, ASTM / EN TOLERANCE, EURO PRODUCTS TOLERANCE, ERROR COMPARED TO REFERENCE / CLASS A INDENTER. Rows include HRC 22 - 28, HRC 60 - 65, HR15N 88 - 94, and HR30N 60 - 69.

a Tightest tolerance from the two standards shown.

b Reference block values taken from EN ISO 6508-2 2015 Table 4 and ASTM E18 2019 Table A3.6

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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