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JJG

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

JJG 2067-2016

Replacing JJG 2067-1990; JJG 2068-1990

**Verification Scheme of Measuring Instruments for Metallic
Rockwell Hardness
(English Translation)**

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Introduction

The system table based on JJF1104-2003 "National Metrological Verification System Table Rules" given the drafting of the rules.

The system table instead of JJG 2067-1990 "metal Rockwell hardness measuring instrument verification system", JJG 2068-1990 "Metallic surface Rockwell hardness measuring instrument verification system". And JJG 2067-1990 and JJG 2068-1990 in addition to editorial changes, the main technical changes are as follows.

--- According to ISO standards, the metal surface Rockwell hardness as HRN, HRT scale and the original metal Rockwell hard Degrees of other rulers combined with metal Rockwell hardness;

- Revision of the measurement uncertainty of measurement and measurement standards (see tables 3, 4, 6, JJG 2067-1990 and JJG 2068-1990 one, two);

- the maximum allowable error of the revised working metrological appliance (see Table 5, 6, JJG 2067-1990 and JJG 2068-1990 three, four);

--- new metal Rockwell hardness benchmarking machine, sub-reference machine and the standard machine of the sub-equipment technical requirements;

- New measurement and sub-benchmark calibration and measurement (CMC);

--- cancel the ball head and the corresponding ruler.

The previous version of the system table release.

--- JJG 2067-1990;

--- JJG 2068-1990.

Metallic Rockwell Hardness Meters

1 Scope

The test system table for metal Rockwell hardness measuring instruments (A, B, C, D, E, F, G, H, K, N, T scale) of the value of transmission and verification. It specifies the amount of metal Rockwell hardness measured from the national benchmark to the measurement standard and the measurement of the procedures, methods and measurements of delivery to the work metering device, the measurement uncertainty, the benchmark, the standard and the the measurement characteristics and technical indicators of the measuring instruments give specific instructions and requirements. The test system table can also be used as the basis for the traceability of the metal Rockwell hardness at the time of calibration work.

2 reference file

The following documents are cited in this system.

JJG 112-2013 metal Rockwell hardness tester (A, B, C, D, E, F, G, H, K, N, T scale) JJG 113-2013 Standard Metal Rockwell Hardness Blocks (A, B, C, D, E, F, G, H, K, N, T Scale) Evaluation of JJF1094 measuring instrument where the date of the reference file, only the date of the version applies to the test system table; all do not note the date of the cited the latest version of the document, including all modifications, applies to this system.

3 measurement basis

The metal Rockwell hardness measurement basis includes. metal Rockwell hardness national reference and sub-benchmark.

3.1 Metal Rockwell Hardness National Benchmark

3.1.1 Metal Rockwell Hardness The role of national benchmarks Metal Rockwell Hardness National Benchmarks for the preservation, reproduction and transmission of Rockwell hardness values, is a unified national metal Rockwell the highest basis of the hardness value. Baselines should be regularly revalued and actively participate in international alignments.

3.1.2 Composition of the metal benchmark for the Rockwell hardness of the metal Metal Rockwell hardness national benchmark is mainly composed of metal Rockwell hardness national reference machine, including the test force applied Mechanism, indentation depth measuring device and reference indenter group.

3.1.2.1 Test force of the reference machine

a) Maximum allowable deviation of the initial test force before and after the main test force is applied. $\pm 0.20\%$.

b) the maximum allowable deviation of the total test force. $\pm 0.03\%$ for the (A ~ K) scale; for N, the T scale is $\pm 0.06\%$.

3.1.2.2 indentation depth measurement device for the reference machine the maximum allowable error of the indentation depth measuring device is $\pm 0.1 \mu\text{m}$.

3.1.2.3 Rack deformation the influence of the frame deformation and the displacement of the specimen on the reading under its maximum test force shall not exceed 0.1HR.