

INDIRECT VERIFICATION TO ISO STANDARDS

BRINELL ISO 6506-2014

At least every 12 months

- Every test force and ball size must be tested
- At least 2 test blocks from different hardness ranges
- Measurement of the reference indent, if no direct verification has taken place beforehand
- 5 measurements per test block

Calculation of **variance**
Calculation of **repeatability**
Calculation of **measurement uncertainty**

VICKERS ISO 6507-2018

At least every 12 months

- Every test force must be tested
- At least 2 test blocks from different hardness ranges; 3 blocks if only one method is used
- Measurement of the reference indent
- 5 measurements per test block

Calculation of **variance**
Calculation of **repeatability**
Calculation of **measurement uncertainty**

KNOOP ISO 4545-2017

At least every 12 months

- Every test force must be tested
- At least 2 test blocks from different hardness ranges; 3 blocks if only one method is used
- Measurement of the reference indent
- 5 measurements per test block

Calculation of **variance**
Calculation of **repeatability**
Calculation of **measurement uncertainty**

ROCKWELL ISO 6508-2015

At least every 12 months

- Every scale used must be tested
- At least 3 test blocks from different hardness ranges
- At least 2 pre-measurements to be discarded
- At least 5 measurements per test block

Calculation of **variance**
Calculation of **repeatability**
Calculation of **measurement uncertainty**

INDIRECT VERIFICATION TO ASTM STANDARDS

BRINELL E10-15

At least every 18 months

- Every test method used must be tested
- At least 1 test block per test method; at least 2 test blocks per indenter
- Measurement of the reference indent
- 5 measurements per test block for 1 mm and 2.5 mm balls
- 3 measurements for 5 mm and 10 mm balls

Calculation of **variance**
Calculation of **repeatability**

VICKERS E92-16

At least every 18 months

- Every test method used must be tested
- At least 2 test blocks from different measuring ranges
- At least 1 test block per test method
- 5 measurements per test block

Calculation of **variance**
Calculation of **repeatability**

KNOOP E92-16

At least every 18 months

- Every test method used must be tested
- At least 3 test blocks from different measuring ranges
- Every scale used must be tested
- 5 measurements per test block

Calculation of **variance**
Calculation of **repeatability**