

Hardness testing with ZwickRoell



Zwick / Roell

Intelligent Testing

What we will be talking about today....

Company presentation

Rockwell

Brinell

Vickers & Knoop

Instrumented hardness testing

Nanohardness testing

Other

Knowledge in hardness testing



Produktionsstandort Kuchl



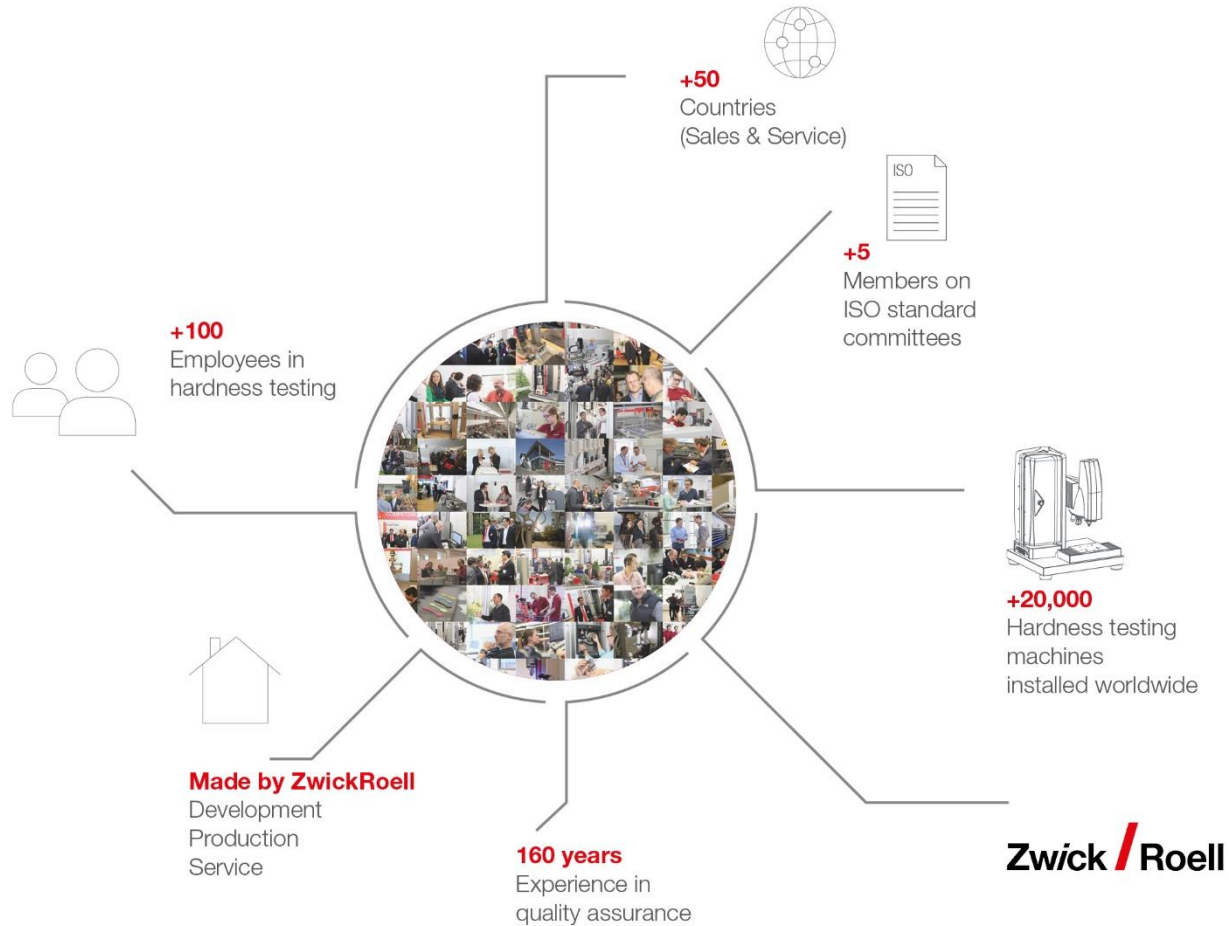
Produktionsstandort Birmingham

Ulm



Experience and Competence

Worldwide – from one partner



Three brands, one team

development, production, consultation and service

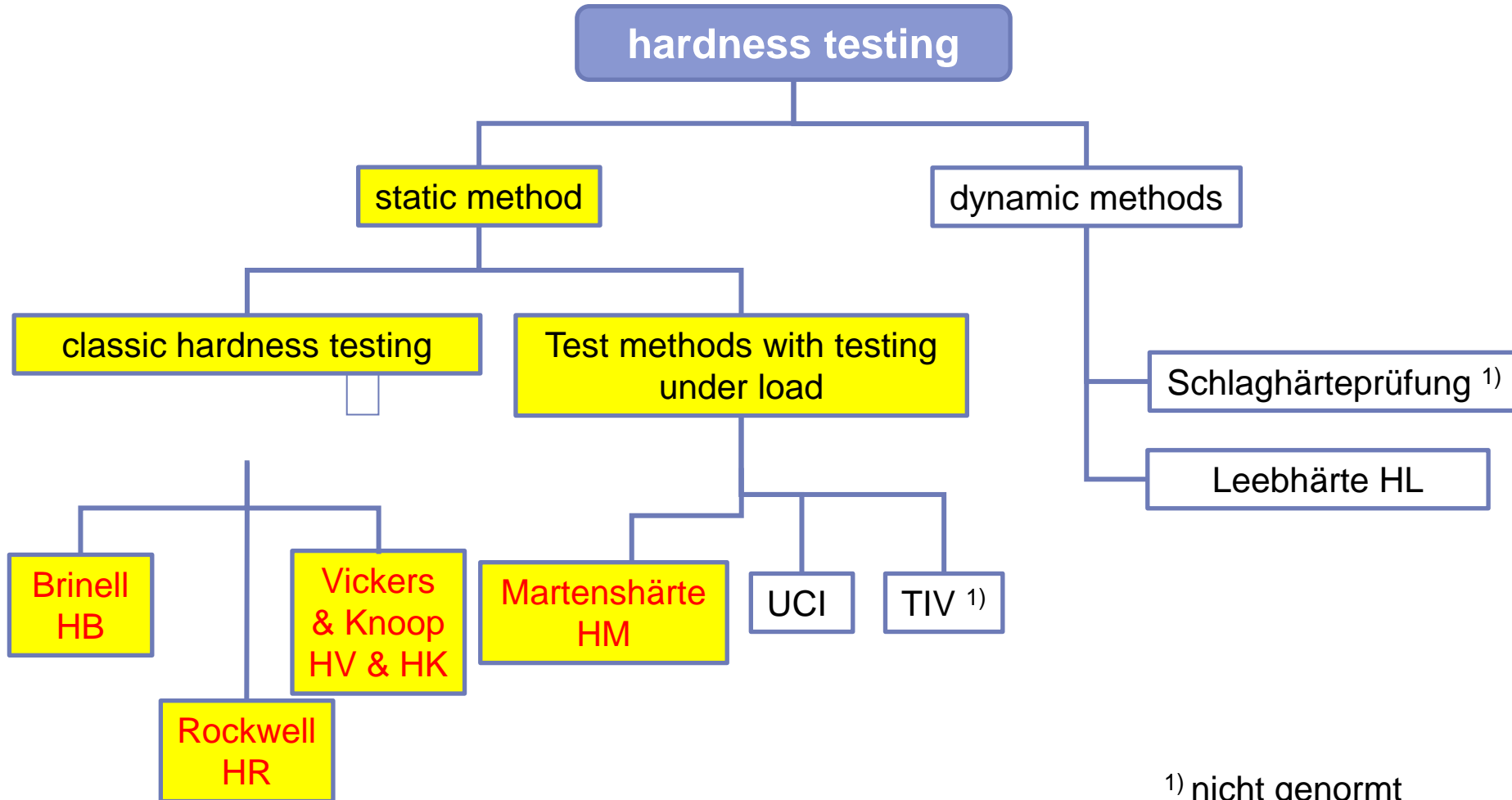
LATZKE



Zwick / Roell

Zwick / Roell
EMCO-TEST

UnOur topic today are the yellow test methods



1) nicht genormt

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Rockwell Hardness tester

versatile and flexible



NEW



**ZR up to
now**



/N4 - Hardness testing clamps



/N6 - Hardness testing in drill holes



/N7 - Tooth flank testers

Top-Loader vs. spindle – DuraJet and ZHR in comparison



Advantages

- Suitable for large and heavy parts
- Integrated clamping function
- Automation possible
- interface



Advantages

- „nose factor“ for perfect accessibility to difficult test areas (e.g. in tubes)
- Wide variety of toolings
- Manual spindle for fast specimen movement
- testXpert-interface

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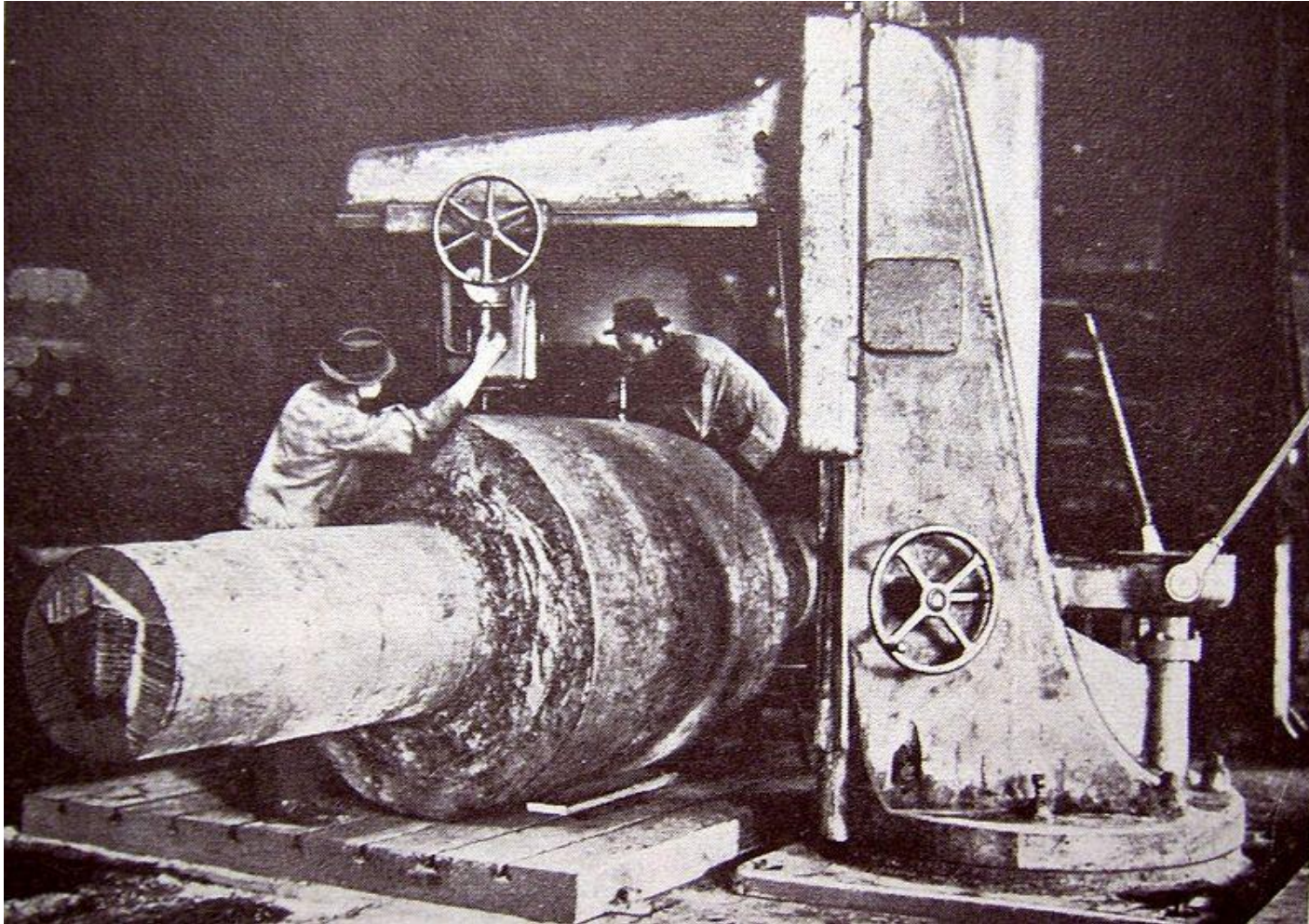
Vickers & Knoop

Instrumented hardness testing

Nanohardness testing

Other

Hardness testing via ball at Krupp (ca. 1900)



Universal hardness tester

Ready for production environment



NEW



ZR up to now



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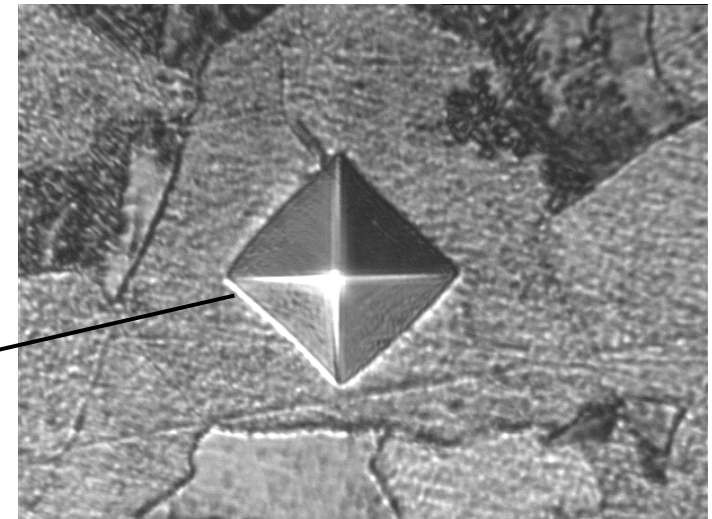
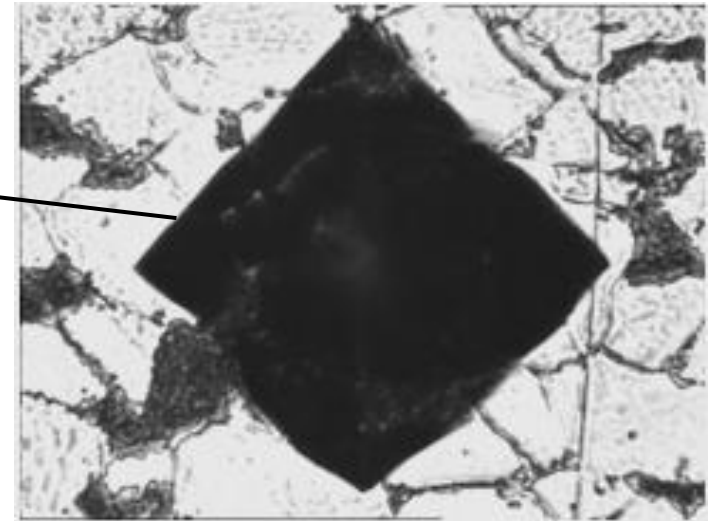
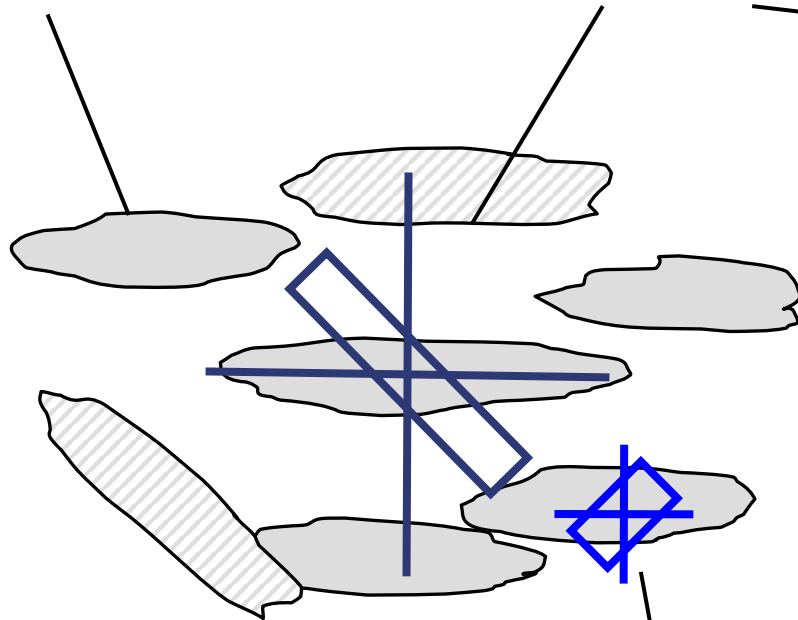
Nanohardness testing

Other

Vickers – example of application

Grain of a structure

Makro indentation



Low-load and Microhardness tester

The perfect instrument for your lab



NEW

**ZR up to
now**



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Instrumented hardness testing



Tiefenmessverfahren:

- Instrumentierte Eindringprüfung (Martenshärte, ISO 14577)
- Rockwellhärte HR - ISO 6508
- Rockwellhärte HR - ISO 2039-2
- Vickers Tiefenmessung HVT
- Brinell Tiefenmessung HBT
- Kugeldruckhärte H (für Kunststoffe) - ISO 2039-1

Optische Verfahren:

- Vickers Härteprüfung HV - ISO 6507
- Brinell Härteprüfung HBW - ISO 6506

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Nanoindenter



ZHN

ZHN-E

ZHN-S

- 0,2N
- 2N
- 20N

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Portable hardness tester

For plastics and rubber



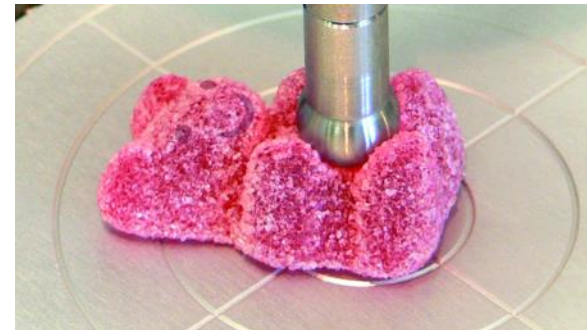
Eindringstempel zur Bestimmung der Härte von Lebensmitteln

Diese Stempel werden meist für Eindringversuche eingesetzt, um die Härte von Lebensmitteln zu bestimmen. Diese Prüfungen sind verbreitet und finden bei vielen...



Spezial-Stempel: Festigkeit von Brot nach AACC, Bloom-Härte

Die Prüfung der Festigkeit von Brot nach AACC74-09 ist ein Eindringtest mit zwei Zyklen, bei dem ein zylindrischer Stempel definierte Brotscheiben auf 40%...



We offer the best solution for you

Zwick / Roell

Together, within the ZwickRoell family

