QATM
QUALITY ASSURED

CUTTING | MOUNTING | GRINDING, POLISHING, ETCHING | ANALYSIS, HARDNESS TESTING

SOLUTIONS IN MATERIALOGRAPHY & HARDNESS TESTING

part of VERDER scientific

1980
Foundation of ATM.

1996
Start of sales activities as a full-service provider for the metallographic laboratory.

1998
Innovation award for the cut-off machine Brillant 260.

2007
Relocation to today's headquarters in Mammelzen.

2009
First materialography conference QUALITY.

2010
QNESS is founded.

2015
ATM becomes part of Verder Scientific.

2018
Qness becomes part of Verder Scientific and a cooperation partner of ATM.

2020
ATM and Qness are growing together: QATM is the new benchmark in materialography and analysis.

QATM – MATERIALOGRAPHY & HARDNESS TESTING

CUSTOMIZED SOLUTIONS – WITH COMPETENCE AND PASSION

Machines and equipment for the materialographic laboratory
Whatever you need for quality testing and material analysis, QATM has it all: As a manufacturer of high-quality machines for materialography and hardness testing, we offer the most comprehensive solutions for your needs. We not only supply a wide range of instruments but also accessories, consumables, complete laboratories and tailor-made special-purpose solutions.

We aim for highest quality
Our innovative cut-off machines, mounting presses, grinders, polishers/electrolytic etchers, as well as hardness testers and analysis systems provide maximum reliability and flexibility. The R&D departments for hard- and software work in close cooperation with our customers to ensure continuous optimization of our products. QATM is certified according to EN ISO 9001:2015 to make sure our internal procedures for conception, development, purchasing, sales and service are efficient and reflect our high standards.

Customers all over the world appreciate QATM's extensive sales and service network as well as the direct communication with our experts. The comprehensive expertise and creativity of our qualified staff are the basis for the consistent high quality of our solutions.

QATM offers:

- **Modern production engineering and high vertical integration**
  Optimum control of every single component of our machines guarantees reliable product quality "made in Germany" and „made in Austria".

- **Application consultation and end-user seminars with individual focus**
  Our application experts determine parameters and equipment configurations best suited for your sample preparation process. Our team of lab experts and lecturers offers individual as well as advanced seminars.

- **In-house hardware and software development**
  QATM hosts the complete R&D process in-house. Tailor-made solutions to meet individual requirements are our strength.

MAMMELZEN / GERMANY
- Materialography, consumables, manufacture of lab furniture
- Development, manufacturing, assembly
- Training center

GOLLING / AUSTRIA
- Hardness testing, Analysis
- Development and assembly
- Training center

www.qatm.com

CUT-OFF MACHINES FOR ALL REQUIREMENTS

The size and geometry of a work piece may require sectioning into smaller pieces for examination. Successful sample preparation starts with correct cutting.

To avoid deformation of the sample it is necessary to extract it as gently as possible from the component to be examined. Cut-off machines, adapted to requirements such as geometry or size of the work piece, guarantee low-contact cutting. The permanent stream of coolant as well as the use of different cutting modes help to avoid thermal damages and to remove cutting debris.

PRECISION CUT-OFF MACHINES

BENCHTOP MODELS

Qcut 150 M

- Max. cutting capacity: Ø 40 mm
- Chop cut 120 mm manuel

Qcut 150 A

- Max. cutting capacity: Ø 40 mm
- Chop cut 120 mm manuel / automatic

Qcut 200 A

- Max. cutting capacity: Ø 75 mm
- Traverse cut: 210 mm, automatic
- Chop cut: 80 mm, automatic
- Cross feed (optional): 80 mm, manual / automatic
- Extendable with rotation device for samples

Qcut 250 M

- Max. cutting capacity: Ø 55 / 90 mm (up to 25 mm length)
- Chop cut: 155 mm, manual

BRILLANT 230

- Max. cutting capacity: Ø 110 mm
- Traverse cut: 250 mm, manual
- Chop cut: 125 mm, manual
- Cross feed (optional): 100 mm, manual

Qcut 250 A

- Max. cutting capacity: Ø 95 mm
- Traverse cut: 225 mm, automatic & manual
- Chop cut: 170 mm, manual
- Cross feed (optional): 120 mm, automatic

Qcut 350 A

- Max. cutting capacity: Ø 135 mm
- Traverse cut: 260 mm, automatic
- Chop cut: 180 mm, automatic
- Cross feed (optional): 140 mm, automatic

FLOOR-STANDING MODELS

Ø 350 | 400
7-8 kW

Y X Z Z

BRILLANT 255

- Max. cutting capacity: Ø 150 mm
- Traverse cut: 365 mm, manual
- Chop cut: 170 mm, manual
- Cross feed (optional): 150 mm, manual / automatic

Ø 350 | 400
7 kW

Y X Z Z

Qcut 400 A

- Max. cutting capacity: Ø 150 mm
- Traverse cut: 345 mm, automatic
- Chop cut: 200 mm, automatic
- Cross feed (optional): 150 mm, manual / automatic

Ø 400 | 500
15 kW

Y X Z Z

Qcut 500 A

- Max. cutting capacity: Ø 190 mm
- Traverse cut: 420 mm, automatic
- Chop cut: 280 mm, automatic
- Cross feed (optional): 200 mm, automatic

Ø 500 | 600
15 kW

Y X Z

Qcut 600 A

- Max. cutting capacity: Ø 244 mm
- Traverse cut: 550 mm, automatic
- Chop cut: 360 mm, automatic
- Cross feed (optional): 550 mm, automatic

NEW

Ø 500 | 600
15 kW

Y X Z B C

Qcut 600 BDT

- Max. cutting capacity: Ø 244 mm
- Traverse cut: 550 mm, automatic
- Chop cut: 360 mm, automatic
- Cross feed: 550 mm, automatic
- B and C axis: up to max. 360° (patented)

Ø 600 | 800
30 kW

Y X Z

Qcut 800 A

- Max. cutting capacity: Ø 295 mm
- Traverse cut: 700 mm, automatic
- Chop cut: 450 mm, automatic
- Cross feed (optional): 700 mm, automatic

AT A GLANCE

Ø 400 | 500

PRODUCT SPECIFICATIONS

Cutting wheel diameter – in millimeters

15 kW

Drive power – in kilowatt

EASY NUT

The easy nut fastening system guarantees an effortless exchange of the cut-off wheels. The floor-standing machines Qcut 500 A to Qcut 800 A use a power lock nut to ensure an easy fastening of the cut-off wheels.

AXES

Y Manual axis drive

Y Manual or automatic axis drive

Y Automatic axis drive

Z Without Z axis

HOT MOUNTING PRESSES

FOR PERFECT MOUNTING OF MATERIALOGRAPHIC SAMPLES

MOUNTING DEVICES

HOT MOUNTING PRESSES

Ø 25.2 – 50
1200 W

Qpress 50

- Modular setup
- Max. number of pressing units: 2 or 4
- Molds: Ø 25.2 - 50 mm (6 different diameters)
- Closure system: Slide closure

Ø 25.2 – 40
2000 W

OPAL 410

- Mold: Ø 25.2 - 40 mm (6 different diameters)
- Closure system: Bajonet closure
- Double mounting possible

□30x60
□40x60
Ø 50-70
2520 W

OPAL 480

- Mold: Ø 50 mm / Ø 60 mm / Ø 70 mm rectangular 30 x 60 mm / 40 x 60 mm
- Closure System: Slide closure
- Double mounting possible

UV MOUNTING DEVICE

200 x 260

Qmount

- UV mounting in the shortest possible time (60 seconds)
- Highly efficient, long-life LED technology
- Up to 12 samples with a diameter of 40 mm
- Connectable suction unit (optional)

MOUNTING WITH FORMAT

QATM offers robust hot mounting presses, which offer different pressure- and temperature modes for the generation of almost gapless mounted samples.
A sufficient selection of cylindric and rectangular moulds is offered to the customer. Intuitive software and good ergonomics are further defining properties of our products.

QATM furthermore offers devices for cold mounting samples under UV irradiation. This enables the fast generation of transparent, mounted samples for standard applications. They offer long-lasting LED technology and simple control elements.

AT A GLANCE

PRODUCT SPECIFICATIONS

Ø 25.2 – 50
Mould size or max. sample area – in millimeters

1200 W
Heating capacity – in watt

ECO FUNCTION

The machine is equipped with an eco function, which strongly reduces the machine's water consumption.

GRINDING AND POLISHING MACHINES

SMART FEATURES FOR COMFORT AND SAFETY

GRINDING AND POLISHING MACHINES

PRE-GRINDING MACHINES

0.75 kW

Qgrind 100

- Dry/wet belt grinder
- Two grinding belts for different grain sizes
- Endless grinding belts: 100 x 920 mm
- Easy exchange of grinding belts

NEW

0,17 / 4 kW

Qgrind XL

- Powerful planar grinding machine for high sample throughput
- Reproducible results thanks to electronic force measuring system and automatic material removal measurement
- Automatic diamond dresser and optional cleaning station

MANUAL GRINDING AND POLISHING MACHINES

Ø 200

0.37 kW

Qpol 200 M

- Working wheels: Ø 200 mm
- Speed: 20 - 600 rpm, continuously adjustable
- Single wheel unit

Ø 200 / 250

0.55 kW

Qpol 250 M1/M2

- Working wheels: Ø 200/250 mm
- Speed: 30 - 600 rpm, continuously adjustable
- Single or twin wheel unit

MANUAL GRINDING AND POLISHING MACHINES

Ø 250 / 300

2x 0.75 kW

0.75 kW

Qpol 300 M1/M2

- Working wheels: Ø 250/300 mm
- Speed: 30 - 600 rpm, continuously adjustable
- Single or twin wheel unit
- Visualization of the current grinding force
- Timer function
- Automatic water valve

Qdoser ONE

- Dosing attachment for standard suspension bottles
- Adjustable dosing quantity
- Freely positionable using a tripod
- Screwable to polishing heads Qpol GO and ECO

Qdoser GO

- Automatic dosing unit
- Dosing interval adjustable
- Reverse rinsing function
- Optional single/automatic operation
- Suspension containers refillable and removable

OPTIMIZED SAMPLE PREPARATION

Grinding and Polishing are essential steps in sample preparation. The aim is a sample surface which is free of deformations and scratches - because this is the basic requirement for a correct evaluation under the microscope. Contrasting with an appropriate etchant is often required to make the structure visible.

AT A GLANCE

Ø 200 - 300 (Ø 50)

PRODUCT SPECIFICATIONS
Working wheel diameter, max. sample diameter single pressure in brackets - in millimeters.

15 kW

Drive power - in kilowatt

GRINDING AND POLISHING MACHINES

AUTOMATIC GRINDING AND POLISHING MACHINES

60 W

Qpol (Grinding and polishing head)

- Adjustable pressure (single pressure 5 – 45 N)
- Adjustable timer for preparation time
- Toolless sample holder clamping
- Single pressure: 4x Ø 40 mm
- Retrofittable on Qpol 250/300 M machines

Ø 200 – 250 (Ø 40)

0.18 / 0.55 kW

Qpol 250 A1/A2

- Working wheels: Ø 200/250 mm
- Programmable memory for reproducible results
- Single or twin wheel unit
- Single/central pressure: 6 samples Ø 40 mm

NEW

Ø 200 – 300 (Ø 50)

0.18 / 2x 0.75 kW

0.18 / 0.75 kW

Qpol 300 A1/A2

- Working wheels: Ø 250/300 mm
- Programmable memory for reproducible results
- Single or twin wheel unit
- Single/central pressure: 6 samples Ø 50 mm

NEW

Qdoser / Qdoser

- Automatic dosing unit
- Dosing interval adjustable
- Reverse rinsing function
- Suspension containers refillable
- Incl. accessories for installation in the Eco polishing head
- Auto-dosing for final polishing suspension, expandable to 1 L capacity (only Qdoser Eco+)

Ø 200 – 300 (Ø 50)

0.17 / 0.75 kW

0.17 / 2x 0.75 kW

SAPHIR 550 / RUBIN 520

- Working wheels: Ø 200/300 mm
- Single/central pressure: 6x Ø 50 mm
- Programmable memory for reproducible results
- Dosing system (optional): 6-fold
- Single or twin wheel unit

Ø 300 /350

0.75 / 2.2 kW

Qpol XL

- Working wheels: Ø 300/350 mm
- Central pressure: 50 – 750 N
- Programmable memory for reproducible results
- Integrated cleaning station (optional)
- Integrated modular dosing system (optional)

Ø 300

Qpol Vibro

- Polishing bowl: Ø 308 mm
- Vibration frequency: 60 - 120 Hz
- Pressure via weights for sensitive samples
- Programmable memory for reproducible results
- Customized sample holders

COMPACT GRINDING AND POLISHING ROBOTS

Ø 250

Qpol 250 BDT

- Working wheels: Ø 250 mm
- Central pressure: 20 – 350 N
- Changer for 16 grinding and polishing media
- Dosing system: 6-fold, incl. fine polishing suspension
- Cleaning station and ultrasonic cleaner
- Integrated settling tank

Ø 300

Qpol 300 BDT

- Working wheels: Ø 300 mm
- Central pressure: 50 – 450 N, adjustable
- Foil changer station
- Dosing system: 6-fold, incl. fine polishing suspension
- Storage for up to 10 sample holders
- Individual configuration

ELECTROLYTIC POLISHER AND ETCHER

Qetch 1000

- Current & voltage diagram in real time
- Automated temperature control of electrolytes
- Connection for a second electrolytic tank (optional)
- Memory for up to 200 programs (password-protected)

Qetch 100 M

- Portable unit for electrolytic polishing and etching
- Independent of the mains supply
- Low-weight, high-performance batteries
- Replaceable tank for electrolytes
- Integrated manual grinder (optional)
- Aluminium housing with strong carrier grip and shoulder strap

AUTOMATIC GRINDING AND POLISHING MACHINES

With the semi-automatic grinding and polishing machines both single and central pressure can be applied. The central pressure allows grinding and polishing of embedded, unembedded and oversized specimens. In combination with a removal measurement, grinding can be done automatically to a defined sample height if required. With single pressure, up to six samples (depending on sample holder) of different sizes can be processed in one sample holder by pressing on individual plungers.

ELECTROLYTIC POLISHING AND ETCHING

In electrolytic polishing and etching, an electrochemical process is used to contrast phase boundaries under the light microscope. This process often saves mechanical grinding and polishing steps.

VICKERS, BRINELL, KNOOP & ROCKWELL

AUTOMATED HARDNESS TESTERS – HIGH PRECISION AND INTUITIVE OPERATION

HARDNESS TESTERS

MICRO HARDNESS TESTERS

Qness 10/30/60 CHD MASTER+

- Test force range: 0.25 g – 62.5 kg
- Test methods: Vickers, Knoop, Brinell
- Fully automatic, economical and up-to-date hardness testing
- 6-position tool changer
- XY slide
- Camera for samples, automated testing of multiple samples

Qness 60 M EVO

- Test force range: 0.25 g – 62.5 kg
- Test methods: Vickers, Knoop, Brinell
- Semiautomatic hardness testing and microscopy
- 8-position tool changer
- Manual XY movable cross table for simple hardness traverse measurements

Qness 60 A EVO

- Test force range: 0.25 g – 62.5 kg
- Test methods: Vickers, Knoop, Brinell
- Fully automated hardness testing and microscopic analysis
- 8-position tool changer
- Very precise XY-cross table
- Unique 3D positioning features

Qness 60 A+ EVO

- Test force range: 0.25 g – 62.5 kg
- Test methods: Vickers, Knoop, Brinell
- Fully automated hardness testing and microscopic analysis
- 8-position tool changer
- Very precise XY-cross table
- Unique 3D positioning features
- Integrated sample camera for unique ease of use

Qness 60 A+ EVO PORTAL

- Test force range: 0.1 kg – 62.5 kg
- Test methods: Vickers, Knoop, Brinell
- 8-position tool changer
- As a portal solution the Qness 60 EVO offers unique movements and new possibilities in micro/low load hardness testing
- X 500 / Y 500 / Z 300 mm

ROCKWELL HARDNESS TESTERS

Qness 150 CS ECO

- Test force range: 1 kg – 250 kg
- Test methods: Rockwell, HVT, HBT
- Classic concept – new defined
- A flexible solution for easy Rockwell hardness testing
- 7" full-color touch display

NEW

Qness 150 CSA/CSA+ ECO

- Test force range: 1 kg – 250 kg
- Test methods: Rockwell, HVT, HBT
- Fully automatic, economical and up-to-date hardness testing
- XY slide
- Unique 3D control functions
- CSA+ version with integrated sample image camera

Qness 150 R

- Test force range: 1 kg – 250 kg
- Test methods: Rockwell, HVT, HBT
- Extremely versatile
- 10.1" full-color touch display
- Integrated workspace lighting

Qness 150 RCS

- HRA, HRC or HBT
- Very fast Rockwell hardness testing
- Cycle times down to 2 seconds

ONLINE PRODUCT CONFIGURATOR

For more equipment and accessories go to the online product configurator at www.qatm.com

Online configurator ›

AUTOMATIC EXPORT FUNCTIONS

Many professional export features are included in the standard.

CALIBRATION MANAGER

The QATM Calibration Manager has an automated feature for mandatory verification of the hardness tester using suitable testing plates.

QCONNECT

Qconnect is the software interface of the Qness Qpix Control2 software.

VERDER IOT PLATFORM

Networking of all devices in the Verder IoT Cloud environment.

- Virtual laboratory
- Status of devices
- Retrieval of measurement data

HARDNESS TESTERS

MACRO HARDNESS TESTERS

NEW

Qness 200 CS

- Test force range: 0.5 – 187.5 kg
- Test methods: Rockwell, Vickers, Knoop, Brinell
- 5-position tool changer
- Classic concept – new defined
- Economical hardness testing

NEW

Qness 200 CSA/CSA+

- Test force range: 0.5 – 187.5 kg
- Test methods: Rockwell, Vickers, Knoop, Brinell
- 5-position tool changer
- Fully automatic, economical and up-to-date hardness testing
- XY slide
- CSA+ version with integrated sample image camera

Qness 250/750/3000 C/CS

- Test force range: 0.3 – 3000 kg
- Test methods: Rockwell, Vickers, Knoop, Brinell
- 8-position tool changer
- Classic concept – new defined
- Ideal for small parts

Qness 250/750/3000 M/E

- Test force range: 0.3 – 3000 kg
- Test methods: Rockwell, Vickers, Knoop, Brinell
- 8-position tool changer
- Variant M
  - Manual adjustable (z-axis) testing head
  - Well suited for big parts
- Variant E
  - Motorized testing head positioning
  - Suited for a wide range of part sizes and high preload foces

Qness 250/750/3000 A/A+

- Test force range: 0.3 – 3000 kg
- Test methods: Rockwell, Vickers, Knoop, Brinell
- 8-position tool changer
- High precision XY slide
- Fully automated testing of serial parts
- Protective housing with light grid
- Unique 3D control functions
- Integrated sample image camera for unique operating comfort

SOFTWARE FOR HARDNESS TESTING AND ANALYSIS

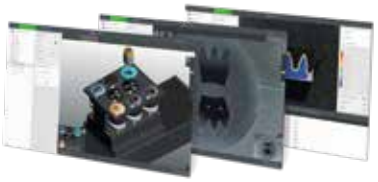
Qpix T2

- Large 12“ touchscreen user interface
- Fully automated image analysis
- Full screen mode

OPTION

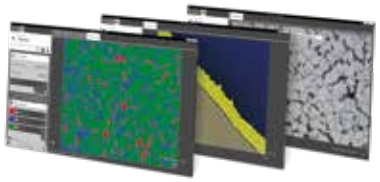
Qpix CONTROL2 M

- Clearly structured batch management
- Effective report template feature
- Comprehensive data management
- Data import and export functions



Qpix CONTROL2

- Innovative 3D operation concept
- Professional generation of fully automated testing routines
- Comprehensive data management
- Data import and export functions



Qpix INSPECT
SOFTWARE MODULE

- INSPECT phase analysis
- INSPECT layer thickness measurement
- INSPECT grain size measurement
- INSPECT weld seam measurement

CUSTOMIZED SOLUTIONS

Qness 60 A+ Sample Disc

- Grinding, polishing and hardness testing in one sample holder
- Sample holder is compatible with the grinding and polishing machine Qpol XL

Qness 3000 A+ 1000 mm cross table

- Automated serial testing on the 1000 mm cross table
- Robust industrial design
- Data connection to primary customer systems

Qradial 60 kg - 3000 kg

- Fully automated Brinell/Rockwell hardness tester
- Integrated test point preparation (milling device)

OPTICAL ANALYSIS

NEW

Qeye 800

- Fast, high-resolution and efficient optical analysis and measurement of specimens
- Innovative LED analysis area illumination
- 8.5 megapixel color camera system
- 20x optical zoom
  35x combined zoom (optical and digital)

NEW

Qpix CONTROL Inspect Vision System

- Fast, high resolution and efficient for optical analysis and measurement of samples for microscopic evaluation
- Compatible with reflected light and/or stereo microscopes

Qmobile

- Mobile image analysis of existing Brinell indentations

QUALITY, FLEXIBILITY,
FUNCTIONALITY & DESIGN

LABORATORY FURNITURE SYSTEM

LABORATORY FURNITURE

SYSTEM LABORATORY FURNITURE

Laboratory planning

- The QATM 3D Lab software is used for generating blueprints of customer specific machine- and laboratory-layouts. They are visualized in a realistic, three-dimensional format.

Customized laboratory furniture

The laboratory furniture system combines QATM quality with a flexible modular system.

- Base, corner and end cabinets
- Wall units and shelves
- Doors, liner bases, integrated media bars
- Worktop surfaces
- Installations e.g. recirculatory cooling unit, safety storage cabinet, inset sink or waste collectors

NEW

Laboratory tables and desks

Configure you perfect working place with solutions from the extensive QATM laboratory furniture assortment.

Laboratory tables:

- Very robust and durable construction
- Passive vibration damping (optional)

Desks:

- Electric or manual height adjustment
- Integrated cable management

MISCELLANEOUS LABORATORY FURNITURE

Heavy-duty shelvings or cabinets

- Heavy-duty shelving or cabinets are a useful addition to our cutting-machines. Their durable and robust design make them an ideal storage for heavy sample materials and clamping devices.

Safety cabines for acids and bases

- Safety cabinets for the storage of acids, bases and other hazardous substances. With integrated system ventilation monitoring system. They are designed for laboratory use and comply with the regulations for the safe storage of flammable substances, acids and bases.

Fume Cupboard

- The system fume cupboard is designed for the use in a materalographic laboratory and follows the design rules of the laboratory furniture system. It fulfills the requirements of DIN EN 14175 and is suited for other applications as well.

COMPLETELY FURNISHED LABORATORIES

QATM offers customized solutions for your needs. From single machines to fully equipped laboratory container everything is possible. All used parts are designed for easy and clean disposal.

The laboratory furniture system combines QATM quality with a flexible, modular system. Based on a standardized aluminium module, each cabinet element can be fitted with doors, drawer inserts and other installations. The benchtop can also be fitted to customer needs. The cabinet elements have screw connections. QATM offers an on-site assembly service.

THE FULL SCOPE

We supply the consumables you need for your preparation process.
The portfolio is perfectly adjusted to our machines.

EXPERT GUIDE MATERIALOGRAPHY/ METALLOGRAPHY

- Guide for materialographers and beginners
- Tips & Tricks
- Artefacts avoidance
- From sampling to the finished cut

Qprep CONSUMABLES

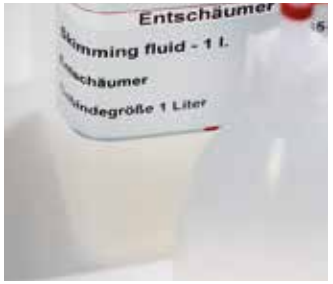
EVERYTHING FOR CUTTING, MOUNTING, GRINDING, POLISHING, ETCHING, ANALYZING AND HARDNESS TESTING

- Corundum cut-off wheels

- CBN cut-off wheels

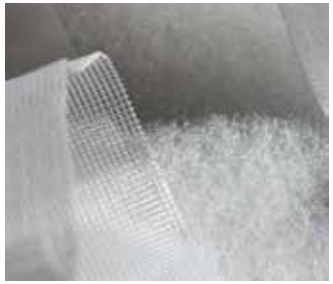
- Diamond cut-off wheels

- Diamant-pot wheels



- Anti-corrosion coolants

- Accessories and additives for anti-corrosion coolants



- Filter accessories for recirculatory cooling units

- Mounting accessories

- Hot mounting materials

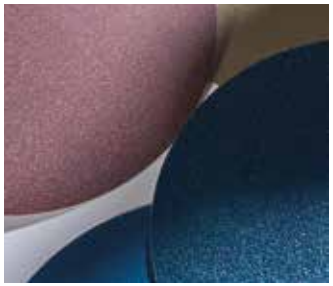
- Cold mounting materials

- Infiltration unit

- Cold mounting molds

Solution Boxes

Diamond grinding discs
SiC grinding discs



Diamond grinding foils

Adhesive carrier

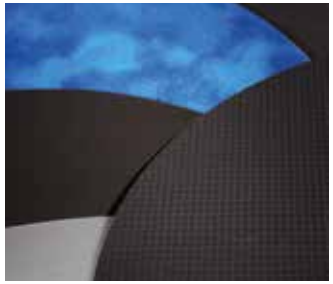
Alumina grinding foils

SiC grinding papers

Grinding belts

Diamond suspensions

Diamond pastes

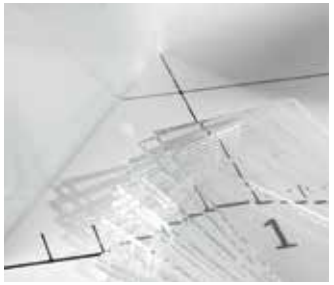


Polishing cloths

Desiccator cabinet

Etchants

Miscellaneous laboratory accessories



Accessories for microscopy

Hardness test blocks and indenters

QATM
QUALITY ASSURED

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PREMIUM QUALITY
MADE IN GERMANY

AUSTRIA TECHNOLOGY WIZARDS

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VERDER scientific

VERDER SCIENTIFIC

SCIENCE FOR SOLIDS

Verder Scientific is a business field belonging to the Verder Group and sets standards in the development, manufacture and sale of laboratory and analytics devices. Used in quality control, research and development for test-piece preparation and the analysis of solids.

For several decades our companies have supplied production plants and research institutes, laboratories for quality testing and analytics, all kinds of technical specialists and scientists with modern, reliable devices to solve the many and varied challenges they face.

CARBOLITE GERO 30-3000°C
ELTRA
Retsch
QATM
MICROTRAC MRB