

Quality Made in Germany since 1924



Flexible metal working with ARTIFEX

We create perfect surfaces.

Flexible metal working with ARTIFEX

ARTIFEX - YOUR METAL WORKING PARTNER

You have the surfaces - we take care of the finish

Our tools can be applied in virtually all areas of metal working

Manual or mechanical processes

Our wheels go far beyond vitrified grinding tools

Contrary to abrasive belts, they can also be used to finish hard to reach surfaces



Flexible metal working with ARTIFEX

ELASTIC GRINDING AND POLISHING

ARTIFEX tools adapt perfectly to the geometry of the workpiece

Remove the roughness peaks

Increasing the material contact area and reduce the roughness depth - to $< 1 \mu\text{m}$ (Rz)

The open-pored structure ensures cool grinding and prevents clogging of the tool

SPECIAL ADVANTAGES

Dressing and profiling with conventional tools

Dry or with water, emulsion or oil

Self-dressing effect

Constant finish

Our tools require higher infeed than common vitrified products



Flexible metal working with ARTIFEX

YOUR REQUIREMENTS

Tools for hard to reach surfaces

Tools for sensitive surfaces

Our research department develops

Our products are as flexible in application as your requirements are individual

High quality

Accelerate production processes

Increase economic efficiency



Flexible metal working with ARTIFEX

YOUR SURFACES

Sophisticated processes like the manufacture of surgical instruments | jewellery or watches | precision mechanics | electronics | optics up to the machining of heavy-duty turbine blades

World wide use in steel mills | mould design and construction | automotive industry | medical engineering industry | food and pharmaceutical industry

YOUR MATERIALS

Steel | High alloy steel | Hardened steel | Hard metal | Aluminium | Non-ferrous metal | precious metal | Sintered metal | Cast iron | Plastic | Wood | Technical ceramics



Flexible metal working with ARTIFEX

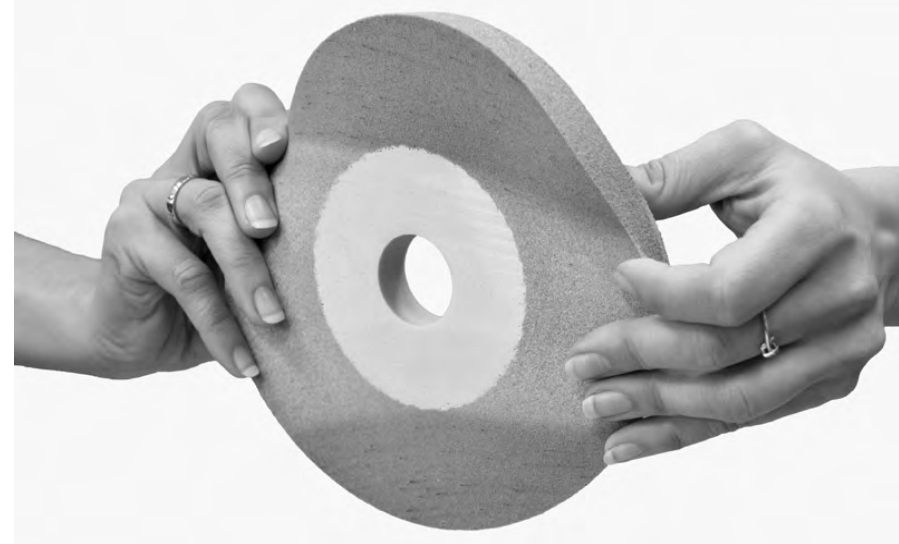
ELASTIC - FLEXIBLE - POWERFUL

Silicon carbide or aluminium oxide are flexibly embedded in elastic materials, such as foamed polyurethane (Product range P) or rubber (Product range Rplus).

Our grinding and polishing tools are sponge-soft, finely porous or hard

Always elastic

Depending on the application, the specifically matched composition of grain and bonding results in the desired finish



Flexible metal working with ARTIFEX

POLYURETHANE SYSTEM

Composition of the polymer chain determines the properties

Polyurethane is a ,toolbox' with many different raw materials

Mixing of the binder liquids with the abrasive grains

Moulding and hardening

Operating temperatures from room temperature until decomposition at 300 °C



Flexible metal working with ARTIFEX

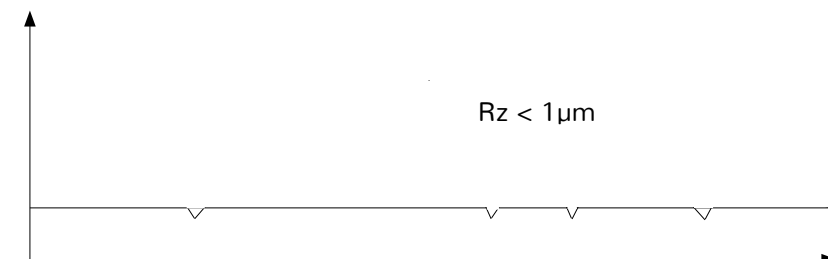
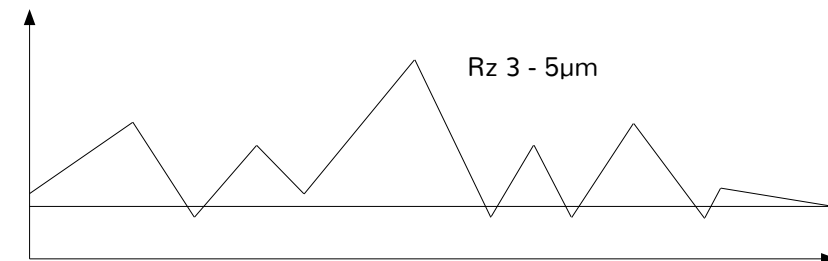
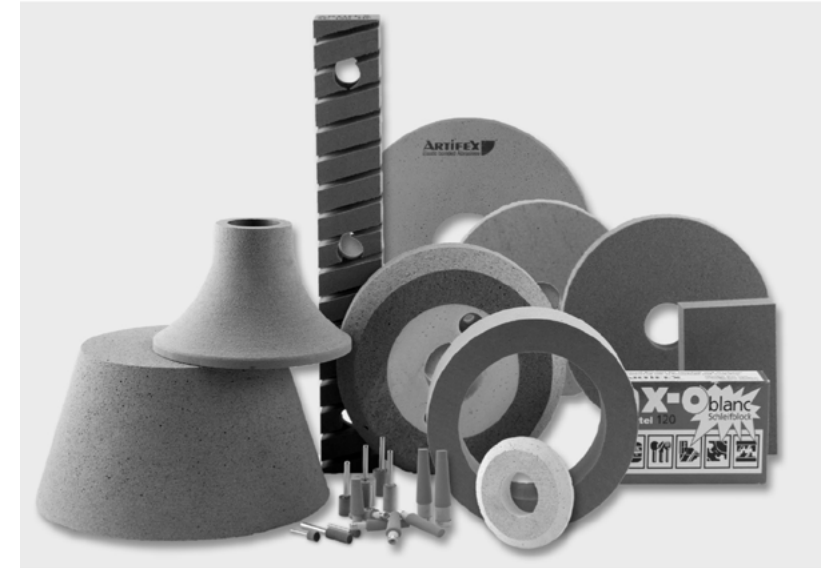
PROGRAMM RANGE P

Product : ARTIFEX SC - WP
Bonding : Foamed Polyurethane
Hardness: W (soft)
Grit size : Silicon carbide F46 | F80 | F150 | F250

Product : ARTIFEX SC - MP
Bonding : Foamed Polyurethane
Hardness : M (medium)
Grit size : Silicon carbide F46 | F80 | F150 | F250 | F400

Produkt : ARTIFEX SC - HP
Bonding : Foamed Polyurethane
Hardness : H (hard)
Grit size : Silicon carbide F24 | F46 | F80 | F150 | F250

Produkt : ARTIFEX EK - MFP
Bonding : Foamed Polyurethane
Hardness : M (medium)
Grit size : Aluminium oxide F120 | F240 | F400 | F600 | F800



Flexible metal working with ARTIFEX

WHEN TO USE PRODUCTRANGE P

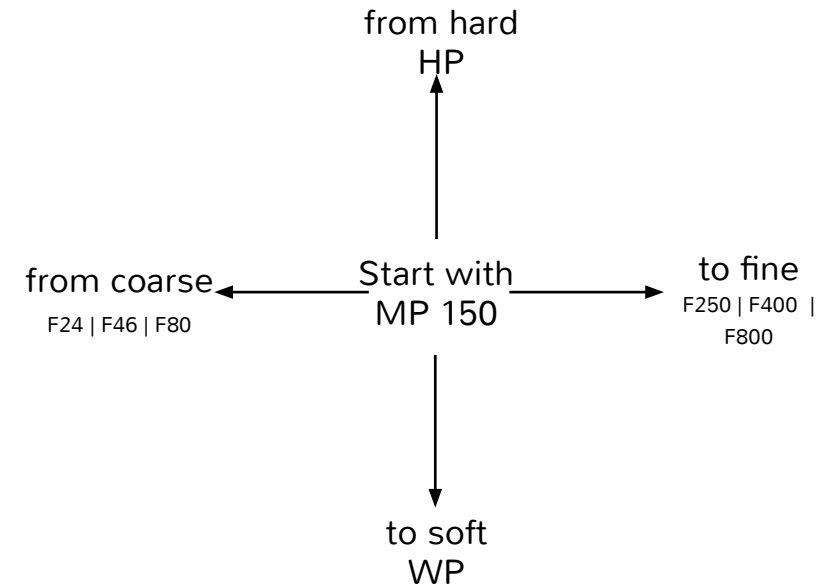
Specialty: High flexibility
Cool grinding
No clogging of the tool even in heavy duty applications
No geometric changes
Cutting of the peaks of the roughness profile
Low risk of grinding burns

MAIN APPLICATION FIELD | EXPAMPLES

Matting, satining and polishing of jewellery with SC 150 MP

Cleaning and polishing of circular saw blades with NK 80 HZP

Polishing of stainless steel pots with SC 150 HP



RUBBERSYSTEM

Nitrile rubber (NBR)

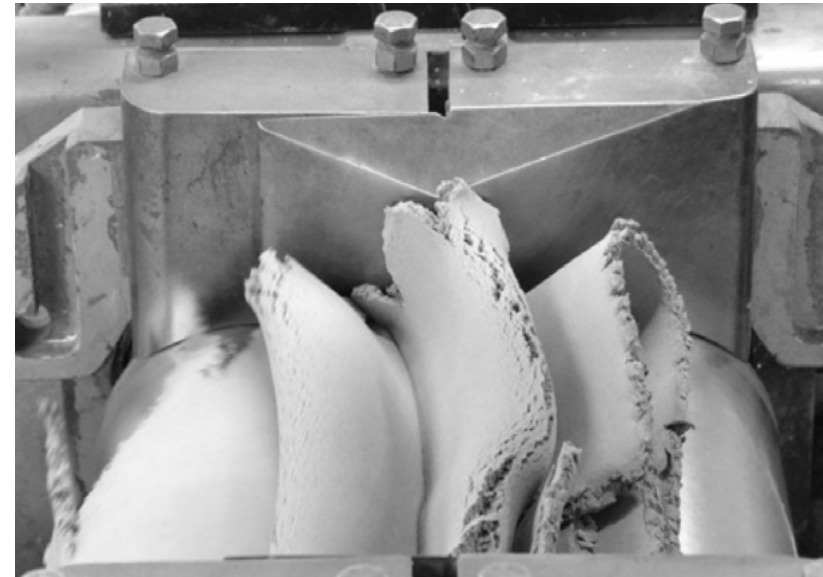
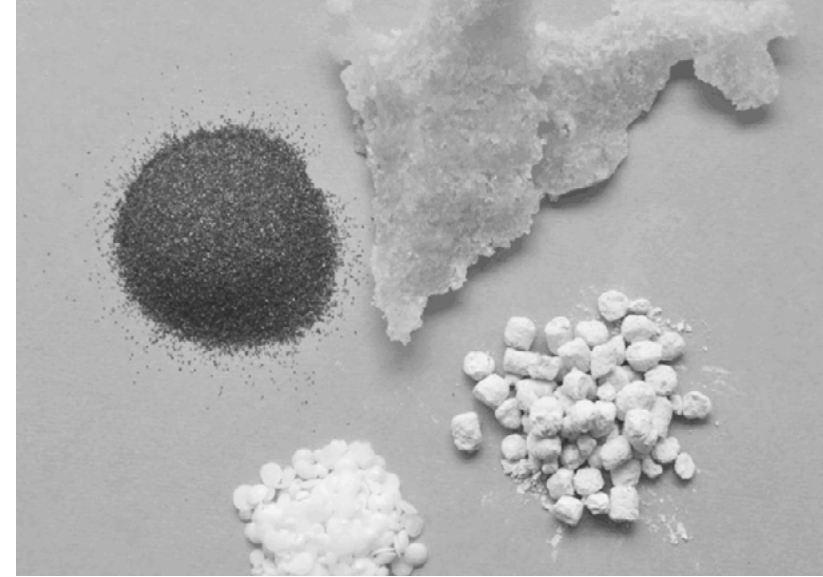
Production on roller mills

Abrasive grains and chemicals are milled into the rubber

Vulcanisation with Sulfur, accelerators and other chemical aids

Vulcanisation in heated presses or ovens

Operating temperatures from room temperature until decomposition at 400° C



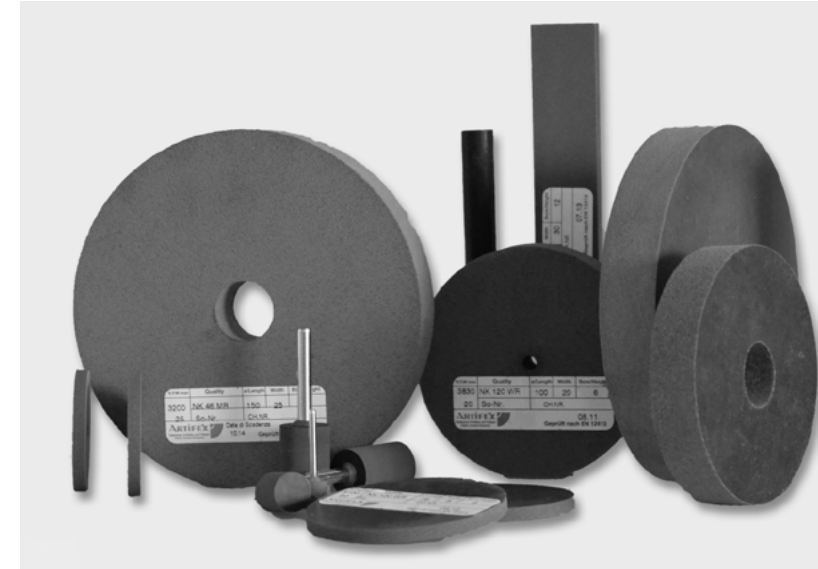
Flexible metal working with ARTIFEX

PROGRAMM RANGE RPLUS

Product : ARTIFEX NK-WRplus
Bonding : Vulcanized Rubber
Hardness : W (soft)
Grit size : Aluminium oxide
F46 | F80 | F120 | F240 | F400

Product : ARTIFEX NK-MRplus
Bonding : Vulcanized Rubber
Hardness : M (medium)
Grit size : Aluminium oxide
F46 | F80 | F120 | F240 | F400

Product : ARTIFEX NK-HRplus
Bonding : Vulcanized Rubber
Hardness : H (hard)
Grit size : Aluminium oxide
F46 | F80 | F120 | F180 | F240



Flexible metal working with ARTIFEX

WHEN TO USE PRODUCTRANGE RPLUS

Specialty : High cutting power
Stability in form
Long life span of the tool
High material removal rate

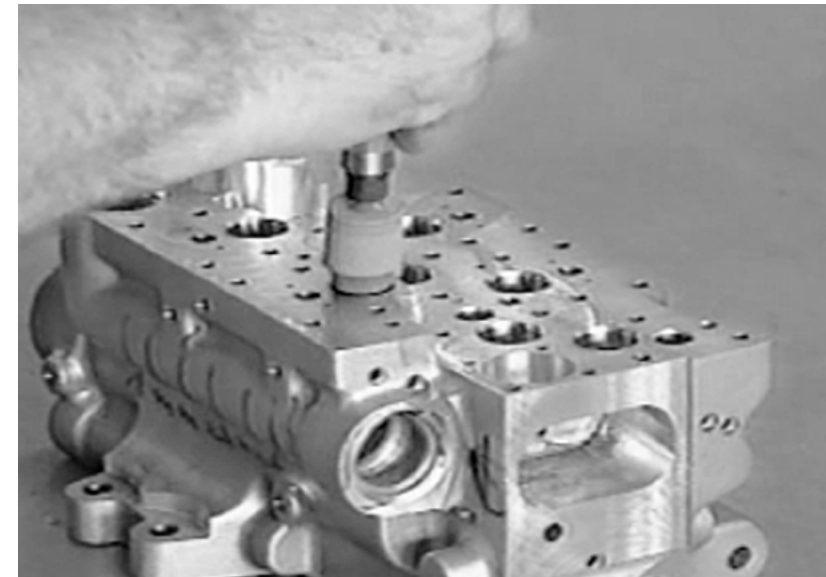
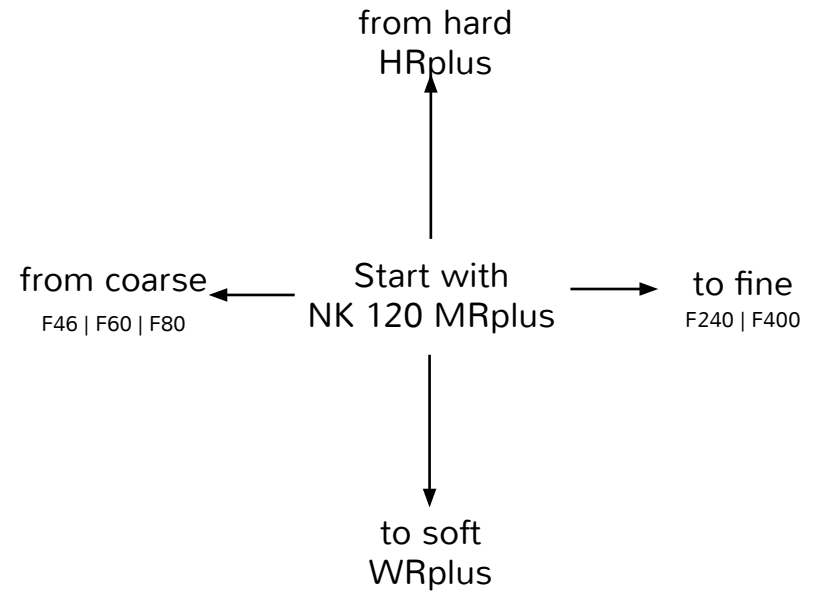
MAIN APPLICATION FIELD | EXAMPLES

Preferred as mounted points

Deburring and polishing
of bore holes on engine blocks with NK 80 MRplus

Polishing
of tooth implants with NK 120 MRplus

Dressing and polishing
of welding joints in stainless steel pipes with NK 46 HR-
plus



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Our tools
Abrasives | Bonding | Delivery forms

Mounted points for a wide range of applications

TOOL

Product : ARTIFEX SC - MP | SC - HP
For details see application sheet

Advantages: High flexibility | Cool grinding |
No clogging of the tool even in
heavy duty applications

WORKPIECES

Moulds | Castings | Engine blocks | Glass frames |
Pump bodies | Jewellery | Watches |
Medical instruments | Implants a. o.

MATERIAL

Steel | Stainless steel | Non-ferrous metals | Cast
iron | Plastics

MACHINES

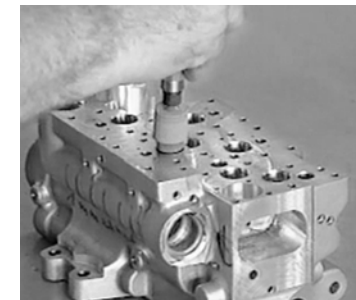
Electrically and air powered handheld machines

PROCESS PARAMETER

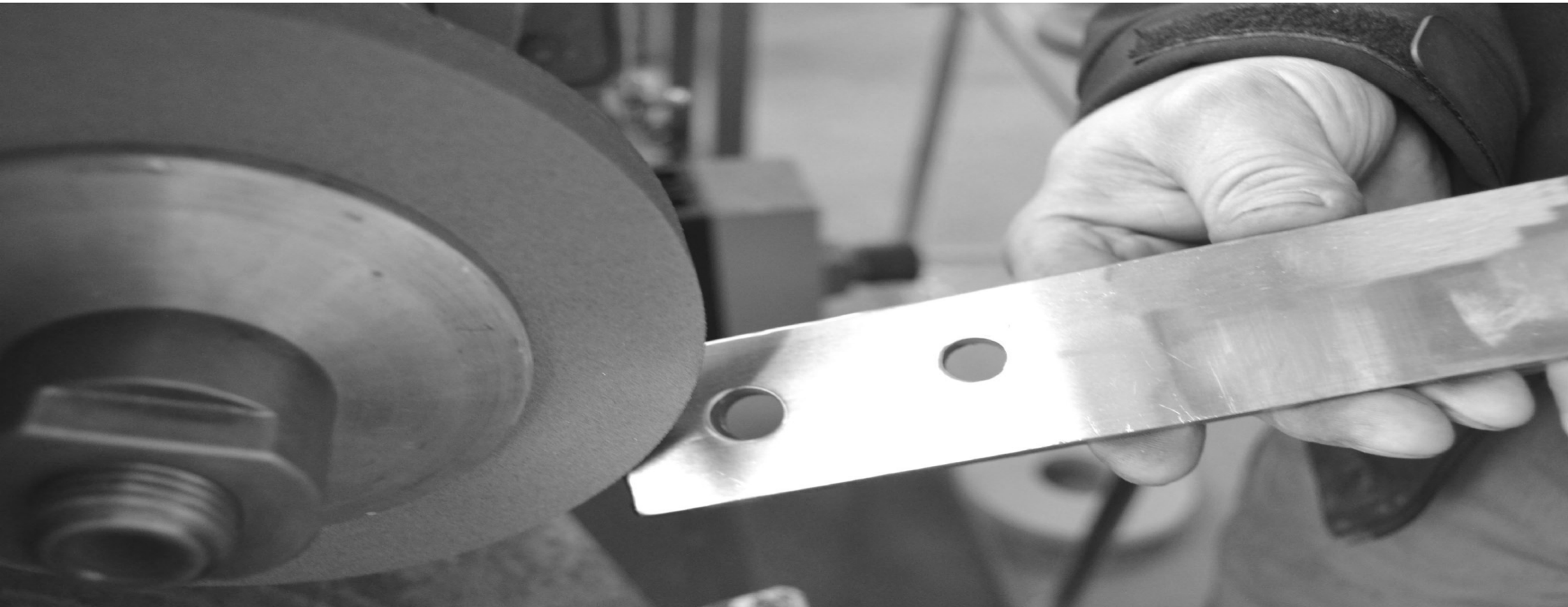
Manual | Dry

APPLICATIONS

Deburring | Rounding | Cleaning | Polishing |
Finishing | Grinding



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Manual operations

POLISHING OF ARTIFICIAL TEETH

TOOL

Product : ARTIFEX NK 120 MRplus
Bonding : Vulcanized rubber
Hardness : M (medium)
Grit size : Aluminium oxide F120



DEBURRING AND POLISHING OF GLASS FRAMES

TOOL

Product : ARTIFEX SC 250 MP
Bonding : Foamed Polyurethane
Hardness : M (medium)
Grit size : Silicon carbide F250



DEBURRING AND POLISHING OF MEDICAL TWEEZERS

TOOL

Product : ARTIFEX SC 150 MP or
ARTIFEX SC 250 MP
Bonding : Foamed Polyurethane
Hardness : M (medium)
Grit size : Silicon carbide F150 | F250



DEBURRING AND POLISHING OF MEDICAL SCISSORS

TOOL

Product : ARTIFEX SC 150 MP or
ARTIFEX SC 250 MP
Bonding : Foamed Polyurethane
Hardness : M (medium)
Grit size : Silicon carbide F150 | F250



Artificial joints

ARTIFICIAL JOINTS FOR HIP AND KNEE REPLACEMENT SURGERY ARE HIGH PRECISION MEDICAL PRODUCTS

Their surfaces need to be perfectly polished in order to function for a life time.

TOOL

Product: ARTIFEX SC 150 MP or
ARTIFEX SC 250 MP
Bonding : Foamed Polyurethane
Hardness : M (medium)
Grit size : Silicon carbide F150 | F250

DELIVERY FORMS

Peripheral wheels
Mounted Points



DEBURRING AND POLISHING OF METAL WATCH STRAPS

TOOL

Product : ARTIFEX SC 46 WP
Bonding : Foamed Polyurethane
Hardness : W (soft)
Grit size : Silicon carbide F46

DELIVERY FORMS

Peripheral wheels
Mounted Points
Blocks
Plates



DEBURRING | SATIN FINISHING | MATT FINISHING | POLISHING AND FINE POLISHING OF FINGER RINGS OF GOLD

TOOL

Product : ARTIFEX SC 150 MP or
ARTIFEX SC 250 MP
Bonding : Foamed Polyurethane
Hardness : M (medium)
Grit size : Silicon carbide F150 | F250

FINE FINISHING OF PRECIOUS JEWELLERY

Product : ARTIFEX SC 46 MP and K 400 MP

FINE POLISHING OF VARIOUS FASHION JEWELLERY

TOOL

Product : ARTIFEX SC 46-250 HP
ARTIFEX NK 46-180 MR/HR Plus

DELIVERY FORMS

Fingerring cones | Mounted points | Peripheral wheels
Blocks | Plates and rods



POLISHING OF CUTLERY

TOOL

Product : ARTIFEX K 400 MP
Bonding : Foamed Polyurethane
Hardness : M (medium)
Grit size : Silicon carbide F400

DEBURRING, POLISHING AND SHARPENING OF BUTCHERS KNIVES

TOOL

Product : ARTIFEX K 400 MP
Bonding : Foamed Polyurethane
Hardness : M (medium)
Grit size : Silicon carbide F400



POLISHING OF FLUTES ON DRILLS

TOOL

Product : ARTIFEX SC 46 HP
Bonding : Foamed Polyurethane
Hardness : H (hard)
Grit size : Silicon carbide F46



RADIUSSING OF TUNGSTEN CARBIDE INSERTS

TOOL

Product : ARTIFEX SC 80 MWP3
Bonding : Foamed Polyurethane
Hardness : M (medium)
Grit size : Silicon carbide F80

Planetary wheels on machines made
by Peter Wolters GmbH in Rendsburg, Germany



CLEANING AND POLISHING OF MOULDS

TOOL

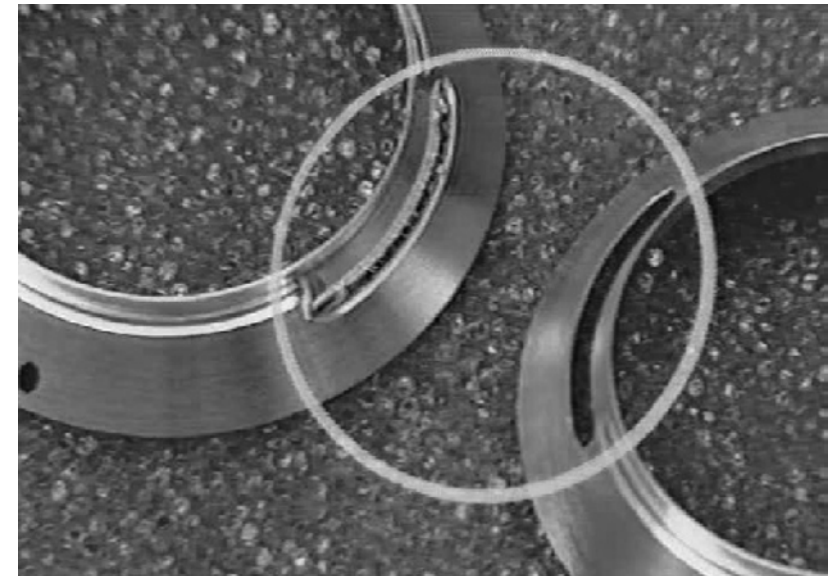
Product : ARTIFEX NK 120 MRplus
Bonding : Vulcanized rubber
Hardness : M (medium)
Grit size : Aluminium oxide F120



DEBURRING OF MACHINE PARTS

TOOL

Product : ARTIFEX NK 120 MRplus or
ARTIFEX NK 180 MRplus
Bonding : Vulcanized rubber
Hardness : M (medium)
Grit size : Brown Aluminium oxide F120 | F180



DEBURRING AND POLISHING OF PISTON RINGS

TOOL

Product : ARTIFEX SC 250 HP
Bonding : Foamed Polyurethane
Hardness : H (hard)
Grit size : Silicon carbide F250

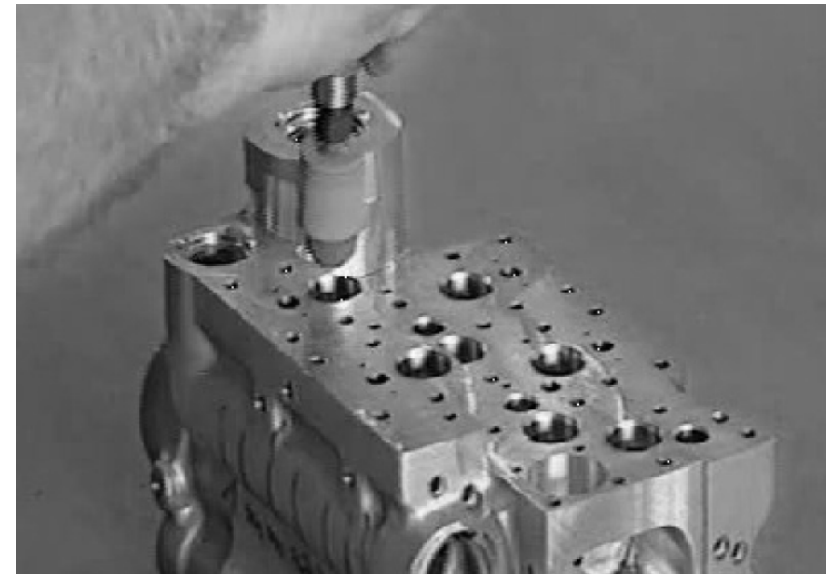
Product : ARTIFEX NK 180 MRplus
Bonding : Vulcanized rubber
Hardness : M (medium)
Grit size : Aluminium oxide F180



DEBURRING AND POLISHING OF BORE HOLES ON ENGINE BLOCKS

TOOL

Product : ARTIFEX SC 150 MP
Bonding : Foamed Polyurethane
Hardness : M (medium)
Grit size : Silicon carbide F150



POLISHING OF STAINLESS STEEL SHEETS

TOOL

Product : ARTIFEX SC 150 MP
Bonding : Foamed Polyurethane
Hardness : M (medium)
Grit size : Silicon carbide F150

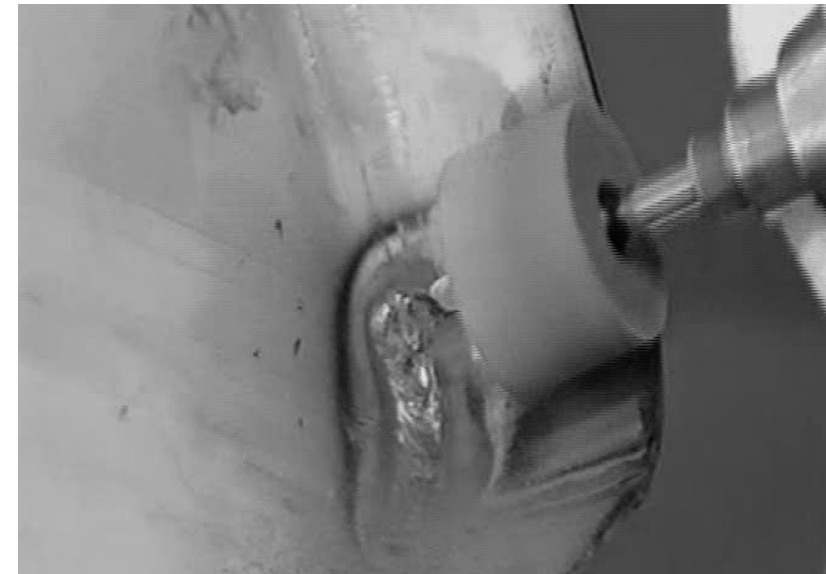
Delivery form : Polydiscs on fibre glass backing



DRESSING OF WELDING JOINTS

TOOL

Product : ARTIFEX NK 46 HRplus or
ARTIFEX NK 80 HRplus
Bonding : Vulcanized rubber
Hardness : H (hard)
Grit size : Aluminium oxide F46 | F80



Pipe Construction

DRESSING OF WELDING JOINTS IN PIPES,
I.E. STAINLESS STEEL PIPES FOR FOODSTUFFS

MACHINE

Flexible Shaft machine

TOOL

Product : ARTIFEX SC 80 WP
Bonding : Foamed Polyurethane
Hardness : W (soft)
Grit size : Silicon carbide F80



Ski Sticks

FINISHING SKI AND NORDIC WALKING STICKS
MADE OF ALUMINUM PRIOR TO ANODISING

MACHINE

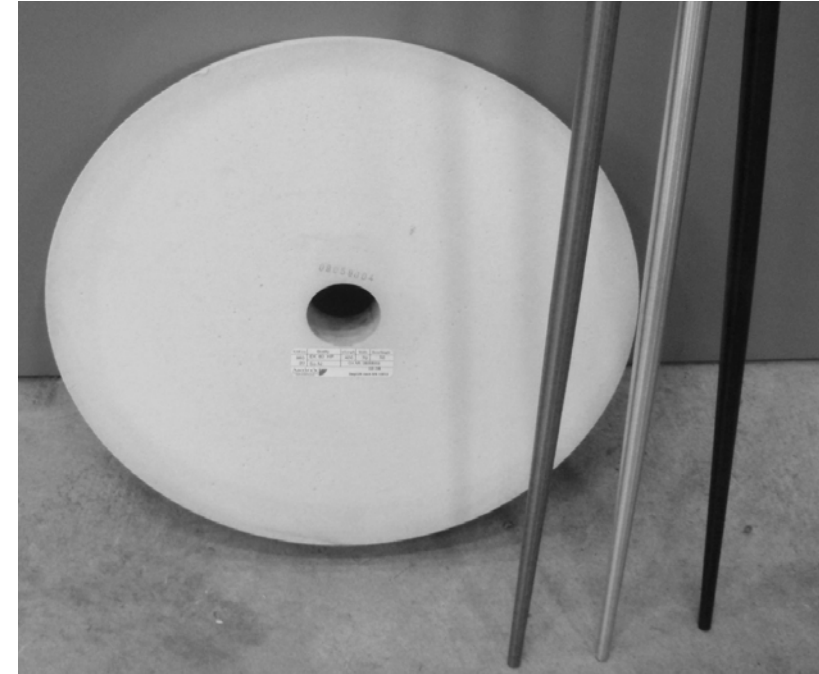
Centerless grinding machines

TOOL

Product : ARTIFEX EK 60 HP
Bonding : Foamed Polyurethane
Hardness : H (hard)
Grit size Aluminium oxide F60

DELIVERY FORM

Peripheral wheels
Dimension : \varnothing 400 x 70 x 50.00 mm



CLEANING AND POLISHING OF EXTRUDER SCREWS

MACHINE

Variable speed angle grinder

TOOL

For normal screws

Product : ARTIFEX SC 46 MP

Bonding : Foamed Polyurethane

Hardness : M (medium)

Grit size : Silicon Carbide F46

For case-hardened screws

Product : ARTIFEX SC 46 HP

Bonding : Foamed Polyurethane

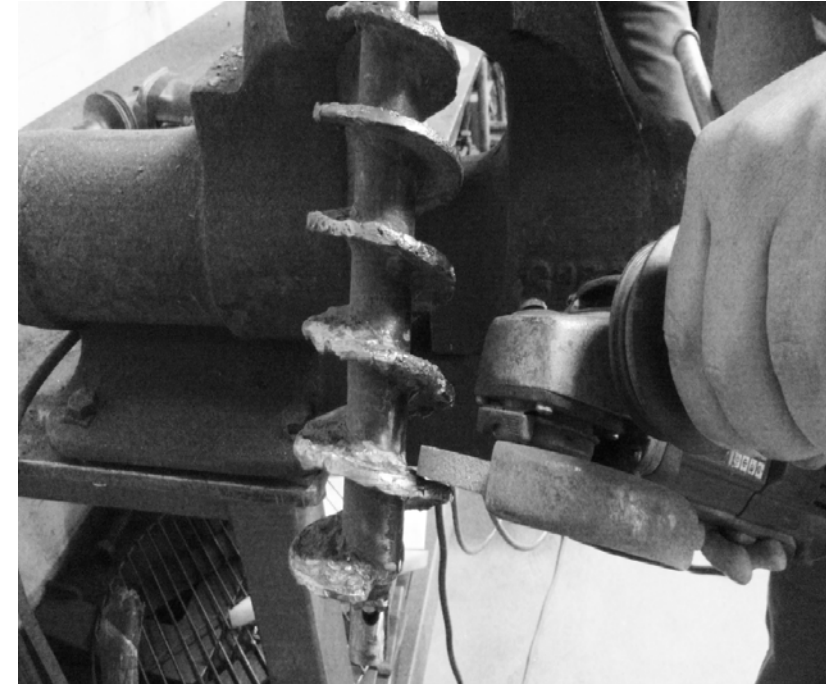
Hardness : H (hard)

Grit size : Silicon carbide F46

DELIVERY FORM

Peripheral wheels

Dimension : \varnothing 110 x 10 x 22.00 mm



DESCALING, REMOVAL OF RUST AND PAINT

TOOL

Product : ARTIFEX SC 24 HP
Bonding : Foamed Polyurethane
Hardness : H (hard)
Grit size : Silicon carbide F24

DELIVERY FORM

Peripheral wheels



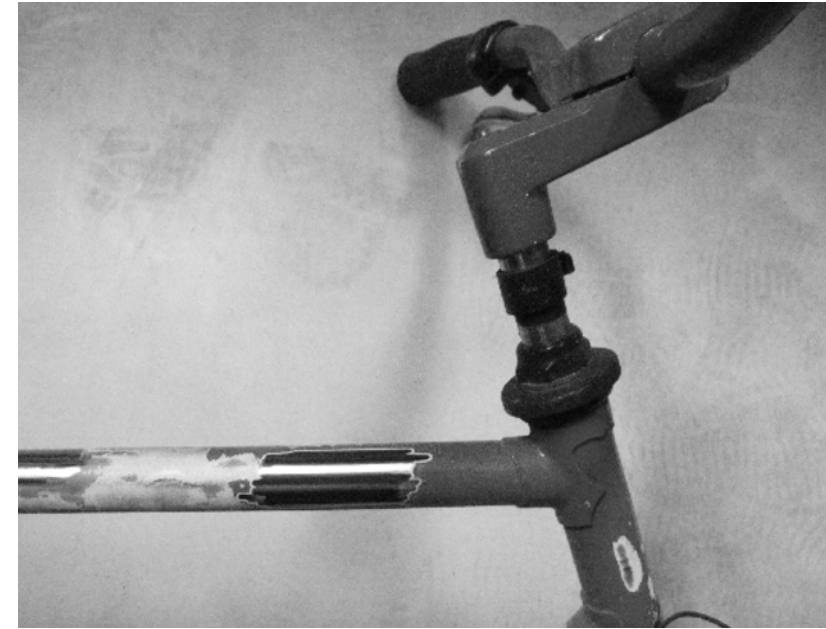
DESCALING, REMOVAL OF RUST AND PAINT

TOOL

Product : ARTIFEX SC 24 HP
Bonding : Foamed Polyurethane
Hardness : H (hard)
Grit size : Silicon carbide F24

DELIVERY FORM

Poly disc on fibre glass backing



SEWER CAMERAS need wheels that have a special shape in order to run smooth on a round wall inside of a pipe.

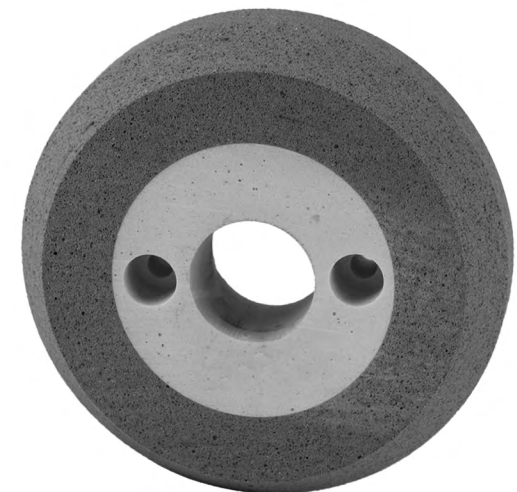
The wheels need to stand all kinds of corrosive fluids inside the sewage water.

They also need to have a perfect grip on slickery algy covered ground.

TOOL

Product : ARTIFEX SC 24 HP
Bonding : Foamed Polyurethane
Hardness : H (hard)
Grit size : Silicon carbide F24

Specially designed for each camera type
Long live time
Perfect grip for every type of camera



FINISHING OF STAINLESS STEEL POTS

TOOL

Product : ARTIFEX SC 150 HP
Bonding : Foamed Polyurethane
Hardness : H (hard)
Grit size : Silicon carbide F150

Specially designed cup wheel for polishing the inside of stainless steel pots



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Polishing of Jewellery

Polishing of Jewellery

WORKPIECES

Watches | Watchstraps | Finger rings | Chains and others

MATERIAL

Steel | Stainless steel | Alloy steel | Titanium | Silver | Gold | Platinum

MACHINES

Hand machines | Bench grinders | CNC grinding machines

PROZESS SETUP

For details see application sheet

APPLICATIONS

Deburring | Satin finishing | Matt finishing | Polishing | Fine polishing

TOOL

Product : ARTIFEX SC - WP | SC - MP | SC - HP

For details see application sheet

ADVANTAGES

Profiles easily to the shape of the workpiece
Minimal heat generation
Non-clogging even under heavy duty processing
Long life span and strong profile stability in operation



ax-o-blanc universal abrasive blocks

TOOL

Product : ARTIFEX SC - MZ
Bonding : Foamed polyurethane
Hardness : M (medium)
Grit size : Silicon carbide | black F60 | F120 | F240
Dimension : 80 x 50 x 20 mm

The universal ARTIFEX polishing block ax-o-blanc does grinding, cleaning and polishing - simple, fast and easy. Suitable for surfaces, edges, curves as well as areas hard to reach. Just cut the block into the desired dimensions by using a simple knife.

WORKPIECES

Cooker plates | Pot bottoms | Bottoms of frying pans | Knives | Ovens | Baking moulds | Spades | Hedge shares | Axes | BBC grills | Handrails | Metal fences | Camping- and boat accessories and many more

MATERIAL

Steel | Steel alloys | Sintered metal | Precious metal | Non-ferrous metals | Wood | Plastic

ADVATAGES

Can be used dry as well as wet and even with detergents
Like an eraser the block is made of 100 % abrasive material



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Polydiscs on fibre glass backing

Polydiscs on fibre glass backing

TOOL

Product : ARTIFEX SC 24 HP

Application : High material removal

Product : ARTIFEX SC - MP

Application : Polishing

For details see application sheet

WORKPIECES

Blocks | Containers | Welding seams

MATERIAL

Steel | hardened steel | Sintered metal |

Non-ferrous metals | cast iron and others

MACHINES

Angle grinders with speed control

PROCESS DESCRIPTION

Manuel | Dry grinding

PROCESS SETUP

For details see application sheet

EXAMPLE OF APPLICATION

Cleaning | Smoothing | Polishing | Rounding | Deburring |
Rust removal | Varnish removal | Descaling | Deoxidizing a.o.

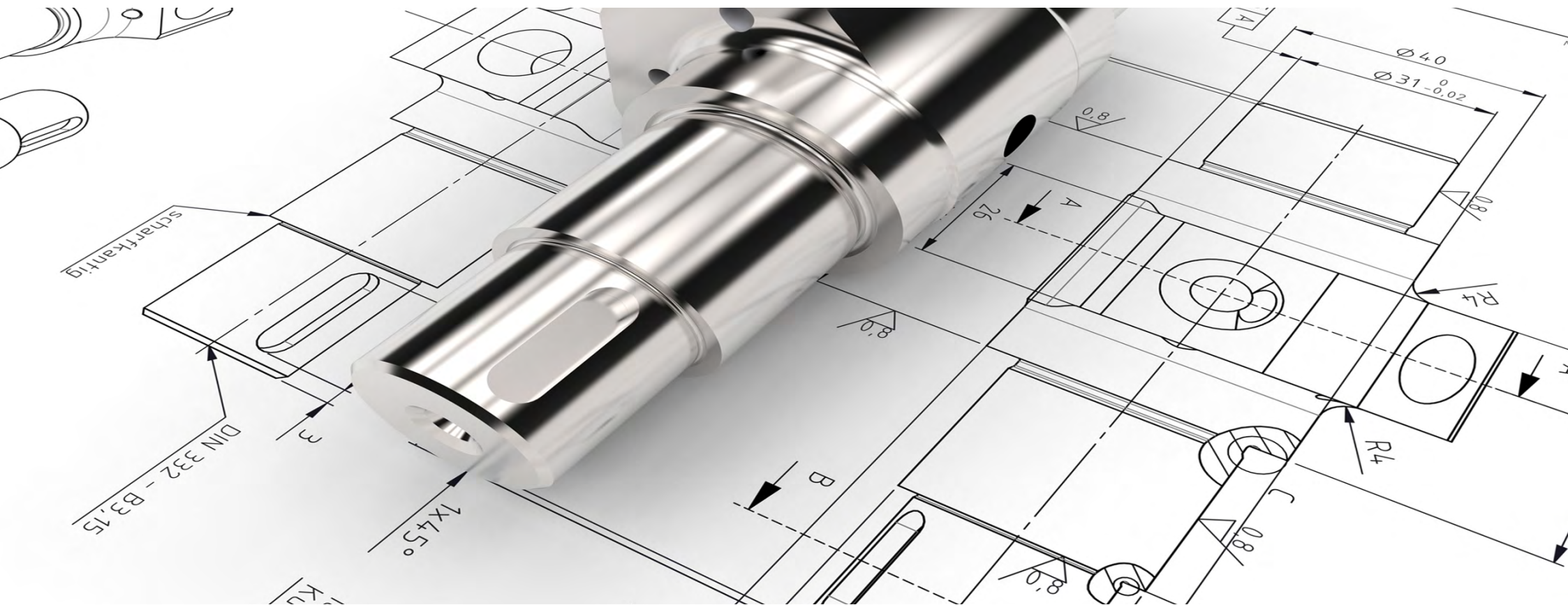


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Machined operations

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Superfinishing in external grinding

Superfinishing in external grinding

WORKPIECES

Round blanks | Shafts | Camshafts | Crankshafts

MATERIAL

Steel | High alloy steel | Hard cast iron

MACHINES

Conventional and CNC grinding machines

PROCESS DESCRIPTION

External grinding with oscillating the grinding wheel crosswise to the workpiece

PROCESS SETUP | For details see application sheet

RESULT

Surface roughness : $R_z < 0.30 \mu\text{m}$

Material removal : $3 - 8 \mu\text{m}$

TOOL

Product : ARTIFEX EK 800 MFP

For details see application sheet

ADVANTAGES

Complete process in one clamping of the workpiece

Low risk of grinding burns | No geometric changes

Cutting off the peaks of the roughness profile

No further process or machinery necessary



Quality Made in Germany since 1924



Superfinishing in flat and profile grinding

Superfinishing in flat and profile grinding

WORKPIECES

Flat steel | Blocks | Plates | Profiles | Runners | Tracks

MATERIAL

For example 100Cr6 (HRC 60) | 17MnCr6 (HRC 63) | 42CrMo4

MACHINES

Conventional and CNC flat grinding machines

PROCESS DESCRIPTION

Flat grinding | Profile grinding

PROCESS SETUP

For details see application sheet

RESULT

Surface roughness : $Rz < 1 \mu\text{m}$

Material removal : $3 - 8 \mu\text{m}$

TOOL

Product : ARTIFEX EK 600 MFP

For details see application sheet

ADVANTAGES

Complete process in one clamping of the workpiece

Low risk of grinding burns | No geometric changes

Cutting off the peaks of the roughness profile

No further process or machinery necessary



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Edge rounding and polishing
of metal drills and cutters

Edge rounding and polishing

WORKPIECES

Cutters | Drills

MATERIAL

Hard metal

MACHINES

CNC tool grinding machines

PROCESS DESCRIPTION

Edge rounding and polishing
(Drillpolish Patent DE 10 2011 054 276)

PROCESS SETUP

For details see application sheet

RESULT

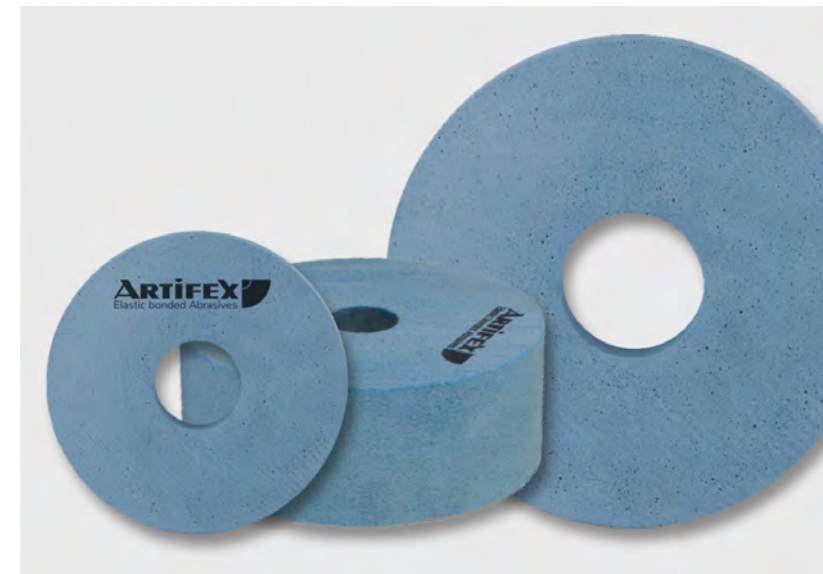
Chipping of cutting edge : Rs 1.2 μm
Reduction of micro-defects

TOOL

Product : ARTIFEX SC - HDR
For details see application sheet

ADVANTAGES

Repeatable result of rounding | Increasing the life span of the drills and cutters up to 300 % | Low processing costs



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Superfinishing of gears

Superfinishing of gears

WORKPIECES

Gears

MATERIAL

For Example 20MnCr5

MACHINES

CNC gear grinding machines

PROCESS DESCRIPTION

Profile grinding with path adjustment

PROCESS SETUP

For details see application sheet

RESULT

Surface roughness : $Rz < 1 \mu\text{m}$

Material contact area : $> 95 \%$

Material removal : $3 - 8 \mu\text{m}$

TOOL

Product : ARTIFEX EK 800 MFP | For details see application sheet

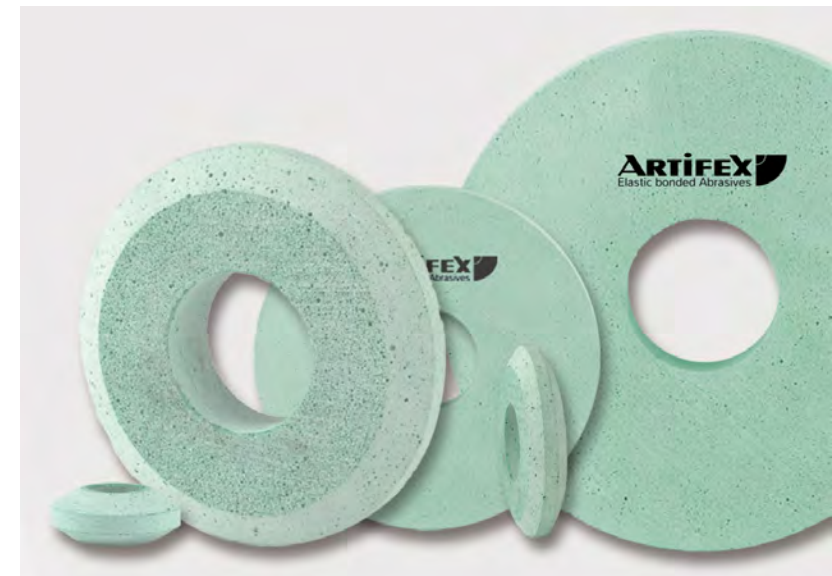
ADVANTAGES

Complete process in one clamping of the workpiece

Low risk of grinding burns | No geometric changes

Cutting off the peaks of the roughness profile

No further process or machinery necessary



Quality Made in Germany since 1924



Polishing of turbine blades

Polishing of turbine blades

WORKPIECES

Jet engine blades | Steam turbine blades |
Stator and rotor blades

MATERIAL

Steel-, Nickel- and Titanium alloys

MACHINES

Manual machines | Robots

PROCESS DESCRIPTION

Surface polishing up to the root

PROCESS PARAMETER

Dry grinding, hand- or robot guided on bench grinders

RESULT

Mirror finished surface

TOOL

Product : ARTIFEX SC 120 HP

Product : ARTIFEX SC 150 MP

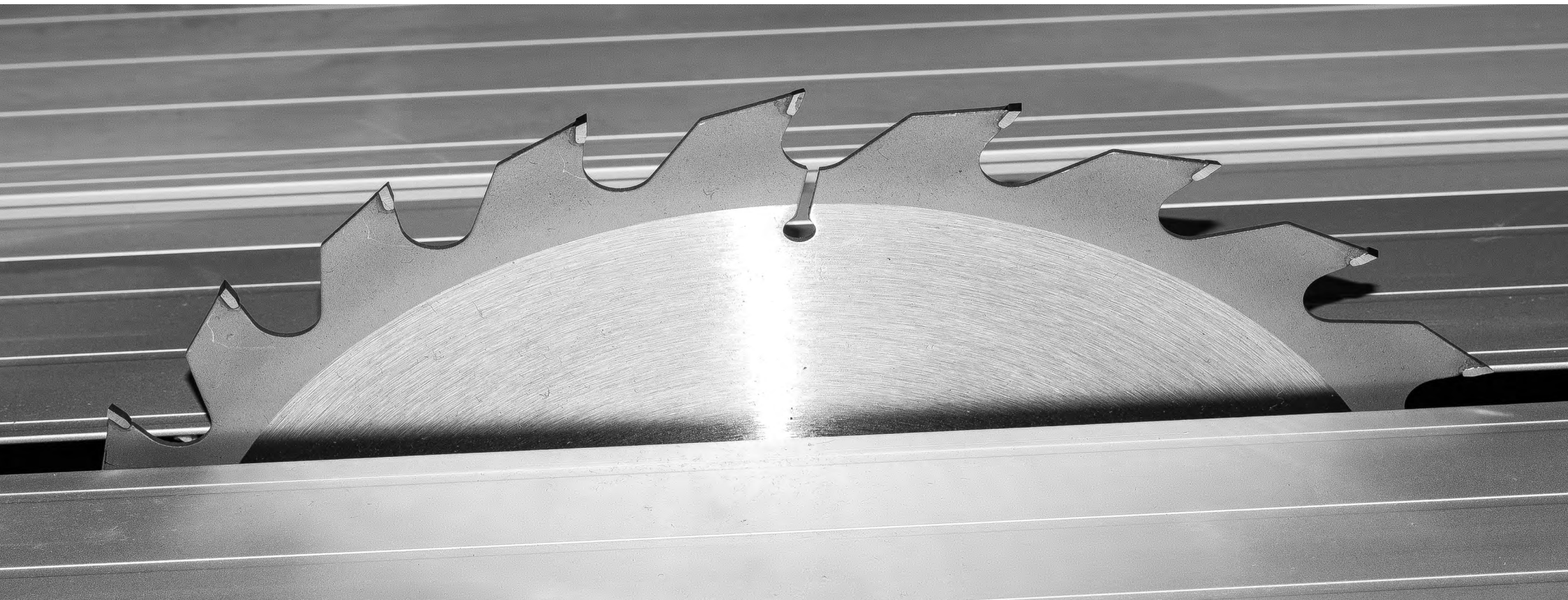
For details see application sheet

ADVANTAGES

Polishing process reaching the root of the
blade, where grinding belts normally do not work
Low risk of grinding burns | High service life of the tool



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Polishing of circular saw blades and circular knives

Polishing of circular saw blades and circular knives

WORKPIECES

Circular saw blades | Circular knives

MATERIAL

Hard metal | hardened steel | High alloy steel

MACHINES

Gerling | Kähny | Kirschner | Petschauer and others

PROCESS DESCRIPTION

Removal of scratches, scale stains, colors, welding beads and soldering residues
Cleaning of used circular saw blades

PROCESS SETUP

For details see application sheet

RESULT

Evenly finished surface

Roughness : Rz 3 - 12 μm

Material removal : 50 - 100 μm

TOOLS

Product : ARTIFEX NK 46 HZP

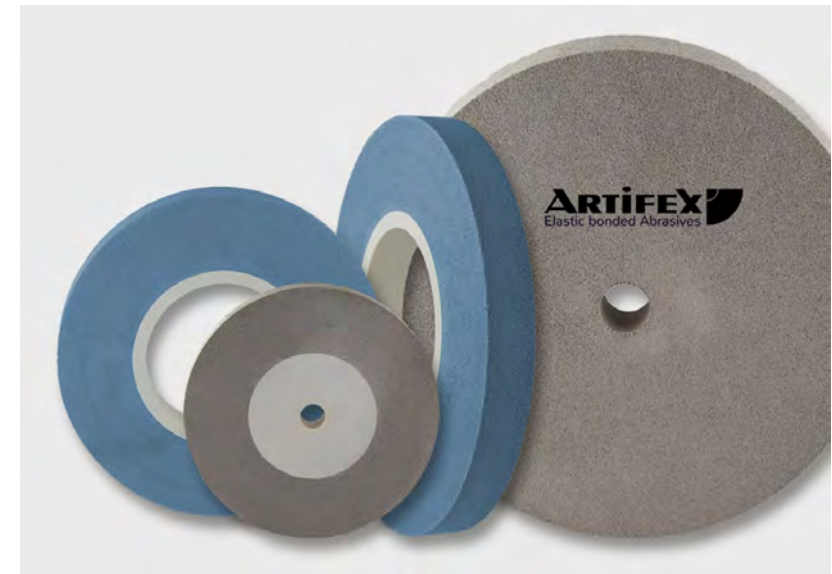
Product : ARTIFEX NK 80 HZP

For details see application sheet

ADVANTAGES

Best replacement of traditional cork polishing wheels

Less residues in the machine | No clogging of the wheel
and long service life



Grinding and polishing with ARTIFEX

WHAT CAN WE DO FOR YOU

Our focus is on you as a user

Elastic bonded abrasives tools for most varied surfaces

Advise you on your premises

We find the right application for your requirements

Our expert team develops tools matching your demand

THE ARTIFEX PROMISE

We stand for tools that guarantee the highest quality standards. All ARTIFEX products are „**Made in Germany**“ and their above-average service life speaks for itself.

Our service :

You have individual requirements, we offer customised solutions regardless of the material, shape or dimensions.

We will gladly advise you on your premises.

