



UFIBER

ADVANCED CERAMIC BRUSHES FOR PRECISION
AND DURABILITY IN SURFACE TREATMENT

UFIBER

THE NEW NOGA MT LINE OF CERAMIC BRUSHES FOR SURFACE TREATMENT

In today's fast-paced manufacturing environment, achieving superior surface finishes while maximizing efficiency is more critical than ever. NOGA MT is excited to introduce the new **UFIBER** Brush, a line of advanced ceramic fiber brushes designed to meet the highest standards of precision and durability in surface treatment applications.

UFIBER BRUSH HIGHLIGHTS

NANO-TECHNOLOGY PRECISION

UFIBER brushes utilize cutting-edge nano-technology to provide superior surface roughness control, exceptional wear resistance, and extended tool life. This innovation leads to fewer tool changes, longer operation times and lower production costs.

3-IN-1 FUNCTIONALITY

Combining deburring, polishing, and finishing in a single tool, **UFIBER** brushes streamline the manufacturing process, reducing the need for multiple tools and operations.

VERSATILE APPLICATIONS

Suitable for a wide range of tasks, including surface polishing, inner diameter polishing and small point polishing. **UFIBER** brushes perform consistently even on complex geometries and hard-to-reach areas.

AUTOMATION READY

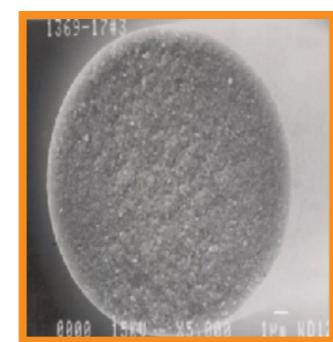
UFIBER brushes are compatible with CNC machines and robot arms, making them ideal for integration into automated manufacturing processes.



UFIBER FEATURES

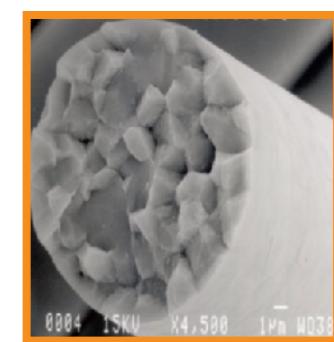
NANO TECHNOLOGY FOR PRECISION POLISHING

UFIBER filament's structure leverages nano-technology to refine the grain structure of each ceramic fiber, transitioning from traditional micron-sized grains to state-of-the-art nano-sized grains. This innovation allows each fiber to maintain its edge throughout the polishing process, ensuring a consistently smooth and precise finish while offering superior wear resistance and durability.



NOGA NANO TECHNOLOGY

UNMATCHED
PRECISION
CUTTING-EDGE
TECHNOLOGY
SUPERIOR
PERFORMANCE



COMPETITORS

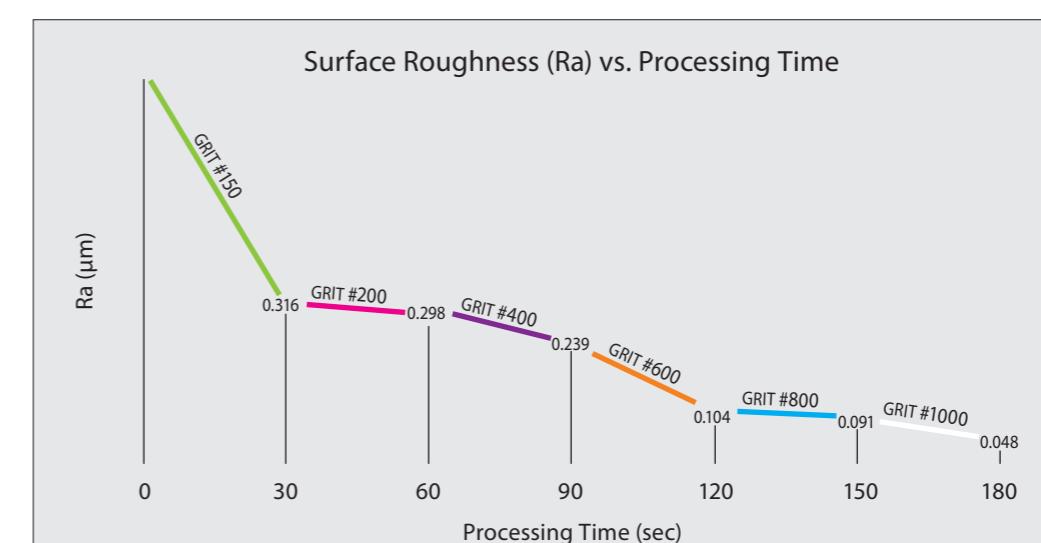
LIMITED
PRECISION
OUTDATED
TECHNOLOGY
LOWER
DURABILITY

UNMATCHED SURFACE QUALITY

UFIBER bristles move beyond conventional grain structures, reducing them to nano size. This transformation results in significantly finer and more uniform surface finishes, even on the most demanding tasks. The bristle's ability to produce the finest polishing surfaces with exceptional efficiency makes them ideal for applications where surface quality is critical.

The graph illustrates the relationship between surface roughness (R_a) and processing time using different grit sizes of a **UFIBER** end brush.

As demonstrated in the graph, **UFIBER** brushes consistently reduce surface roughness with extended processing times, even on tough materials like S50C. Whether you're working with coarse or fine grit sizes, **UFIBER** brushes deliver smoother finishes faster, making them the perfect choice for industries where surface quality is paramount.



UFIBER FEATURES

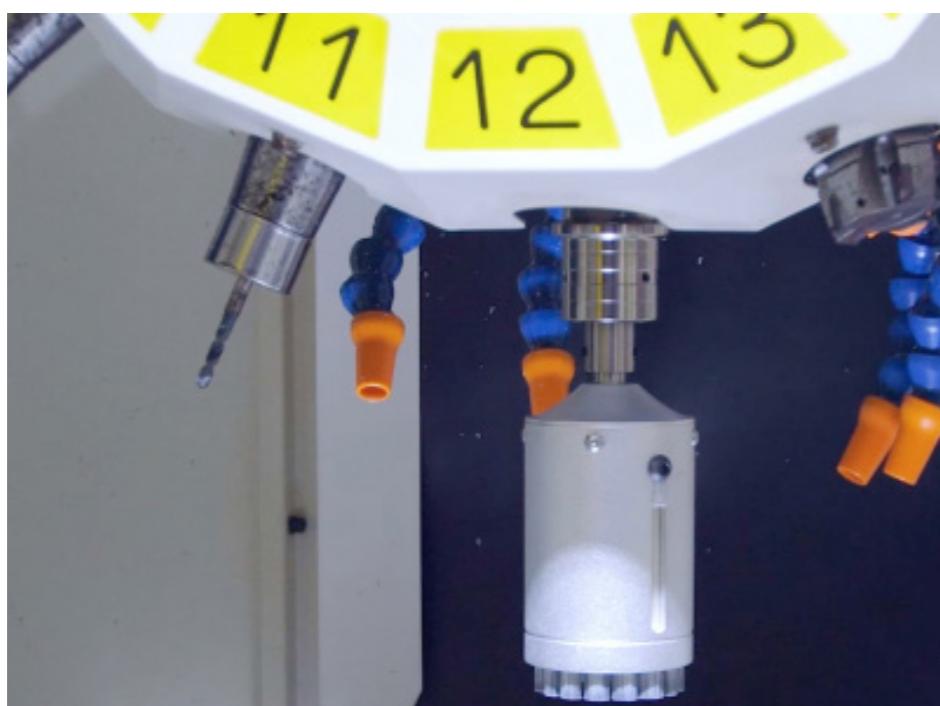
WIDE GRIT RANGE

Wide Grit Range **UFIBER** bristles are available in grits ranging from #150 to #6000, providing flexibility to handle various work materials and burr conditions.



EFFICIENT AUTOMATION

Efficient Automation with the right selection of brush type and grit, **UFIBER** brushes facilitate the automation of deburring, removal of toolmarks and the polishing processes with the same machine code or robotic arms, making them an excellent choice for advanced manufacturing environments.



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PRODUCT RANGE

THE NEW NOGA MT UFIBER BRUSH APPLICATIONS

SURFACE BRUSH



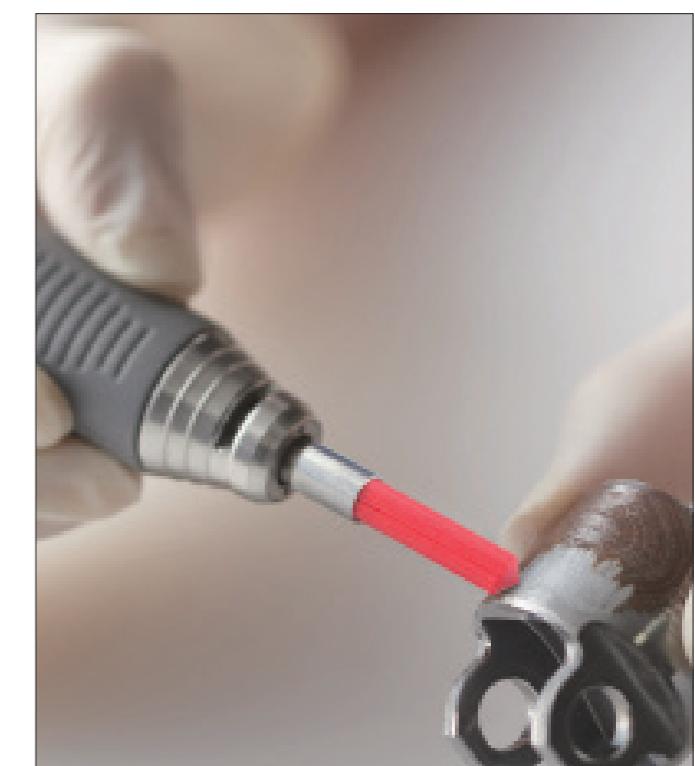
CROSS-HOLE BRUSH



POINT BRUSH

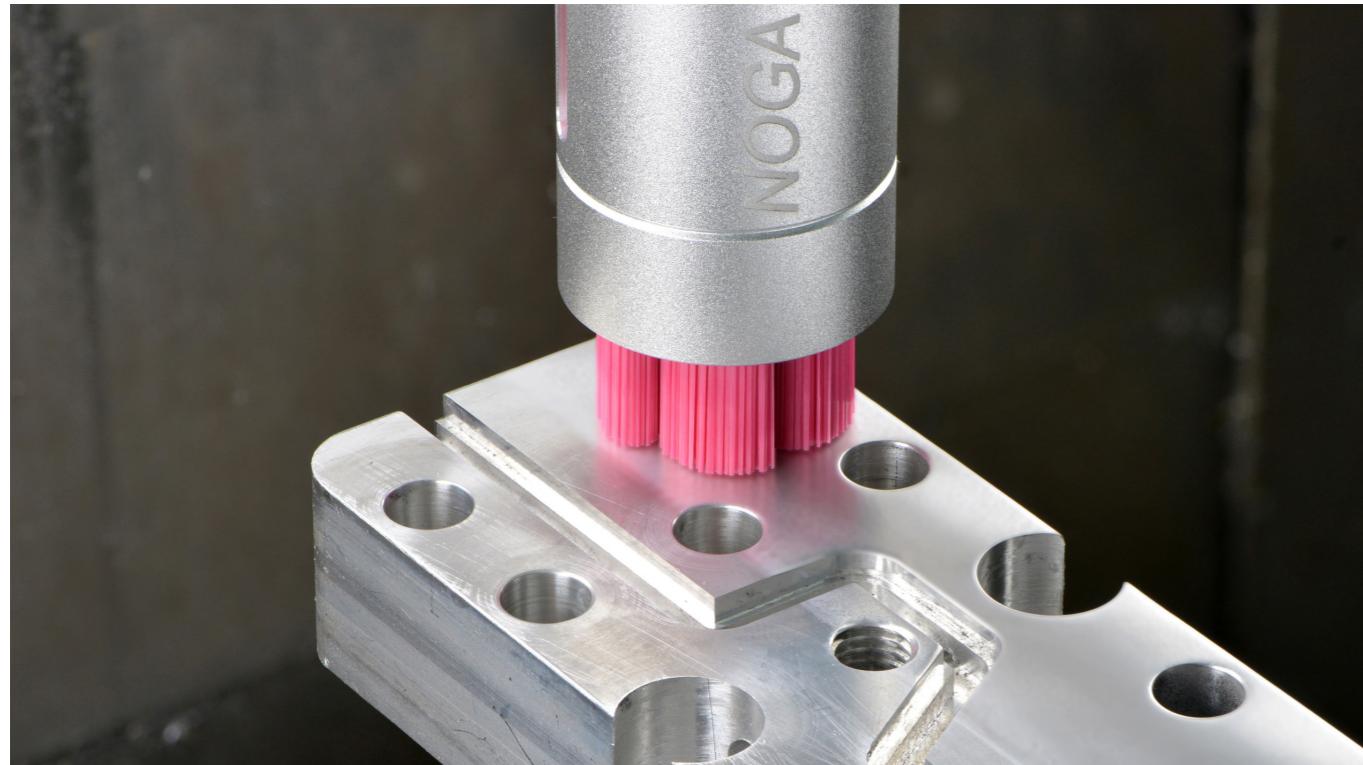


END BRUSH



UFIBER

SURFACE TYPE BRUSHES



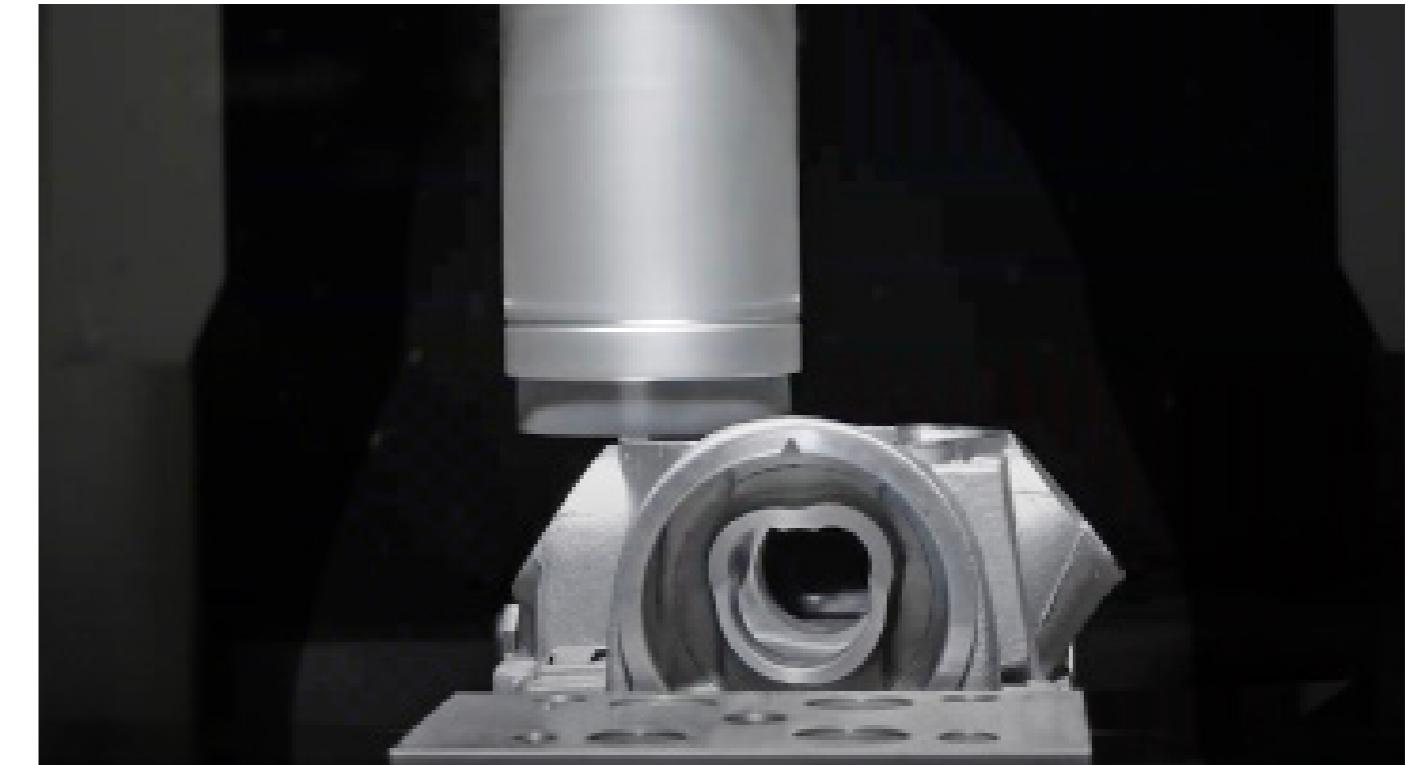
Designed for surface polishing and deburring, ideal for achieving uniform finishes on flat surfaces. Tip-cutting brushes are designed to fit into a sleeve with the tool shank, making them ideal for automated deburring in CNC machines, robots, and other equipment.

Available Range: 6, 15, 25, 40, 60, 100 mm / 0.236, 0.590, 0.984, 1.575, 2.362, 3.937"



UFIBER

SURFACE TYPE BRUSHES



The surface brush can also function as a cross-hole brush, leveraging centrifugal force during rotation to expand and efficiently remove fine burrs from the inner surfaces of cylinders.

To use this feature, simply remove the sleeve and attach the appropriate shank as specified by the ØDS parameter in the product specifications. The image below illustrates how the #1200 and #1000 Ø25 surface brushes expand at 5000 RPM. The #1200 brush is more flexible compared to the #1000 brush, allowing for greater expansion.

It is recommended to start with the #1200 brush. If burrs remain, switching to the #1000 brush is advisable.

Please note that the #1200 brush is more susceptible to breakage than other grits. To prevent damage, always insert the brush into the hole before starting rotation and stop the rotation before removing it from the hole.



UFIBER

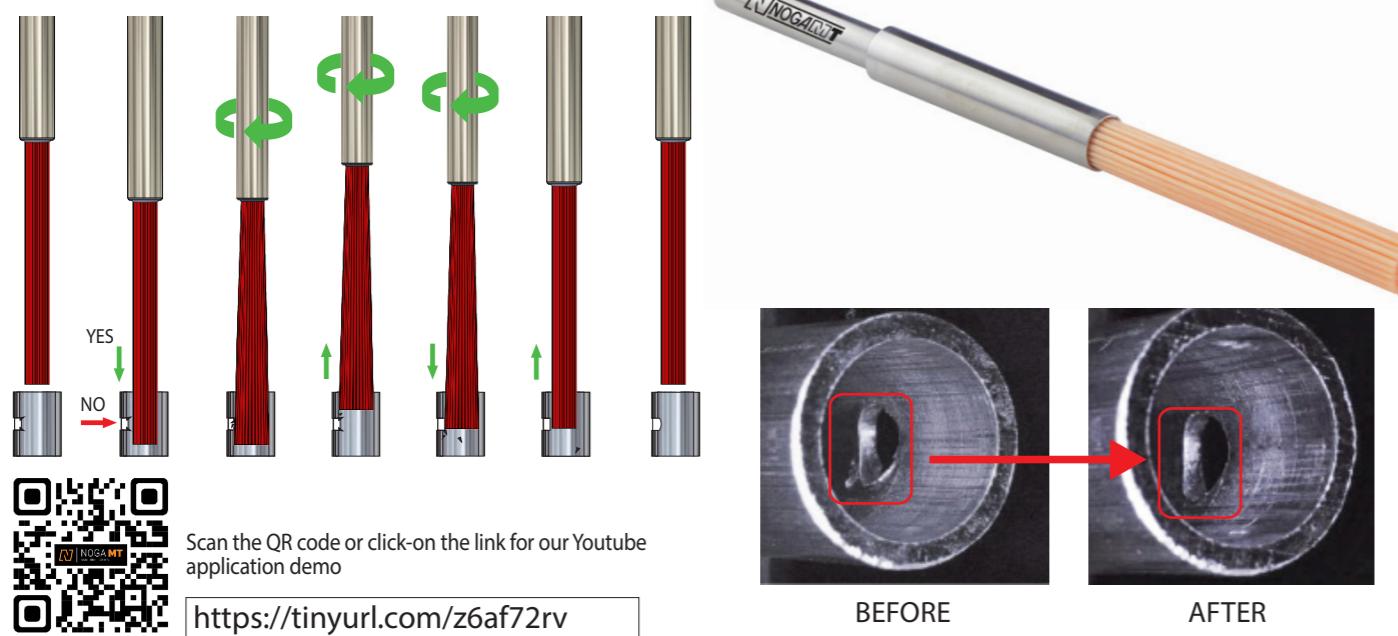
CROSS-HOLE TYPE BRUSHES



Designed for inner diameter polishing and cross-hole burr removal. The brush expands due to centrifugal forces, allowing it to conform precisely to the pilot hole diameter, making it versatile for various applications.

Available Range: Ø1.5, 3.0, 5.0, 7.0 mm / 0.059, 0.118, 0.197, 0.276"

Expansion Range: Ø20 - 3.5mm / 0.787 - 0.138"



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POINT TYPE BRUSHES



Suitable for precision work in small or complex areas, ideal for removing cutter marks, polishing, and finishing parts with small or narrow features. Suitable for use in CNC machines, robots, or hand-held rotary tools.

Available with: Ø1.0, 1.5, 2.0, 2.5, 3.0 mm / 0.039, 0.059, 0.079, 0.098, 0.118"



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END TYPE BRUSHES



Designed for use with hand-held rotary tools and CNC machines, making it ideal for precise finishing tasks, especially in tight or recessed areas where traditional brushes may fall short. This brush features high bending strength and can operate at max. 12000 RPM without the risk of filament breakage.

Available with: Ø 5mm / 0.197" - flat surface or 90° angled tip

* The brush tip can be angled using a diamond disk on a lathe or spindle.

** Not recommended with pneumatic powered tools.



Flat Design: Designed for uniform deburring and finishing of flat surfaces and large areas.

Wide Contact Area: The flat edge ensures consistent and even surface treatment.

Versatile Usage: Suitable for smoothing outer edges, planar surfaces, and broader geometries.

Angled Design: Allows for easy access to confined spaces and hard-to-reach areas.

Enhanced Control: The pointed edge provides better control for selective deburring tasks.

Versatility: Suitable for deburring geometries with complex shapes and sharp angles.

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BENEFITS OF NOGA MT UFIBER BRUSHES

3-in-1 Functionality: Ufiber brushes combine deburring, polishing and finishing in a single tool. This multifunctional capability reduces the need for multiple tools and operations, streamlining the manufacturing process and saving time and costs.

Superior Surface Finish: The nano-bonded Ufiber bristles reduce polishing scratches, achieving a finer surface finish compared to conventional nylon brushes or ceramic bristles that use micro-bond technology.

Conventional brushes



Time Efficiency: Ufiber brushes achieve a **20X** faster machining time compared to manual work delivering unparalleled efficiency and productivity in automated deburring and polishing.

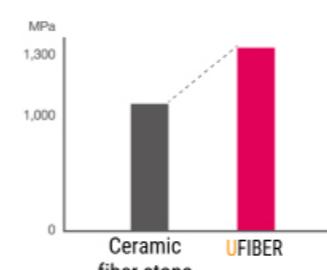
Automation Ready: Ufiber ceramic brushes, specifically designed for seamless integration with automated systems such as machine tools and robotic arms, improve production processes by up to 20 times faster.

Versatility: Ufiber brushes excel in a wide range of applications and materials, with 10 different bristle grits available, making them suitable for diverse industries and tasks.

High Bending Strength: The brushes retain their shape and performance even under high RPM conditions, ensuring reliable operation and consistent results.

Bending strength

**130%
Save Costs**



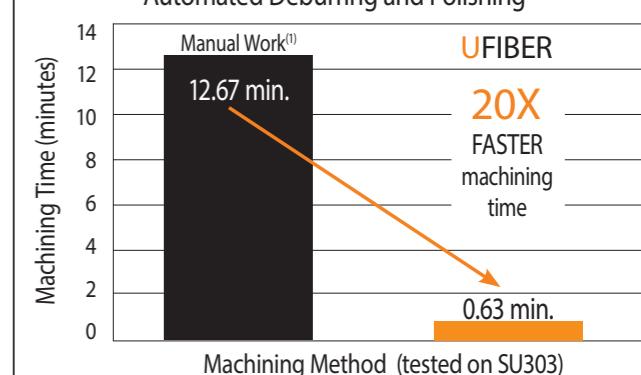
Extended Tool Life: Ufiber ceramic fiber bristles offer better control over spreading compared to conventional brushes, while maintaining strong polishing power even at high speeds. This leads to a longer lifespan for the brushes, reducing the need for frequent replacements.

Stable Grinding Power: Ufiber brushes provide consistent grinding power, supporting the automation of deburring and tool mark removal without the need to frequently change the brush shape.

Ufiber



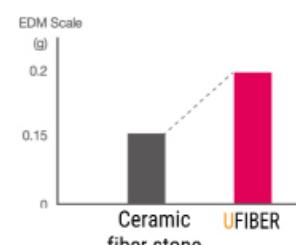
Significant Reduction in Machining Time through Automated Deburring and Polishing



⁽¹⁾Manual work is defined as any operation performed by hand without automation.

Grinding performance

**200%
Save time**



UFIBER APPLICATIONS

The UFIBER brushes are suitable for any type of material in the market, including composite materials (FRP), copper, aluminium, SUS, carbon steels, stainless steel, and hardened materials. This versatility makes UFIBER brushes ideal for a wide range of industrial applications, ensuring high performance across various materials.

AUTOMOTIVE INDUSTRY

Ideal for deburring and finishing engine components, transmission parts, and other metal surfaces, UFIBER brushes ensure smooth finishes and high precision, critical in automotive manufacturing.

AEROSPACE

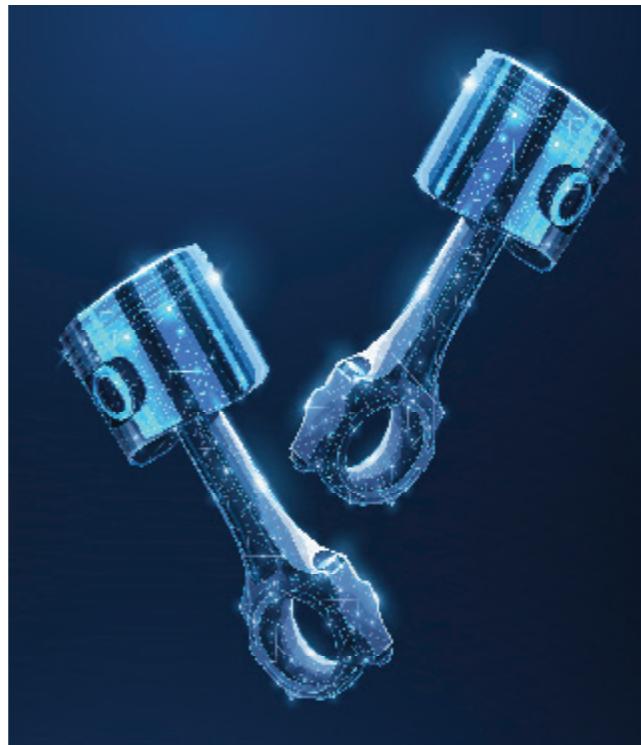
UFIBER brushes are suitable for precision surface treatment of aircraft components, ensuring compliance with stringent industry standards for safety and performance.

MEDICAL DEVICES

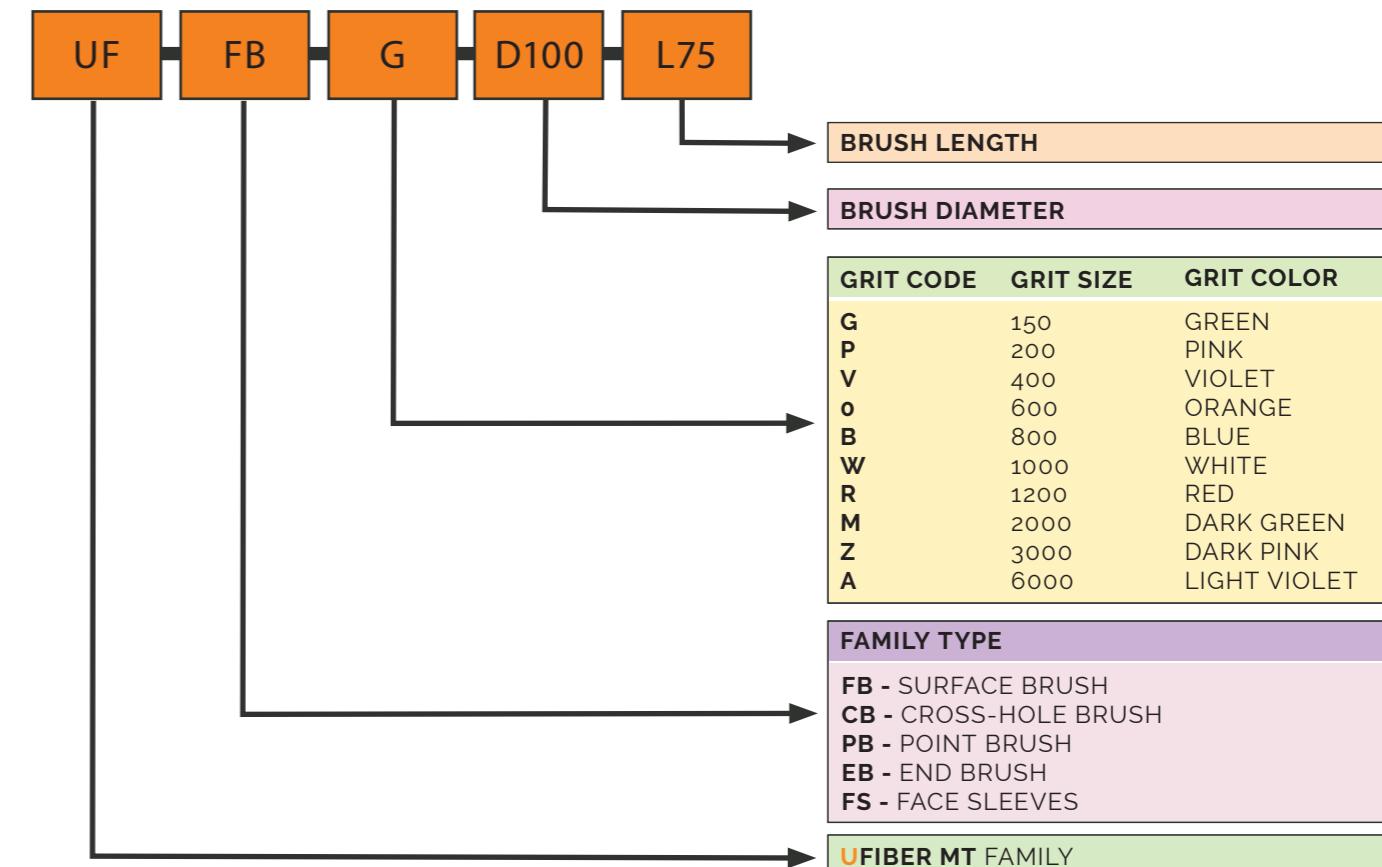
UFIBER brushes ensure smooth, polished finishes on surgical instruments and implants, which are critical for both functionality and safety in medical applications.

GENERAL MANUFACTURING

UFIBER brushes are versatile enough to be used in various manufacturing processes, including metalworking, plastics, and composites. They can handle different materials and are adaptable to a wide range of surface treatment needs.



UFIBER BRUSH CODING SYSTEM: SPECIFICATIONS AND IDENTIFICATION



GRIT OPTIONS FOR MACHINING REQUIREMENTS

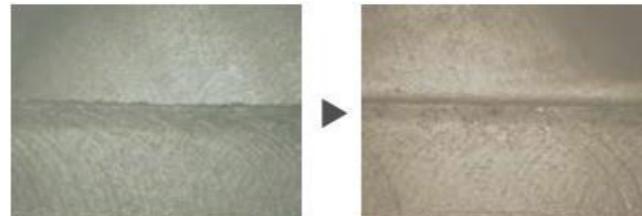
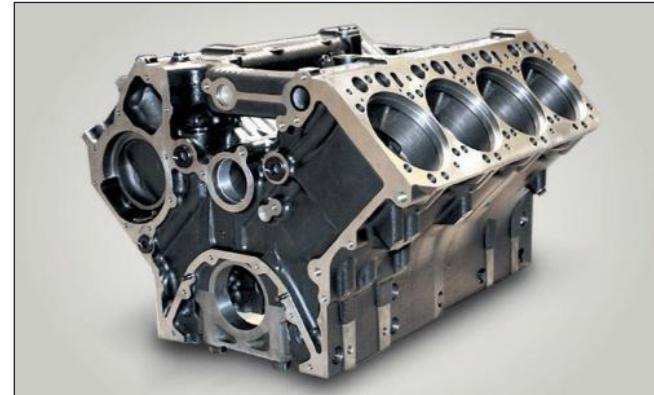
Selecting the right brush grit by machined materials or burr conditions:



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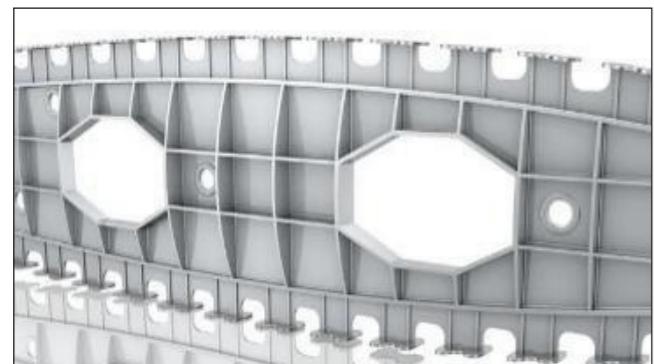
CASE STUDIES - DEBURRING

BURR REMOVAL IN AUTOMOTIVE PARTS WITH SURFACE BRUSH



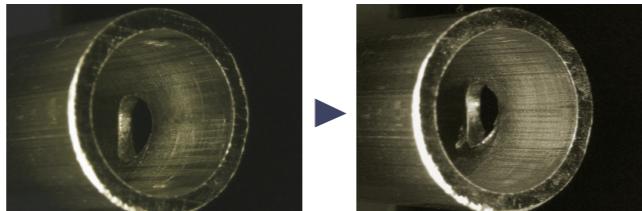
- Material: ADC12 (A383.0) Aluminum - Silicon Alloys.
- Cutting Parameters: S = 6000RPM, F = 1000mm/min. (34.9inch/min.), DOC = 0.5 mm (0.0196").
- Surface Brush: UF1625 / UF-FB-W-D025-L75 Ø25 Grit#1000 (White)

BURR REMOVAL IN AEROSPACE PARTS WITH SURFACE BRUSH



- Material: 7075 Aluminum Alloy.
- Cutting Parameters: S = 6000RPM, F = 1000mm/min. (34.9inch/min.), DOC = 0.5 mm (0.0196").
- Surface Brush: UF1625 / UF-FB-W-D025-L75 Ø25 Grit#1000 (White)

BURR REMOVAL IN PIPES WITH CROSS-HOLE BRUSH



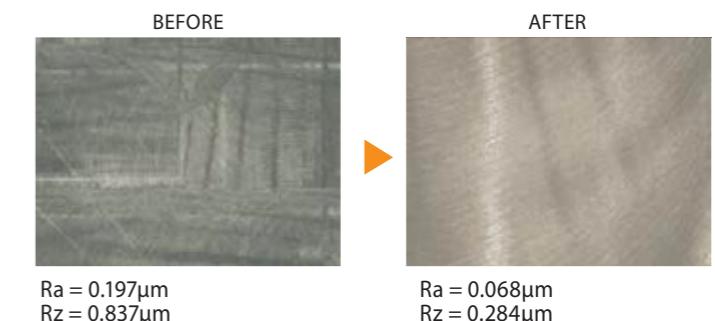
- Material: Aluminum.
- Cutting Parameters: S = 11000RPM, F = 1100mm/min. (44.3inch/min.).
- Cross-Hole Brush: UF2650 / UF-CH-W-D050-L60 Ø5 Grit#1000 (White)

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CASE STUDIES - TOOL MARK REMOVAL

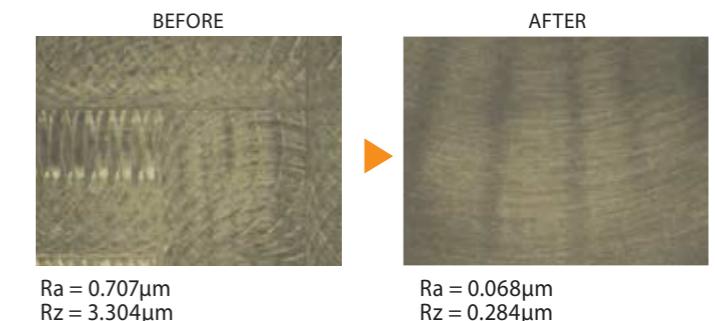
CUTTER MARK REMOVAL WITH SURFACE BRUSH

- Material: A7075 Aluminum Alloys.
- Cutting Parameters:
S = 6000RPM, F = 2000mm/min. (79inch/min.),
DOC = 0.5 mm (0.0196").
- Surface Brush: UF1625 / UF-FB-W-D025-L75 Ø25 Grit#1000 (White)



BEFORE
Ra = 0.197µm
Rz = 0.837µm
AFTER
Ra = 0.068µm
Rz = 0.284µm

- Material: Inconel 625.
- Cutting Parameters:
S = 6000RPM, F = 800mm/min. (32inch/min.),
DOC = 0.5 mm (0.0196").
- Surface Brush: UF1325 / UF-FB-V-D025-L75 Ø25 Grit#400 (Violet)



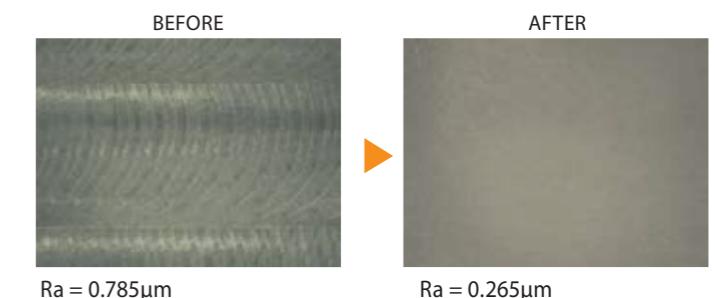
BEFORE
Ra = 0.707µm
Rz = 3.304µm
AFTER
Ra = 0.068µm
Rz = 0.284µm

- Material: SCM440 / AISI Steel Alloy.
- Cutting Parameters:
S = 6000RPM, F = 1000mm/min. (39.5inch/min.),
DOC = 0.5 mm (0.0196").
- Surface Brush: UF1325 / UF-FB-V-D025-L75 Ø25 Grit#400 (Violet)



BEFORE
Ra = 0.546µm
Rz = 2.169µm
AFTER
Ra = 0.097µm
Rz = 0.441µm

- Material: Titanium Ti-6Al-4V.
- Cutting Parameters:
S = 6000RPM, F = 1000mm/min. (39.5inch/min.),
DOC = 0.5 mm (0.0196").
- Surface Brush: UF1325 / UF-FB-V-D025-L75 Ø25 Grit#400 (Violet)



BEFORE
Ra = 0.785µm
Rz = 3.156µm
AFTER
Ra = 0.265µm
Rz = 0.982µm

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PIONEERING A NEW ERA IN SURFACE FINISHING



Scan the QR code or click-on the link for our Youtube channel
<https://tinyurl.com/4fvhpmpw>



Scan the QR code or click-on the link for our Youtube channel
<https://tinyurl.com/4nrmsyh>

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