

# JOTA ARKANSAS

- finishing of fillings
- removal of cement residues
- finishing preparation

**jota**  
+ SWITZERLAND



# ARKANSAS STONES

Arkansas stones are made from fine high-grade corundum with hard bonding, making them durable and efficient.

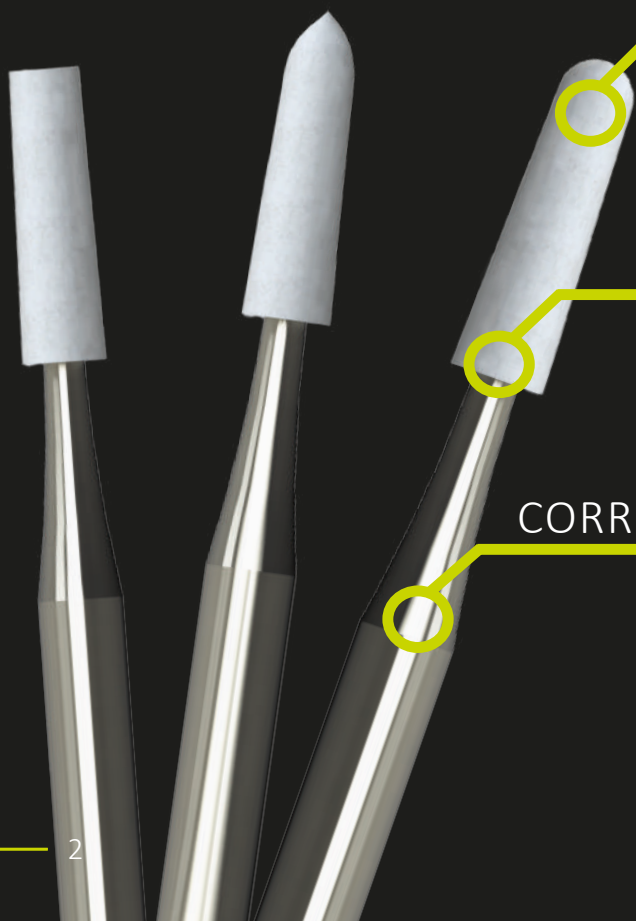
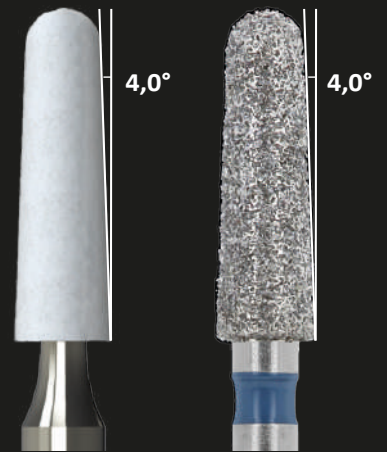
Arkansas instruments are ideal for:

- finishing a composite restoration
- smoothing and finishing preparation
- precision margin preparation and preparing for a close marginal gap
- removal of cement residues after temporary restorations or after braces



## ARKANSAS PREP

In addition to the standard stones, Jota has specially developed three burs called **Arkansas Prep** which, in terms of shape and angle, fully correspond to preparation diamond burs. This makes it easier to finish tooth stump without damaging the geometry and margins.



FINISHING RESTORATION

SIMPLIFIES THE POLISHING

SMOOTHING ENAMEL PRISMS

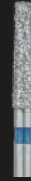
OPTIMAL ADHESION OF RESTORATIONS

CORRESPONDING GEOMETRY OF DIAMONDS

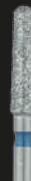
PRECISE PREPARATION RESULTS

# OUR NEW JOTA ARKANSAS-PREP

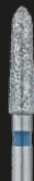
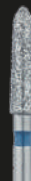
THE IDEAL COMPLEMENT TO YOUR PREPARATION DIAMONDS



MATCH CODE		6172	846	847	848
SHANK		FG   RA	FG	FG	FG
Ø		023	025	021	023
L mm		8,0	7,0	8,0	10,0
FRICTION GRIP	FG	80'000 - 100'000	180'000	210'000	190'000
RIGHT ANGLE	RA	15'000 - 25'000	120'000	160'000	160'000



MATCH CODE		6198	849	850	852
SHANK		FG   RA	FG	FG	FG
Ø		023	023	021	023
L mm		8,0	6,0	8,0	10,0
FRICTION GRIP	FG	80'000 - 100'000	190'000	210'000	190'000
RIGHT ANGLE	RA	15'000 - 25'000	160'000	160'000	160'000



MATCH CODE		6298	877	878	879
SHANK		FG   RA	FG	FG	FG
Ø		023	021	023	023
L mm		8,0	6,5	8,0	10,0
FRICTION GRIP	FG	80'000 - 100'000	210'000	190'000	190'000
RIGHT ANGLE	RA	15'000 - 25'000	160'000	160'000	160'000

# PREPARATION FINISHING

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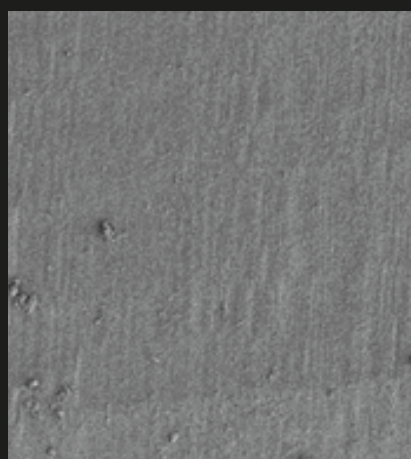
The most crucial thing in fixed restorations is durable and lasting adhesion. Various factors influence the bonding of restorations, e.g. substrate, restorative material, conditioning techniques, and preparation. Preparation with regular-grit diamond bur produced enamel **micro-fractures** and a significant amount of **smear layer** <sup>4,8</sup>. Cracks can be removed by finishing the preparation. <sup>9</sup> The importance of finishing is scientifically proven.

Some studies reported that multi-blade carbide burs made a better surface quality <sup>1,5,10</sup>, a higher shear bond strength <sup>6,7</sup>, a thinner smear layer <sup>6</sup>, and more excellent wettability of dentin compared to diamond burs. <sup>2</sup> Clarke et al. compared the margin profile and surface roughness created by the tips of four different finishing instruments: fine diamond, white stone, tungsten carbide, and ultrasonic diamond-coated tips. They stated that the fine diamond burs produced a significantly smoother surface than ultrasonic diamond and carbide; however, the **white stone** offered **efficient finishing** and **minor damage** to the **margin profile**. <sup>3</sup>

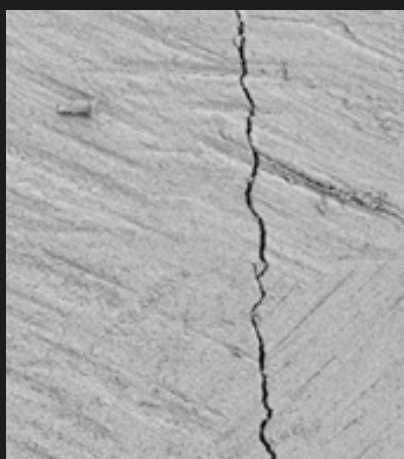
Similar results were also obtained in a recent study by the University of Zurich. The pictures below show the dentin surface after finishing with diamond, carbide burs and Arkansas stones. As can be seen from the pictures, Arkansas stones **leave fewer grooves** on the dentin surface and there are **no micro cracks**. The same study found that the best finishing instrument of superficial dentin is Arkansas stones, followed by carbide burs because the **bond strength of cement** after thermocycling was the **highest** when prepared with Arkansas stones. (Prof. Dr. Dr. h.c., Mutlu Özcan, PhD, University of Zürich) <sup>11</sup>

**SEM pictures of deep dentin surfaces after finishing with Arkansas stones, carbides and diamonds before etching at 250x magnification** <sup>11</sup>

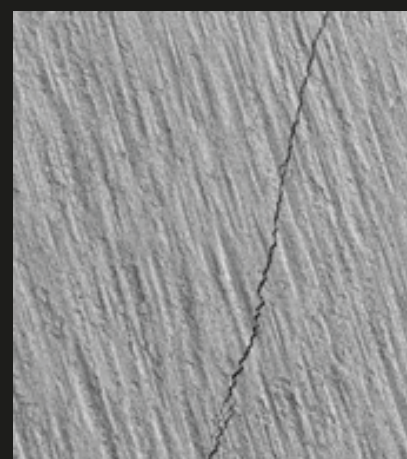
**ARKANSAS STONE**



**CARBIDE FINISHERS**



**DIAMOND FINISHERS**



After finishing the enamel with Arkansas stones, there are **fewer grooves** on the surface and **less smeared layer**, as can be seen in the pictures below. (Prof. Dr. Dr. h.c., Mutlu Özcan, PhD, University of Zürich) <sup>11</sup> The lower amount of smeared layer on the enamel surface creates excellent conditions for etching procedure. **Smooth surfaces** and opened enamel prisms result in more precise preparations as a basis for optimal fit and adhesion of restorations.

**SEM pictures of enamel surfaces after finishing with Arkansas stones (A), carbides (C) and diamonds (D) before and after etching <sup>11</sup>**

*before etching*

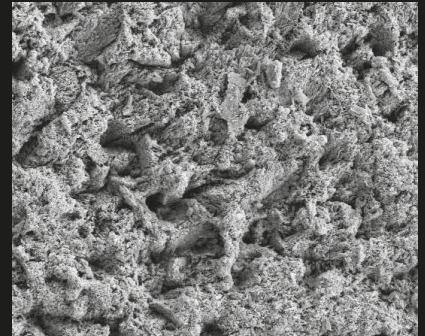
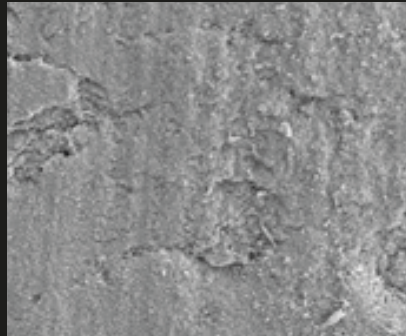
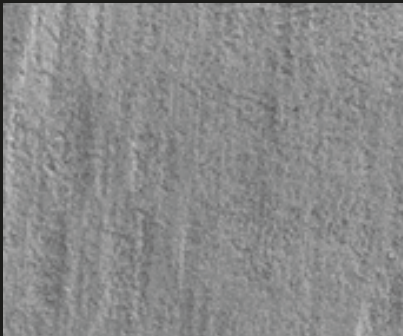
*after etching*

250x magnification

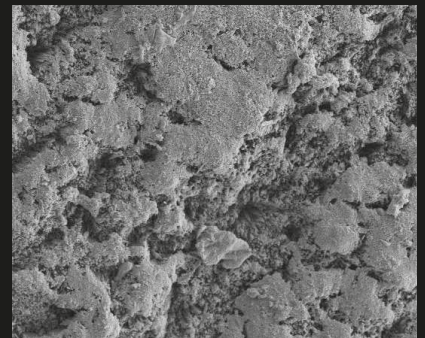
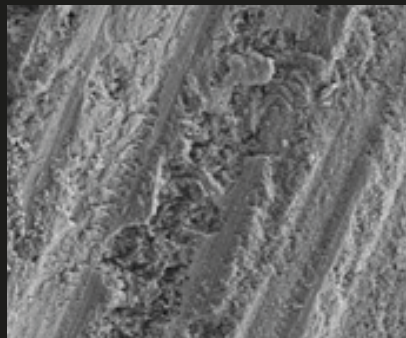
5000x magnification

5000x magnification

A



C



D



# PREPARATION FINISHING

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- Based on scientific evidence, Jota recommends finishing of preparation stumps with Arkansas stones.
- Arkansas stones can also be used to **remove cement residue** after the removal of temporary restorations as the basis for optimal adhesion of the permanent restoration.

Grinding teeth with diamond instruments results in rough surfaces, irregular geometry, and smeared layers. These surfaces and irregularities can be perfectly smoothed with Arkansas stones. Broken enamel prisms can be removed or smoothed, directly improving the life time and quality of the restoration.

In addition, Arkansas PREP has been developed to provide an optimal workflow with shapes that match the form of common preparation diamonds. The angle and shape are identical so that the essential preparation carried out with diamonds (shoulder, bevel, or chamfer) is preserved and, at the same time, made more precise.

Moreover, the smoother surface of tooth structures leads to a significantly better marginal seal in direct restorations, e.g. cavities, which substantially reduces the risk of secondary caries.



# FINISHING OF FILLINGS

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Photo by Dr. Daniel Rosa

Finishing is the gross contouring of restoration to obtain the desired anatomy and texture, while polishing refers to reducing roughness, removing scratches, and producing high gloss.<sup>14</sup> Rotary finishing instruments should provide sufficient cutting performance for the removal of excess composite material and occlusal adaptation. On the other hand, finishing should not leave the surface in a rough state because this will interfere with subsequent polishing procedures. For this reason, finishing is an important requirement for the success of the final polishing techniques.<sup>13</sup>

One effective way of finishing composite and glass ionomer restorations is with Arkansas stones. Arkansas stones are one of the cost-effective substitutes for carbide burs, which have different shapes to contour and finish composite restorations. Finishing stones are much more efficient at removing material from the surface of composites than carbides,<sup>12</sup> and finishing surface roughness can be put between finishing carbides and diamonds.

# DEBONDING

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Photo by Dr. Daniel Rosa

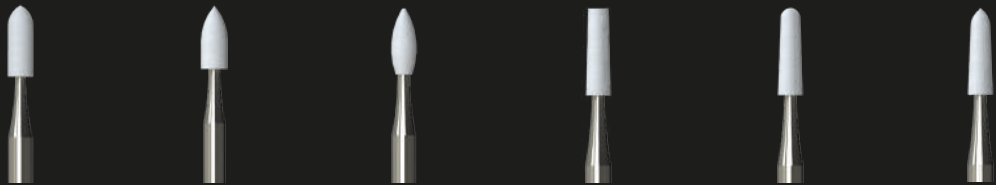
Debonding is a standard procedure in fixed orthodontics, including removing brackets and adhesive from the tooth surface. Arkansas stones can be used to remove adhesive residue from the enamel surface.

Arkansas stones create surfaces as smooth as those of carbides at a lower cost with slightly increased process time.<sup>15</sup>

# COMPLETE JOTA ARKANSAS ASSORTMENT



<b>MATCH CODE</b>	<b>601</b>	<b>638</b>	<b>645</b>	<b>649</b>	<b>660</b>
<b>SHANK</b>	FG   RA	FG   RA	FG   RA	FG   RA	FG   RA
<b>∅</b>	030	025	028	025	025



<b>MATCH CODE</b>	<b>661</b>	<b>662</b>	<b>666</b>	<b>6172</b>	<b>6198</b>	<b>6298</b>
<b>SHANK</b>	FG   RA	FG   RA	FG   RA	FG   RA	FG   RA	FG   RA
<b>∅</b>	025	030	025	023	023	023

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