

## COMPOSITE

Rubber	D♦Fine Clinician's Choice	D♦Fine Double Diamond Clinician's Choice	Hawe HiLuster KerrHawe	Astropol Ivoclar Vivadent	CompoMaster Shofu	ComposiPro Diacomp Brasseler
Cost/Instrument	\$6.25	\$6.25	\$4.99	\$4.29	\$11.43	\$10.79
Abrasive	Diamonds	Diamonds	Aluminum Oxide, Silicon Carbide, Diamonds	Diamonds, Aluminum Oxide, Silicon Carbide	Diamonds	Diamonds
Grits	2	2	2	3	2	2
Shapes	6	8	4	4	5	6
Aluminum Burblock	No	No	No	Sold separately	No	Yes
Effectiveness <sup>1</sup>	Yes	Yes	Yes	Yes	Very close	Very close

Rubber	Jiffy HiShine Ultradent	PoGo Dentsply/Caulk	ComposiPro One-Step Brasseler	FlexiPoints, FlexiCups, FlexiWheels Cosmedent	Jiffy Polishing Cups, Points, Disks Ultradent	OneGloss Shofu
Cost/Instrument	\$5.00	\$4.60	\$4.59	\$3.33	\$1.35	\$1.20–\$2.08
Abrasive	Diamonds, Silicon Carbide	Diamonds	Diamonds	Aluminum Oxide	Aluminum Oxide	Aluminum Oxide
Grits	1	1	1	2	3	1
Shapes	3	3	3	3	3	4
Aluminum Burblock	No	No	Yes	No	No	No
Effectiveness <sup>1</sup>	Very close	Yes, but only w/ disc	No	No	No	No

<sup>1</sup>Was it able to polish a hybrid to match an enamel-like gloss?

Brushes	ComposiPro Brush Brasseler	Hawe Occlubrush KerrHawe	PQ Composite Brush Polisher NTI/Axis	Groovy Clinician's Choice	Jiffy Brushes Ultradent
Cost/Instrument	\$4.55	\$5.04	\$4.73	\$11.66	\$4.50
Abrasive	Silicon Carbide	Silicon Carbide	Diamonds	Diamonds	Silicon Carbide
Grits	1	1	1	1	1
Shapes	3	3	3	3	2
Aluminum Burblock	Yes	No	No	No	No
Effectiveness <sup>2</sup>	Reg Cup	Yes	Yes	Yes	Yes
	Point	No	No	No	No

<sup>2</sup>Was it able to polish a packable to match an enamel-like gloss?

## PORCELAIN

Rubber	CeramiPro Dialite Brasseler	CeraGlaze NTI/Axis	CeraMaster Shofu	D♦Fine Double Diamond Clinician's Choice
Cost/Instrument	\$9.27–\$65.87	\$12.62–\$63.32	\$11.43–\$36.35	\$6.25
Abrasive	Diamonds	Diamonds	Diamonds	Diamonds
Grits	3	3	2	2
Shapes	7	4	6	8
Aluminum Burblock	Yes	Yes	No	No
Straight Handpiece	Yes	Yes	Yes	No
Friction Grip	No	Yes	No	No
Latch-Type	Yes	Yes	Yes	Yes
Effectiveness <sup>3</sup>	No, but close	No, but close	No, but close	No, but close

<sup>3</sup>Was it able to polish a porcelain veneer to match an enamel-like gloss?

With the explosion of polishers embedded with diamond particles, polishing instruments are virtually putting polishing pastes on the endangered list. These products are used to smooth and/or polish composite and porcelain. Available in a variety of sizes, shapes, and firmnesses, they allow us to create high shines on our restorations without the splatter and mess of pastes.

However, since we have found most are more effective used dry rather than wet, it is important not to use heavy pressure when using them in the mouth due to excessive heat generation, which could be deleterious to the restoration as well as the tooth itself. Overly aggressive use can also remove some of the surface characterizations you may have placed in the restoration to give it a more natural appearance. In addition, the effect of rigid instruments on both composite and porcelain has not been properly investigated. Therefore, we urge caution when using a rigid rubber polisher.

We have divided our **CHOICES** to indicate the material the instruments were designed to polish, although many of these instruments can be used on both types of materials and one instrument is listed twice (but tested differently), since its indications state both uses.

## Composite

### Rubber and Brushes

**Effectiveness** For polishing facial surfaces, we scored the polishing efficacy of all the **CHOICES** for rubber polishers on a conventional hybrid in the form of a veneer and the polishing brushes on a packable placed in a Class I preparation. The results were compared to the gloss of natural teeth with typical enamel glossy surfaces. The results are listed in each product's commentary.

Please note that, with the brushes, you need to start with a relatively smooth surface and use substantial pressure to get them to perform optimally. This pressure tends to wear down the instrument rather quickly. One evaluator felt they have a tendency to scratch microfills, while another noted the composite surface needs to be smooth or they will not polish well. Although they can be autoclaved, their durability could not be considered very good—one evaluator reported that they started to change color after a few cycles and another found they disintegrate fairly quickly.

Nevertheless, their access to hard-to-reach occlusal areas and other “nooks and crannies” is unmatched. They are also quite useful for polishing the bis-acryl composite provisional materials and do not produce any annoying residue on the teeth, as do many types of rubber polishers, although the bristles tend to come loose during use and fly off throughout the mouth.

## Porcelain

Polishing porcelain after it has been adjusted for occlusal and/or esthetic reasons is not a quick and easy task. It takes a combination of patience, persistence, knowledge, and an effective armamentarium to properly perform this procedure. Porcelain can be polished extraorally back to a glaze-like surface consistently and reliably with diamond paste. However, diamond paste can be messy and the instruments (felt wheels and bristle brushes) with which it is applied are difficult to clean and sterilize. These instruments are also difficult to maneuver intraorally.

The instruments whose evaluations follow take a big step toward simplifying the polishing of porcelain both intraorally and extraorally. And the importance of this polishing step cannot be emphasized too strongly, especially due to the potential catastrophic wear on natural teeth that oppose porcelain restorations, which have been left rough after adjustments have been made.

**Effectiveness** We scored the intraoral polishing efficacy of all the **CHOICES** on the facial surfaces of porcelain veneers, which we received from a dental lab with their surfaces having a roughness similar to that created by a 30 $\mu$  finishing diamond. Only latch-type instruments were used. All grits of each system were also used. While most of these instruments work well in a straight handpiece extraorally, the real test is an intraoral simulation. The gloss created by the instruments was compared to the gloss of a natural tooth with a typical enamel glossy surface. The results are listed in each product's commentary.

### NOTE

It is safer to occlusally adjust metal-free, partial coverage restorations after securely bonding them to their preparations. This is especially true with restorations such as inlays and onlays. You may be able to adjust these restorations prior to bonding, but only when the restoration margins are out of occlusion and the patient has been properly cautioned about biting too strongly during the marking of the restoration with a recording medium (e.g., articulating paper). With onlays, it may be even trickier since many of these restorations do not have any mechanical retention. Therefore, keeping the restoration in its correct position during a bite adjustment may be very difficult. It is less risky to adjust crowns prior to bonding, but there is still a fracture risk that you must be willing to assume.