

Gloss of a Composite Finished with Super-Snap X-TREME and Two Other Polishing Systems

Purpose: The purpose of this project was to compare the gloss of a restorative composite finished using the *Super-Snap X-TREME* polishing system with two other systems.

Materials:

Composite: *Filtek Supreme Ultra Universal Restorative* (A2B, 3M ESPE)

Finishing and polishing systems: (1) *Super-Snap X-TREME* [includes *Super-Snap black and violet grits* and *X-TREME green and red grits* (Shofu Dental Corp.)], (2) *Sof-Lex Contouring and Polishing Discs* [coarse through super fine] [3M ESPE] and (3) *Sof-Lex Spirals* (coarse and medium *Sof-Lex Discs* followed by beige and then white spirals) [3M ESPE]

Replications: 5

Methods:

Specimens of the composite were formed into discs in a mold (10 mm in diameter, 2-mm thick) against a Mylar strip according to manufacturer's instructions. Five specimens of composite per each polishing system were fabricated. The discs were then mounted into the face of a 32 diameter X 13 mm thick acrylic disc to facilitate holding the restorative material specimen during finishing and polishing. The Mylar facing surface on each specimen was used as an initial baseline condition. In the next condition, the same five specimens were ground flat with 320-grit SC paper simulating a uniform fine carbide instrumented surface. In the next four conditions, all specimens were finished and polished with each step of the different polishing systems (15 seconds per step) using no water (per manufacturer's instructions), low pressure and a handpiece operated at manufacturer's recommended RPM. Gloss was evaluated for each preliminary condition (Mylar strip and 320-grit) and at each step of the three systems four finishing and polishing grits with the small area gloss meter (Novo-Curve). A minimum of 10 readings was taken per specimen for each finishing and polishing step and the maximum of these readings was recorded.

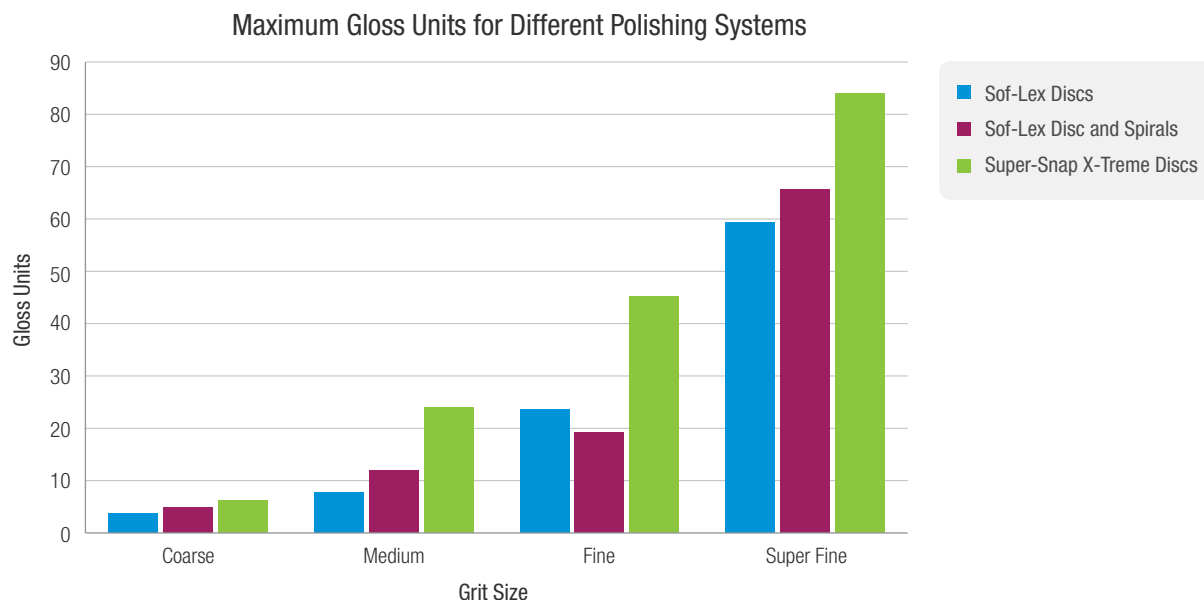
Results:

Mean values and standard deviations of the maximum gloss at each step were determined and are shown in the Table and the Figure.

Table - Means and standard deviations of maximum gloss units of various grits for three polishing systems.

Gloss Units (Max.)					
<i>Sof-Lex Discs</i>	320 grit	Black-Coarse disk	Dark Blue-Medium disk	Medium Blue-Fine disk	Light Blue-Super Fine disk
	6.0 (1.5)	3.7 (1.1)	7.8 (4.0)	23.6 (2.1)	59.4 (1.8)
<i>Sof-Lex Spirals and Discs</i>	320 grit	Black-Coarse disk	Dark Blue-Medium disk	Beige-Finishing Spiral	White-Polishing Spiral
	7.4 (1.5)	4.9 (0.7)	11.9 (2.2)	19.3 (3.7)	65.6 (3.6)
<i>Super Snap X-TREME System</i>	320 grit	Black-Coarse SS disk	Violet-Medium SS disk	Green-Fine X-Treme disk	Red-Super Fine X-Treme
	7.5 (3.1)	6.2 (0.7)	24.0 (2.4)	45.2 (2.3)	83.9 (1.6)

Figure: Maximum gloss units versus grit size for three polishing systems.



Conclusions:

The final polishing step produced by the ***Super-Snap X-TREME*** system was 41% higher gloss units than that of the ***Sof-Lex Discs*** and 29% higher gloss units than the ***Sof-Lex Spiral*** system. ***Super-Snap X-TREME*** produced significantly higher gloss for the medium, fine and super fine grit sizes (Violet, Green and Red) than either of the ***Sof-Lex Systems***.

Funded in part by Shofu Dental Corporation.