

CLINICAL PERFORMANCE OF DESENSITIZERS FOR DENTIN HYPERSENSITIVITY

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[Clinical Performance of Desensitizers for Dentin Hypersensitivity](#) **[PDF:141KB]** 

This study investigated long-term clinical performance of desensitizers for dentin hypersensitivity.

Material Used:

2-bottle MS Coat (Sun Medical) as a control

MS Coat ONE (Sun Medical)

Touch&Bond (Parkell)

Hybrid Bond (Sun Medical)

The materials were applied to hypersensitive areas. Immediately after topical application of the desensitizers, the teeth were tested with a stream of air. Those determined to be asymptomatic were scheduled for long-term follow-up.

Results:

Table. Results of Cumulative Success Rate of Desensitizers (%)

M:month

Desensitizer	# of Teeth	Baseline	1-M	3-M	6-M	12-M	24-M	36-M
2-bottle MS Coat	127	99.2	85.0	81.1	71.7	70.9	70.9	70.9
MS Coat ONE	159	99.4	99.4	92.5	88.1	79.9	77.4	77.4
Touch&Bond	204	100	100	96.6	92.2	80.4	77.0	77.0
Hybrid Bond	163	100	100	98.2	96.3	96.3	96.3	96.3

With the limitation of this clinical evaluation, it can be concluded that MS Coat ONE showed more than 75% success rate for 3-year period.

The following is the summary of the report presented at the IADR Annual Meeting in New Orleans in 2007.

POSSIBLE PREVENTION OF POST-OPERATIVE HYPERSENSITIVITY AFTER TOOTH BLEACHING

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Possible Prevention of Post-Operative Hypersensitivity after Tooth Bleaching

[PDF:868KB] 

This study is to evaluate the possibility for prevention of post-operative hypersensitivity following tooth bleaching using MS Coat ONE.

Results:

Difference in shade

As shown in Table, the average ΔE^* values were 9.7 ± 3.6 (with MS Coat ONE) and 9.0 ± 1.1 (without MS Coat ONE), and no significant differences in tooth color were found between the bleached enamel surfaces with MS Coat ONE and those without.

(Table)

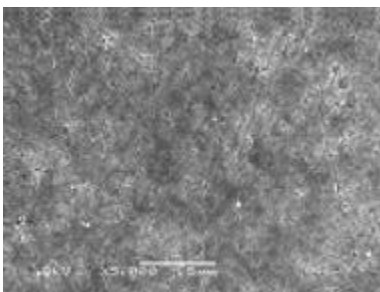
Differences in tooth color between the bleached enamel surfaces with MS Coat ONE and those without

	With MS Coat ONE	Without MS Coat ONE
(ΔE^*)	9.7 ± 3.6	9.0 ± 1.1

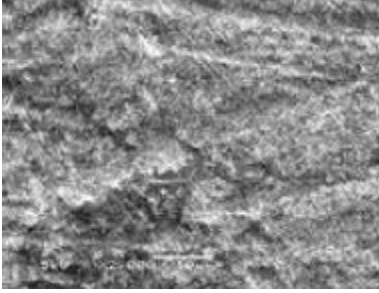
The data were analyzed by one-way ANOVA ($p < 0.05$, $n = 8$)

Unbleached / bleached enamel surfaces

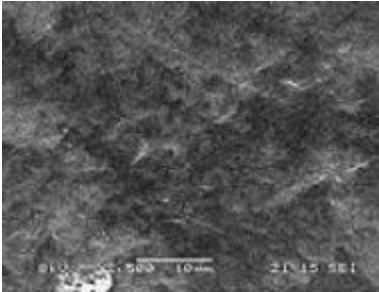
Using SEM, the unbleached / bleached enamel surfaces were compared. The bleached enamel surfaces were rougher though microcracks were observed in both groups. It was suggested that these microcracks could be the pathways of external stimuli that provoke hypersensitivity.



Enamel surface before bleaching



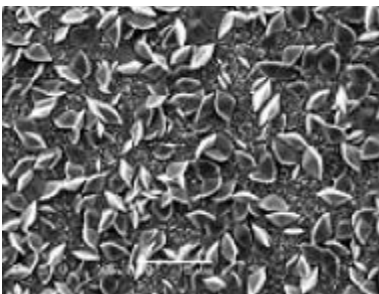
Enamel surface after single bleaching procedure



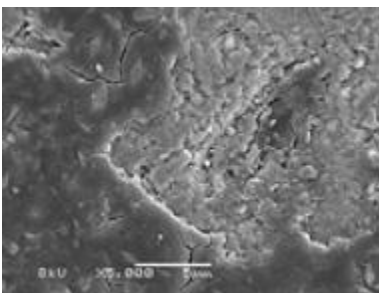
Enamel surface after single bleaching without application of MS Coat ONE

Effects of MS Coat ONE on bleached enamel surfaces

The coated enamel exhibited a unique surface consisting of a polymer film with 1-2 μm petal-like and 0.2-0.3 μm grain-shaped crystals. The film consists of calcium oxalate and MS polymer which seals the microcracks on the bleached enamel surfaces. The polymer film was partially exfoliated by re-bleaching, although the microcracks on the surface were kept sealed by MS Coat ONE.

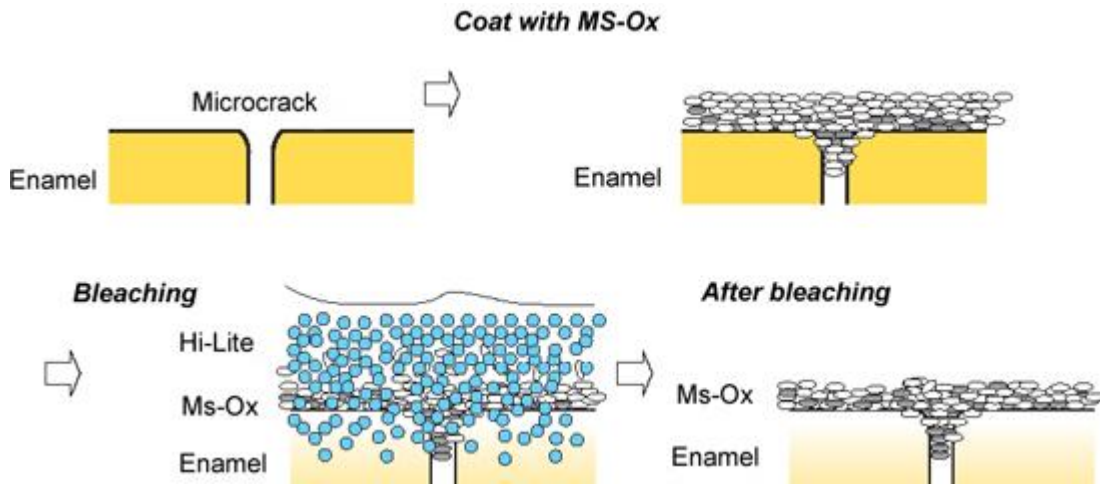


Enamel surface coated with MS Coat ONE after single bleaching



Enamel surface coated with MS Coat ONE after single bleaching followed by one more bleaching procedure

Mechanism of occlusion of microcracks by MS Coat ONE



Conclusion:

MS Coat ONE had a potential to seal the bleached enamel and to prevent post-operative hypersensitivity following tooth bleaching without affecting the shade change.