

## عنوان مقاله:

Influence of Adhesion Surface, Restoration Thickness and Type on Stress Distribution in Anterior Laminate Veneers:  
A Finite Element Analysis Study

## محل انتشار:

مجله مواد و تکنیک های دندانپزشکی، دوره 9، شماره 4 (سال: 1399)

تعداد صفحات اصل مقاله: 10

## نویسندگان:

Mahmut OZDOGAN - *Ankara Yildirim Beyazit University Faculty of Dentistry, Prosthodontic Department, Ankara, Turkey*

Harun Gokce - *Tubitak Defence Industries Research and Development Institute, Ankara, Turkey*

## خلاصه مقاله:

Introduction: While different preparation designs on anterior laminates have been investigated in several studies, a clear understanding of the tooth subtract type support on laminate veneer structural integrity using finite element analysis is still lacking. Therefore, the aim of present study is to evaluate stresses and displacements with different thickness restoration material and prepared tooth subtract using Finite Element Analysis (FEA). Methods: A 3D FEA models of maxillary central incisors restored with two ceramic systems Feldspathic ceramic and IPS e.max press, according to three different preparation surfaces (all-enamel, half-enamel-half-dentin, all-dentin). It has been evaluated von Mises and principle stress and displacement on the incisal surface along with the long axis by applying 50 N. Load. Results: The smallest von Mises stresses were found at Feldspathic ceramic. The lowest stresses were seen in veneers adhered to enamel surface. The greatest stress occurred in the incisal third of IPS e.max press, which is only adhered to dentin surface. While the other five veneers displayed the highest von Mises stress values on cervical margin. Displacement analysis showed that the most ideal result was obtained by using 0.3 mm thick IPS e.max press laminate veneer adhered on enamel. The highest principal stresses were obtained in the cervical area. The greatest stresses occurring on tooth was seen in the dentine in IPS e.max press with the greatest restoration thickness. Conclusion: As the thickness of the restorations increased, the stress on the restoration and tooth .increased

## کلمات کلیدی:

Laminate restoration, Tooth substrate, IPS e.max press, Feldspathic ceramic, FEA

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1138452>

