ONLINE ISSN : 1881-1361
PRINT ISSN : 0287-4547

Dental Materials Journal
Vol. 26 (2007) , No. 2 p.296-302

Effect of Thermocycling on Tensile Strength and Tear Resistance of Four Soft Denture Liners

Serra OGUZ[1)], Mustafa Murat MUTLUAY[2)], Orhan Murat DOGAN[3)] and Bulent BEK[1)]

1) Gazi University, Faculty of Dentistry, Department of Prosthodontics
2) University of Oslo, Faculty of Dentistry, Department of Prosthodontics
3) Cumhuriyet University, Faculty of Dentistry, Department of Prosthodontics

(Received September 27, 2006)
(Accepted December 15, 2006)

Abstract:
This study evaluated the effect of thermocycling on the tensile strength and tear resistance of four long-term soft denture liners. One light-activated (Astron Light, AL), two chemically activated (GC Reline Soft, GC; Silagum Comfort, SC), and one heat-cured (Molloplast-B, MLP) soft liner materials were tested. Dumbbell and trouser-leg specimen geometries were used for tensile strength and tear resistance tests, respectively. A total of 120 specimens were prepared. Test specimens for each material (n=5) were subjected to thermal cycling for 1,000 and 3,000 cycles between 5°C and 55°C in a thermocycler. Before thermocycling, AL gave the lowest tensile strength, while SC exhibited the highest tear resistance value among the materials tested ($p<0.05$). Thermal cycling significantly affected the tensile strength of AL as well as the tear resistance values of AL, MLP, and GC materials. This *in vitro* study revealed that the tensile strength and tear resistance values of the soft liner materials tested varied according to their chemical compositions.

Key words:
Liner, Strength, Thermocycling

To cite this article:

Serra OGUZ, Mustafa Murat MUTLUAY, Orhan Murat DOGAN and Bulent BEK. Effect of Thermocycling on Tensile Strength and Tear Resistance of Four Soft Denture Liners . Dent. Mater. J. 2007; 26: 296-302 .

doi:10.4012/dmj.26.296

JOI JST.JSTAGE/dmj/26.296