

# BOND STRENGTH OF DENTURE TEETH TO DENTURE BASE RESIN

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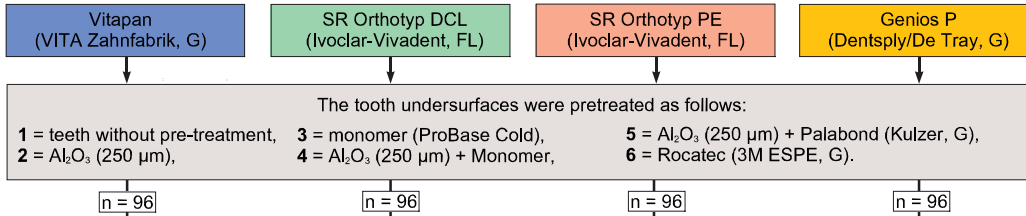


## Introduction:

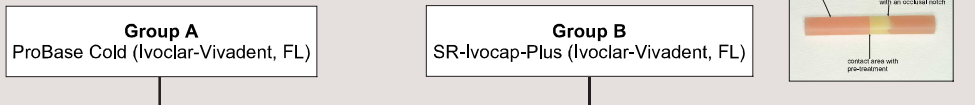
Standardised tensile test specimens were developed in order to test the bond strength of varying denture teeth products to both heat cured and pour type denture base resin.

## Materials and Methods:

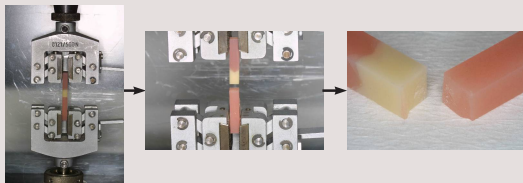
4 different types of acrylic denture teeth were used:



Tensile test specimens (5 mm x 5mm x 48 mm) with the heat-cured denture base resin, SR Ivocap Plus, and the pour-type denture base resin, Probase Cold, were fabricated.



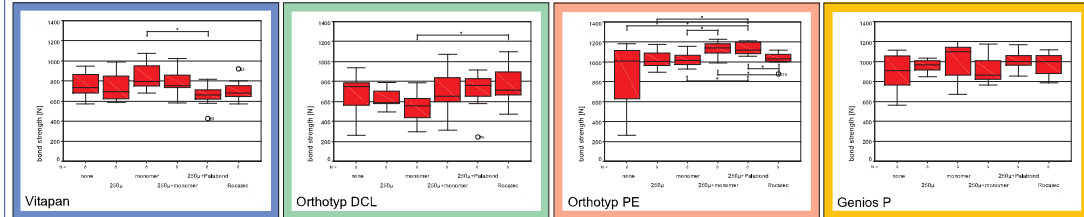
Following 24 h storage in distilled water (37° C) the specimens were loaded to failure using a universal testing machine (Zwick 1446, G; v=1mm/min).



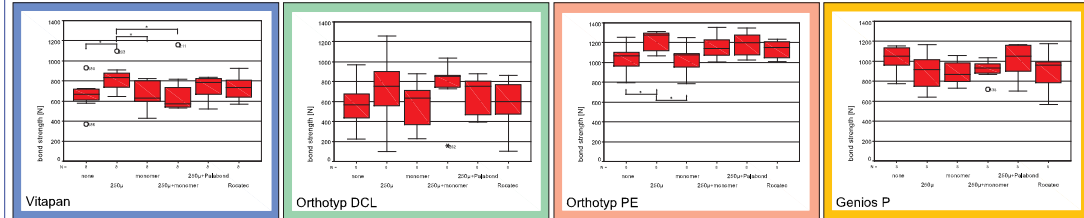
**Statistical Analysis:** Medians / 25% / 75% were calculated. The analysis was carried out using the Mann Whitney U-test ( $\alpha < 0.05$ ).

## Results (\* indicates significant differences) :

### SR Ivocap Plus



### Probase Cold



- With all methods of pre-treatment taken into account, the highest bond strength was observed with Orthotyp PE and Genios P teeth, irrespective of denture base resin.
- Within the individual groups, only slight differences among the different pre-treatment methods were found.
- The type of denture base resin had no significant influence on bond strength.
- All specimens showed mixed adhesive/cohesive failure character.

**Conclusion:** Contrary to expectations from previously released studies this tensile test revealed only a small influence of teeth treatment on bond strength between denture teeth and denture base resins. The type of denture base resin played no major role on bond strength. For both denture base resins, the highest bond strength was found using SR Orthotyp PE and Genios P teeth.