

# SCIENTIFIC REPORT

## Futurabond M – Adhesive values on enamel

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The micro-tensile bond strength of diverse bonding materials was analysed after employing different application protocols in the study at the University of Sao Paulo (Brazil) summarised here. What effect moisture has before application and movement of the bonding during the application were analysed in this study. <sup>[1]</sup>

In this study, 195 extracted bovine anterior teeth in total were involved. After fabricating test specimens, these were divided into three groups (Futurabond M, Clearfil S3 Bond, Optibond All in One). 4 sub-groups were formed in each group:

- a) Dry surface, rubbing the bond into the surface (active)
- b) Dry surface, no rubbing the bond into the surface (passive)
- c) Moist surface, rubbing the bond into the surface (active)
- d) Moist surface, no rubbing the bond into the surface (passive)

15 teeth were available for each sub-group.

### Results of the analysis

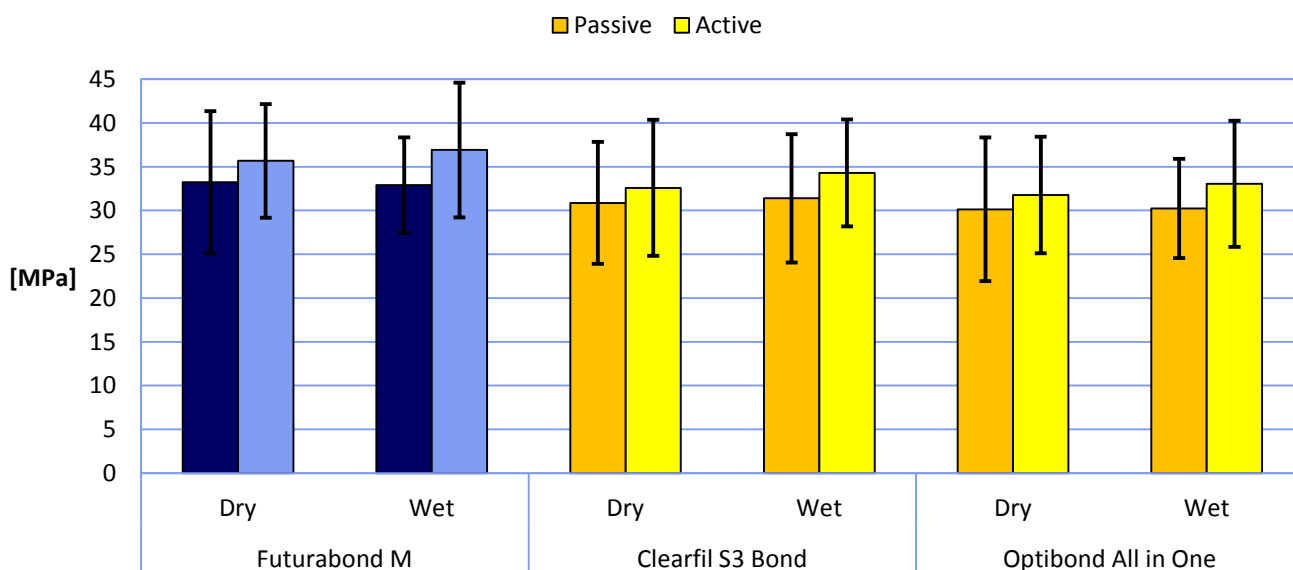


Figure 1: Adhesive values [MPa] depending on the treatment procedure

With an average adhesive value of 34.68 MPa, Futurabond M delivered the highest adhesive values, which were significantly higher than the adhesive values of Clearfil S3 Bond and Optibond All in One, according to statistical analysis using the Tukey Test. All tested bonding systems exhibited a remarkably high error tolerance in the application. Both the degree of moisture and the movement or non-movement of the bond during the application only slightly affect the adhesive values.

**Conclusion: Futurabond M, the one-bottle self-etching system, exhibited the best adhesive values on enamel in this study. The high adhesive values are tolerant regarding the residual moisture on the tooth substance and the type of application (active or passive).**

[1] G. R. Batista, C. R. G. Torres, T. M. F. Caneppele, A. Sasaki, R. S. Fernandes, F. Valdetaro, C. P. Freitas, A. B. Borges, *IADR Barcelona 2010*, Poster #2205.