

also determined. The validity of the improvements forecasted under such conditions was then confirmed at the molecular level for UF adhesive/wood joints by TMA testing, and finally confirmed by testing the mechanical performance of laboratory boards prepared under the postcuring treatment conditions identified. The panels performance improvements observed were explained on the base of already described (Garcia and Pizzi 1997a, b) and well-known molecular level rearrangements of the cured adhesive network and the shifts in their relative importance in modern, lower formaldehyde content UF adhesives. The conclusion was that modern, lower formaldehyde content UF adhesives can considerably benefit from hot postcuring as regards board performance, a trend in clear contrast with the degradation and loss of performance this practice was known to induce (Pizzi 1983, B. Meyer 1979) in the older, very much higher formaldehyde content aminoplastic resins of the past. Consequences of economical and technical interest derive from this, as the findings also infer lower adhesive consumptions and possibly even faster press cycles at parity with present resins performance, if simple postcuring procedures such as after-pressing hot-stacking (rather than board cooling as at present) are implemented for UF-bonded particle and other type of boards.

Of equal importance is the finding that the coupling of the simple and very rapid TMA technique with the developed model allows the rapid scan of many other post-treatment schedules and thus to forecast still possible improvement in the performance of UF-bonded and other-adhesives-bonded particleboard.

## References

- Garcia R, Pizzi A (1997a) Cross-linked and entanglement networks in thermomechanical analysis of polycondensation resins. *J. Appl. Polymer Sci.*, in press
- Garcia R, Pizzi A (1997b) Cross-linked and entanglement networks in thermomechanical analysis of polycondensation resins, Proceedings of the 18th Research Group on Wood Adhesion symposium. Japan Wood Research Society, October 30–31, pp. 19–35
- Humphry PE, Bolton AJ (1989) The hot pressing of dry-formed wood-based composites. *Holzforschung* 43(3) 199–206
- Kamoun C, Pizzi A, Garcia R (1998) The effect of humidity on cross-linked and entanglement networking of formaldehyde-based wood adhesives. *Holz Roh- Werkstoff*. 56: 235–243
- Kollman FPF, Côté WA (1968) Principles of wood science and technology, Vol. 2, Springer Verlag, Berlin
- Lu X, Pizzi A (1998) Curing conditions effects on the characteristics of thermosetting adhesives-bonded wood joints – Part 1, *Holz Roh Werkstoff* 56: 339–346
- Meyer B (1979) Urea-formaldehyde resins, Addison-Wesley, Reading, Massachusetts
- Pizzi A (1983) Aminoplastic wood adhesives, chapter 2 in *Wood adhesives chemistry and technology* (A. Pizzi Ed.), Marcel Dekker, New York
- Pizzi A (1997) On the correlation of some theoretical and experimental parameters in polycondensation cross-linked network. *J. Appl. Polymer Sci.* 63: 603–617
- Pizzi A, Lu X, Garcia R (1997) Lignocellulosic substrates influence on TTT and CHT curing diagrams of polycondensation resins. *J. Appl. Polymer Sci.* in press
- Pizzi A, Probst F, Deglise X (1997) Molecular mechanics modelling of interfacial energy and flexibility. *J. Adhesion Sci. Technol.* 11(4): 573–590
- Probst F, Laborie M-P, Pizzi A, Merlin A, Deglise X (1997) Molecular mechanics/experimental methods applied to varnish/primer/wood interactions. *Holzforschung* 51: 459–466

## Corrigendum

# Curing conditions effects on the characteristics of thermosetting adhesives-bonded wood joints – Part 1: Substrate influence on TTT and CHT curing diagrams of wood adhesives

X. Lu, A. Pizzi

In: *Holz als Roh- und Werkstoff* 56 (1998) 339–346

Due to a technical mishap equation (1), page 345 was misprinted. The correct equation should read as follows:

$$(\lambda p)/(1 - \lambda)p = (T_g - T_{g0})/(T_{g\infty} - T_{g0})$$