

NEWS

Durable Wood

EPI also bonds modified wood

Special modification methods can be used to achieve a clearly higher durability group classification, above all for native wood species. Accoya® is the brand name under which a radiata pine, modified with acetic anhydride, is on the market. It is used preferably for exterior applications (window-frame construction and doors). The EPI adhesive Jowacoll® 102.49 with 15 % (ppw) Jowat® crosslinker 195.60 has been established in comparative research as the product with top results.



The modified wood as well as the adhesive selected must be largely compatible with the manufacturing technologies actually used in window-

frame assembly (scantling and corner bonding). Of course, the adhesives must be those which meet the D3 or D4 durability classes according to the EN 204/205, and also the high heat resistance levels according to the EN 14257 (WATT91). Of course, it is also necessary to take the specific properties of the modified wood into account. Accoya® wood can generally be bonded using the dispersion adhesives which have proven successful in windowframe

construction, like Jowacoll® 103.30 (D3 glue) or Jowacoll® 107.10 (D4 glue). Accoya® has, however, a limited and lower capacity for water absorption, and this will also extend the setting time of these adhesives, and in consequence require longer pressing durations.

This wood is offers, to its chemical modification, a dimensional stability (swelling and shrinkage) which is much higher (by about 80 %) in comparison to natural wood, and the negative effect of stress on the bondline due to changes in climates will be much less. When bonding was carried out using diverse adhesive systems, the strength results were sometimes found to be dramatically different, especially when exposed to moisture. The EPI (Emulsion-Polymer-Isocyanate) adhesive Jowacoll® 102.49

with addition of 15 % ppw Jowat® 195.60 crosslinking agent here led to the best results. But apart from the excellent bonding performance while wet, the EPI adhesive also has some extra advantages. The high solid content only has minor impact on the setting speed. The chemical reaction of the isocyanate crosslinker to polyurea largely reduces the thermoplastic performance of the adhesive, thereby giving a very durable bondline even when temperatures are higher, as they may very well be in the sector window construction.



INFO Bonded with Jowacoll® 102.49 + 15 % Jowat® 195.60 Crosslinker

Delamination test in dry state	100 % fibre-tear
Heat resistance after 1 h at 80 °C heat chamber with circulating air	no delamination
Climatizing in water plus drying (ift guideline)	no delamination
Delamination test wet after climatization in water	80 % fibre-tear



Sample: Accoya® wood scantling ... in delamination ... after delamination ... 100 % fibre-tear

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First class bonding

Jowat 
Klebstoffe