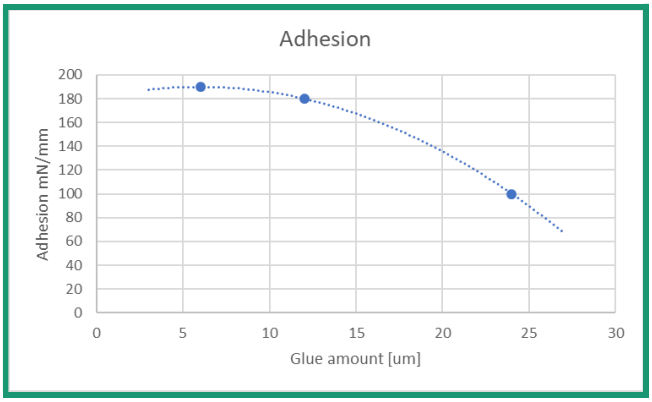
# GUIDELINES FOR GLUE LAMINATION OF HIGH BULK VIRGIN BOARDS

In order to optimize glue lamination results of high bulk virgin boards, the properties of the board need to be considered to achieve good adhesion and to minimize curl. Especially, if replacing different type of board (e.g. recycled fiber material) with high bulk virgin board, it is important to understand that changes in lamination variables may yield different results with different type of board.

Based on our experience, good results can be achieved in all glue types commonly used in lamination (PVAc, protein-based, hot-melt glues etc).

In lamination of high bulk virgin boards, the increase of glue quantity does not generally improve the adhesion – but it may cause curling due to more water (solvent) coming into the board. When the applied glue amount is increased, both the contact time* and the open time** are increased.




*Effect of glue layer thickness on adhesion between board and surface paper*

Optimal adhesion results in lamination of high bulk virgin boards were achieved by using:

- Smallest possible quantity of applied glue
- Highest possible viscosity of applied glue
- Highest possible dry content of applied glue

Minimizing glue quantity and maximizing its viscosity and dry content also minimize curl tendency due to lower water absorption into board (or surface material if paper is used).

As the open time is decreased by doing above steps, sufficient speed of lamination process is required.

The higher the board bulk ratio is, also the higher the gain in stiffness is. In two-sided lamination with paper, the gain in stiffness levels of Pankaboard high bulk virgin boards can be over 200 %.

*Contact time = compression time needed between the laminated materials for a sufficient adhesion
**Open time = Time between application of glue and compression of the laminated materials

Published 01/2020

**PANKAKOSKI MILL OY**
Ruukintie 2
FI-81750 Pankakoski
Tel. +358 (0) 104 804 600
Fax +358 (0) 104 804 701

**SALES OFFICE**
Eteläesplanadi 8 A
FI-00130 Helsinki
Tel. +358 (0) 104 804 600
Fax +358 (0) 104 804 702

**www.pankaboard.com**