

## Hot Press versus Cold Press; 5-Ply versus 7-Ply

Architectural or Commercial Flush Doors are constructed using one of two processes, i.e. **Hot Press** or **Cold Press**. Identification of a door as either 5-Ply or 7-Ply will generally indicate the type of press used, with 5-Ply usually denoting **Hot Press** and 7-Ply usually denoting **Cold Press**. Algoma Hardwoods produces **Hot Press**, 5-Ply doors exclusively, having made the marketing decision to position its product as the best and most consistent available.

Some manufacturers' information about 5-Ply doors is not entirely accurate. **Cold Pressing** 2-Ply skins into doors does not meet the generally accepted definition of a 5-Ply door. **The key to consistency of the product is not the number of plies, but the technology of Hot Press versus Cold Press.**

Glues used in the manufacture of wood products work, as do most glues, through the evaporation of water from the glue. Total evaporation of water completes and strengthens the bond. Any retention of water weakens the bond. There are four critical factors affecting this process. **Hot Press** technology controls all four. **Cold Press** technology controls only one, leaving the other three dependent on ambient or random conditions. The following chart illustrates:

	<b><u>Hot Press</u></b>	<b><u>Cold Press</u></b>
<b>Pressure</b>	<b>Controlled</b> (80 – 120 psi)	<b>Controlled</b> (30 – 50 psi)
<b>Temperature</b>	<b>Controlled</b> (225° - 260° F)	<b>Uncontrolled</b> (Ambient Conditions)
<b>Time</b>	<b>Controlled</b> (5 to 8 minutes)	<b>Uncontrolled</b> (30 minutes plus 4 – 8 hours to allow glue curing time)
<b>Platten</b>	<b>Controlled</b> (3" steel on each door side)	<b>Uncontrolled</b> (Stacked door to door to door)

Manufacturing consistency and quality result from process control. **Hot Press** controls all critical factors of the process, with a totally complete door being ejected from the press. In **Cold Press** most factors are uncontrolled and the door cannot be processed on removal from the press, with another 4-8 hours being required to cure the glue.

Summarizing, **Hot Press** 5-Ply doors offer the following:

- 1) **Control of the gluing operation** – All processes are controlled inside the **Hot Press** at the door manufacturer. This results in manufacturing consistency and quality.
- 2) **Control of Components** – In **Hot Pressing**, all glue lines between components (core, crossband and face) are controlled by the door manufacturer. Skins for **Cold Pressing** are typically outsourced by the door manufacturer, further diluting manufacturer control over the finished product.

The highest degree of control, consistency and quality is to be found in the **Hot Press** 5-Ply door. **Always include Hot Press, along with the 5-Ply designation when specifying architectural grade wood doors.**

## **SPECIFICATION**

**AWI or WDMA (formerly NWWDA) Premium or Custom Grade Hot Press 5-Ply construction.**

