August 2021

mitech Panel Services

mitech news

Greetings to all for this late August News Letter edition

In this edition:
- Short cycle pressing challenges
- Part 3: process settings Pressure

Melamine pressing

Short cycle melamine pressing challenges – Continued.

In May we looked at machinery:

➢ Press frames	With the focus on damage and condition
➢ Press platens	The focus was on damage and condition
➢ Press pads or cushions:	The focus was on damage and condition
➢ Press plates	Focus on maintenance and condition

Then in June we discussed materials:

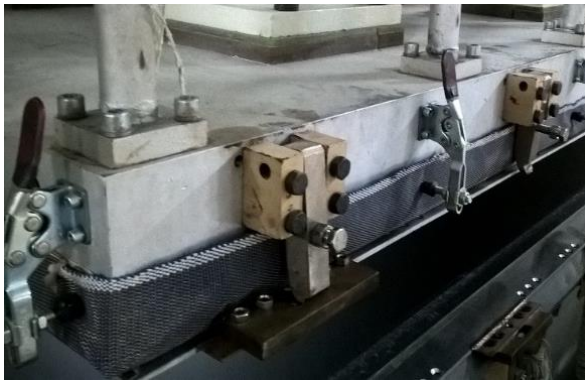
➢ Substrates	Quality and defects
➢ Impregnated paper	Quality and storage

This month we can finally focus on press process settings

It is common knowledge that press settings are divided into three groups:-

- Pressure
- Temperature
- Time

All are related in some way, but this month we look at pressure



Pressure

The important pressure is the *specific* pressure. As distinct from the *hydraulic* pressure.
specific pressure is the pressure applied on the panel, as applied by the force applied by the *hydraulic* cylinders.
As an example:

- Hydraulic pressure: 300 bar (3,000N/cm2)
- 6 Cylinders each 30cm diameter: 4,242cm2
- Force applied to the platen: 12,725,100N
- Area of a 2,440mm x 1,830mm panel: 44,652cm2
- Specific pressure on the panel: 2,85N/cm2
  (In the “old” units this is 29kg/cm2)

(This data is usually displayed on a chart on the press control panel)

Minimum pressure

The specific pressure at which resin commenced flows within the paper is commonly estimated to be 150N/cm2
In the “early days” the minimum *specific* pressure required for low pressure lamination was therefore considered to be 200N/cm2, so producers safely ran at 250N/cm2
As textures became more complex and deeper, pressures were increased to 300/N/cm2 to maintain quality.
Nowadays pressure specifications for presses are commonly 400N/cm2
And 600 - 700N/cm2 is often a requirement.

Before selecting press plate deep texture designs, ensure your specific pressure is adequate

Pressure times

Associates with the pressure is the time to achieve the pressures.
With slow papers and relatively low temperatures it was considered that 5 seconds was fast enough from first contact of a panel with the press plate to 150N/cm2. (the *open* time)
With demands on productivity, press temperatures increased, so this *open* time reduced to 4 secs until today when this time can be as short as 2.5 – 3.0 secs.

So before increasing press temperature it is important optimize, then maintain the three critical times from when panel touches one edge of the press plate until pressure reaches150N/cm2 specific pressure.
And then the continued increase to maximum pressure should be within 2 seconds.
Press **time** should be measured from 150N/cm2 until the pressure starts to decrease

Press Temperature
There can be misunderstandings too about “press temperature”.

- Thermal oil temperature
- Platen temperature
- Caul plate surface temperature

We will focus on **temperature** in September

Short cycle panel lamination

MAX PLUS **Press Pads**

We take the opportunity to remind readers of our press pad (cushion/mat) service
This service complements our press caul plate supply service.
We are excited to have gained the regional reputation and trust for highly effective, durable, and promptly delivered press pads (cushions / mats)
The original offer remains:
one free cushion supplied in a first order

Press cushions for HPL

MAX HPL **Press Pads**

If your company produces HPL we are pleased to re-announce that Mitech now supplies durable silicon and copper woven press cushions designed for HPL pressing conditions:
High pressure with uniform, but moderate heat transfer.
For new customers one cushion can be supplied free of charge to test before an order

.

Thank you for reading and for your interest and to those who take time to comment
We are all learning, so we invite comment on any topic or suggestic Topics.
If we don’t know, we do know others who do know

Engineered wood panels

- Conveyors
- Chippers
- Resin plants
- Chip washers
- Plywood presses
- Mat Spray Systems

Panel Lamination

- Paper impregnation lines
- Short Cycle Presses
- HPL Presses
- Veneer presses
- Press Pads
- Press Caul Plates
- Paper winders
- Paper Cutters
- Protective Foil application

Additives

- Release Agents
- Wetting Agents
- Hardeners
- Dyes and Pigments

CONTACT: Mike Green

Mitech Panel Services Pty Ltd
7, Maguire Place
Dardanup West
Australia
WA, 6236

Ph: 61 897281828
Mob: 61 435651615
mike@mitechps.com
lois@mitechps.com
www.mitechps,com

An Experienced Wood panel machinery and materials supplier

We are a reputed wood panel machinery and associated materials supplier.
Our years of experience in the market, dealing with various clients, each with unique requirements have driven us to increase knowledge and skill

We always endeavour to meet your expectations.

Contact us any time for any query related to our products. We are happy to assist you.