

mitech news

Engineered Wood Panels edition – May 2023

In this edition:

- **pMDI bonded wood panels**
- **Ligna – Hannover 2023**



With the increasing popularity of MDI bonded particleboard, MDF and OSB, it is worth re-circulating an article originally distributed in our News Letter of March 2020

From several alternative binders available, the industry has focused on pMDI.
(*Polymeric diphenyl methanediisocyanate*)

With the well-recognised advantages:

- Cured pMDI is completely free of formaldehyde emissions.
- The extremely effective bond of pMDI



E&P Wüertz, polymer additive technology (PAT®) products are probably the most globally respected.

Wüertz recognises all the issues with MDI binders and has developed and refined its range.

The components used in Wüertz MDI additives are completely free of silicone and wax and can withstand temperatures exceeding 230°C.

The extremely high temperature-resistance of the Wüertz grades allow for the manufacture of panel-surfaces with a light, natural color.

With the precision achieved by the latest of continuous presses, 100% MDI-bonded panels made with Wüertz products, being free of

silicone and wax at the surface, may therefore immediately be used for lacquering or lamination without the need to sand



All products are non-corrosive and compliant with the internationally recognised environmental standards, both for the external environment and the process environment. In particular, there are no flammable volatiles emitted at high temperatures associated with pressing.



Wuertz additive for pMDI panel production:

- **External Release Agent types PAT®-7399 in** and a range suitable for the selected coating process
The use of specialised release agents are essential to ensure separation of the hot cured pMDI from the press belt or platen surfaces.
- **Internal Release Agent type PAT®-554/HW**

This is a concentrated product to be diluted with soft water or blended with wax-emulsions.

- **Tackifier type PAT®-5177/N**
MDI – in comparison with UF or MUF – generally suffers from a low cold-tack, especially considering the comparatively low dosages.
This can be a significant issue with multi-layered panels such as particleboard. So an additive to increase tack is essential.
PAT®-5177/N is also an internal release agent, and in some cases no extra release agent is required
- **Curing agent type PAT®-6288**
pMDI is catalysed by water but PAT®-6288 allows a controlled reaction

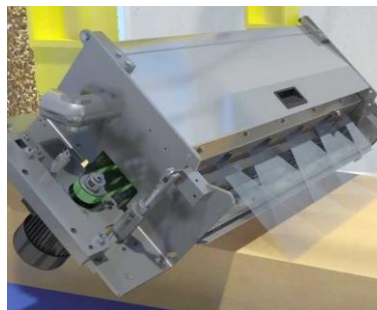
Release agent application equipment:

The external release agent equipment is as important as the additive in the application process!

The most effective are the external release agents, applied directly to the hot steel press belts.

The coverage of the belts must however be completely uninterrupted!

Commonly used coating is by nozzle system spraying, and by rotary disc system spraying. Having in mind that the spray systems must be designed to operate in a relatively hot environment.



The ideal process for large scale production is with specialised coating rollers on the steel belts

- Aqueous based external release agents should not be applied to mat surfaces:.

- To back-up an external release agent, an internal release agent is often used.

We trust that many of you will attend **Ligna in Hannover 14th to 19th May**
We will be at the Wuertz booth where your process can be discussed with the experts

PAT® - This brand is your friend!



We look forward to seeing you there!

Thank you for reading and for your interest, and to those who take time to comment.

We are all continually learning, so we invite comment on any topic or suggestions for topics.

If we don't know, we do know others who do know.

Back issues of all News letters are available at > www.mitechps.com/News

If you do not want to receive these News Letters, please reply: *Do not send*

Engineered wood panels

- Conveyors
- Chippers
- Resin plants
- Chip washers
- Plywood presses

Panel Lamination

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

Additives

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

With best regards
Mike Green

Mitech Panel Services Pty Ltd
Ph: 61 897 281 828
Mob: 61 435 651 615
mike@mitechps.com
www.mitechps.com