



A Rockwell Automation Company

WestPine MDF MIS System

The Client:

West Pine MDF (a division of West Fraser Timber Co.) is a medium density fiber board plant located in Quesnel, BC. The WestPine factory is situated on a 110 acre site on Quesnel's big Two Mile Flat mill centre near the confluence of the Quesnel and Fraser Rivers.

The WestPine MDF mill is the first medium density

fiberboard plant built in British Columbia with its first panel produced in 1996. The plant utilizes locally available wood residues to produce high quality MDF and puts a great emphasis on the refining of raw material for its pine-based board. It is also one of the first mills to have a 10ft wide continuous press line.

The Requirement:

The client wanted an information system which would allow for complex and detailed process analysis. The specification was based on previous systems the client had worked with in New Zealand and the US.

Based on Hinz' work with the information system supplied to the Tolko Meadowlake OSB project, we were awarded the project.

The Management Information System (MIS) had to

track process variables and set points with respect to the panel. For example, when the fiber for the panel was being dried, what were the dryer settings? There was a need to track approximately 190 variables for every panel.

Another requirement was to link all of the panel information with their lab tests.

The Design Solution:

The solution which Hinz provided for West Pine was a combination of data collection using the Hinz Data Logger (HDL) and a web application which was used for process analysis. The HDL is a Hinz application which optimally stores data in a database.

The web application provided an intuitive interface to view current and historical information. It also provided many reports to analyze specific production runs by comparing the quality of the process parameters against a pre-defined specification.

The MIS also provided a live update page which displayed grading information of the panels as they exited the press. Any number of parameters could be graded. The operators would be alerted to any anomalies through page pop-ups and color indicators.

Hot Tests, or lab tests, were performed every few hours on the panels which were recorded in the MIS.

Manual data entry pages were setup to allow the operators to select the panels to test, and then add the lab information. All of the test information was automatically graded against test specification parameters, indicating if the panel was out of specification. Summary data was made available allowing tests over long periods of time to be viewed and exported.

To facilitate custom analysis, all of the reports, raw PLC data, and panel information is exportable to Excel.

With exported data from the MIS, third party applications are being used to provide further analysis of the process. Significant process improvements have been achieved as the result of information provided directly from the MIS as well as using third party tools.



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West Pine MDF Management Information System

Navigation: Home | Reports | Archive | Specifications | Admin | Log Out

Sub-navigation: Panels | Panel Trend | Grading | Hot Test | Process Summary | HotTest Summary | RMS | Thayer | Bin Inlet | Bin Discharge | Recycle | Reject

Orders List: 610

Manual Data Input: Panel Density, Internal Bond, Density Profile, General Data

List of Hot Test Panels:

Tag ID
2005-08-06 01:36:16
2005-08-06 00:29:40
2005-08-05 22:44:54
2005-08-05 22:24:53
2005-08-05 20:37:42
2005-08-05 20:18:56
2005-08-05 19:01:49
2005-08-05 18:16:44
2005-08-05 16:43:30
2005-08-05 16:26:02

Test Details:

Date	2005-08-05
Time	22:24:53
Crew Test#	T / 3
Order #	610
Nominal Thickness	0.6875
Mat Width	2602.00
Product Type (Target)	GoldPlus
Avg GreCon UST	18.85
Actual Grade	G
Mat Weight	14.53
Resin Type	Br62
Face Resin %	11.888
Face Urea %	1.268
Face Wax %	0.507
Core Resin %	11.892
Core Urea %	1.268
Core Wax %	0.507
Bone Dry Density	44.2134
Line Speed	225.00
Top Face MC	7.87
Face H&H Temp	52.40
Core H&H Temp	52.00
Face Preheater Pressure	725.67
Core Preheater Pressure	725.69

Cross Panel Density (pcf)

Block	Thick	Act	Nom
1	0.739	48.21	48.81
2	0.743	47.76	48.61
3	0.740	47.04	47.68
4	0.744	46.64	47.54
5	0.739	46.32	46.89
6	0.735	46.28	46.59
7	0.732	46.41	46.53
8	0.735	45.72	46.03
9	0.740	45.50	46.12
10	0.735	45.72	46.04
11	0.734	46.60	46.86
12	0.735	46.79	47.11
Avg	0.738	46.58	47.07
Avg (mm)	18.75		
Spec.	0.730	46.50	
Target Density	46.50		
Recommended Mat Weight	14.354		

Internal Bond (IB's) - psi

Block	Density	IB	Break
1	47.39	149	3
2	46.24	146	3
3	46.11	141	2
4	45.43	141	2
5	45.02	115	3
6	47.04	148	2
Avg	46.21	140	
Target Avg	45.80	Low	105
Single			95

Forming

	Bot Face	Core	Top Face
Shave off heights	50.45	56.75	48.20
Avg Pressure	47.29		
Bulk Density	3.73		
Face/Core	0.72	Top / Bottom	0.97

System Specifications:

- Computer: Dual 64 bit processor w/ RAID 5
- Operating System: Linux for MIS and Database, Windows XP for data collection.
- Database: MySQL
- Web Application Language: PHP
- HDL Application: VB.NET

For further information or to contact a Hinz office near you, please check our website at:

www.hinz.com