



A Rockwell Automation Company

## Westroc Industries Limited Gyproc Manufacturing Plant

### The Client:

Westroc Industries Limited is one of the largest gyproc board suppliers in Western Canada. Gypsum is trucked from the Rocky Mountain Foothills near Eckshaw, Alberta, into WestRoc's Calgary facility. The Calgary facility supplies gyproc board in lengths from 8 feet up to 20 feet long. The gyproc board is

manufactured in thickness that varies from 1/4" up to 3/4". The gyproc board is in high demand by Western Canada construction projects and WestRoc runs this facility 24 hours a day to keep up with the construction industry's demand.

### The Requirement:

Westroc's Calgary facility has been undergoing continual production changes in order to keep up with the construction industry demands for gyproc boards. The existing relay control logic used throughout this plant was becoming difficult to troubleshoot and repair. Selected areas of the plant were of more concern than others, due to the older age of the

equipment and the higher production speeds required. The relay controls in these areas would need to be replaced by Programmable Logic Controllers (PLC) to keep up with higher speed conveyors.

### The Design Solution:

Three areas were selected for upgrading. The largest area was the Dryer Ovens Area. This area includes the main dryer oven, trim saw, dryer infeed conveyor, stacker unit, bundler unit, and production reporting. The older relay control system in this area was replaced with an Allen-Bradley PLC 5/25. The PLC has 192 discrete inputs, 128 output devices, and 32 analog inputs connected to it. Two PanelView operator terminals are connected via I/O Bus to this PLC to allow the operators easy access to process parameters. The operators can easily monitor this area of the plant's production, and change process setpoints as a different type of gyproc board is required. The operator can also generate Shift Production reports using the PanelView.

Another area selected for upgrading is the mixing/blending area. An Allen-Bradley PLC 5/25 was used to enhance the existing control system and is interfaced to Allen-Bradley ControlView operator interface graphics package. ControlView allows the operator to

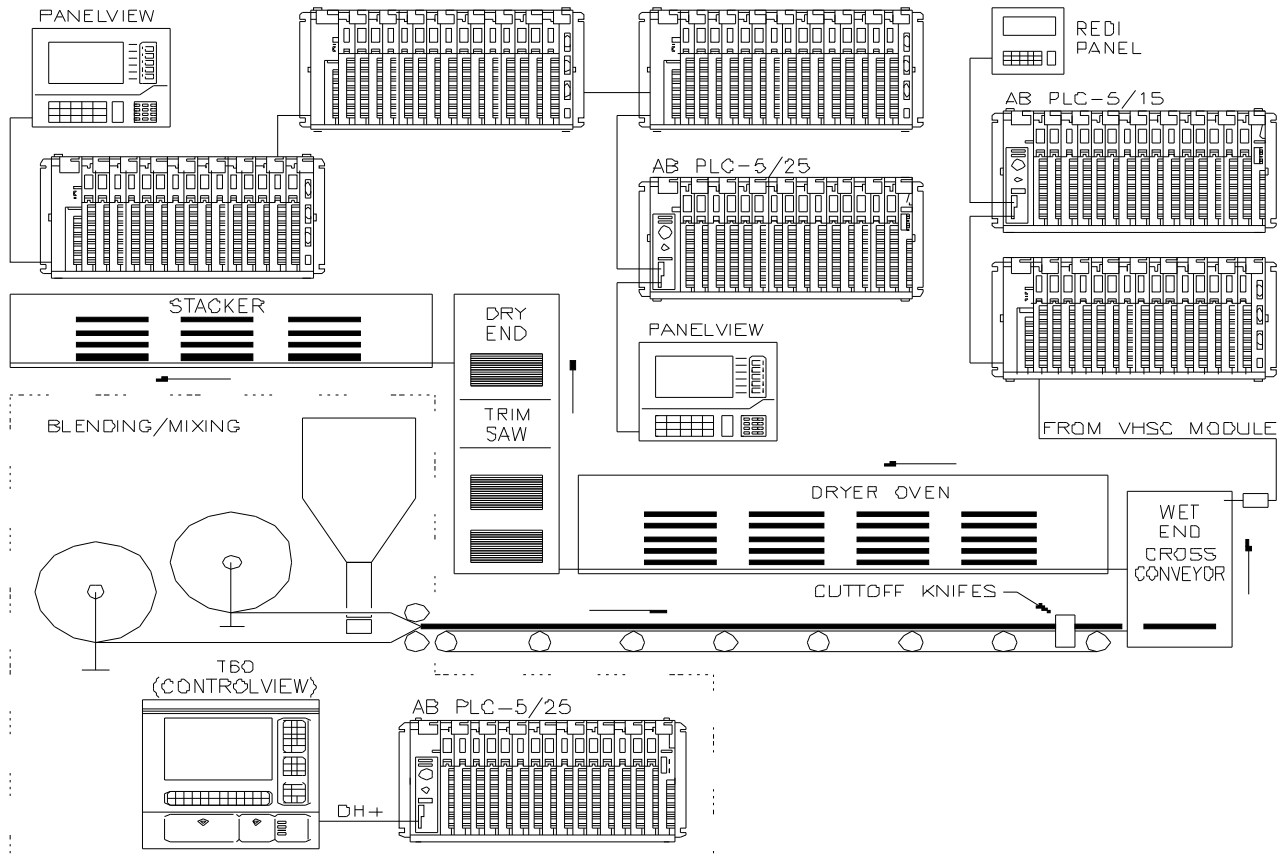
minutely control the mixture of the various gyproc blends. Production reporting is also available from ControlView.

The last area selected for upgrading at this time was the cross conveyor at the wet end of the plant. This cross conveyor transfer system was positioned using an older troublesome photo electric switch controller. This photo electric switch controller was replaced by an Allen-Bradley Very High Speed Counter (VHSC) module and a high resolution optical encoder. The additional resolution and speed of the VHSC module will allow Westroc to move the gyproc boards faster and with greater accuracy. Positioning of the gyproc boards can be adjusted by the operator using a newly installed RediPANEL keyPad display unit. The RediPANEL unit is connected to the Allen-Bradley PLC via the Remote I/O Bus and is used to display current positions as well as permitting the operator to adjust the gyproc board positions in the Cross Conveyor System.



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## System Specifications:

### Dryer Oven Area

- Allen-Bradley PLC 5/25
- 1 Local PLC Rack
- 3 Remote PLC Racks
- 2 PanelView Operator Consoles
- Remote I/O Data Highway

### Mixing/Blending Area

- Allen-Bradley PLC 5/25
- 1 Local PLC Rack

- ControlView Graphics Operator Interface
- Allen-Bradley T60 Computer

### Wet End Area:

- Allen-Bradley PLC 5/15
- Very High Speed Counter Module
- Optical Encoder
- RediPANEL Keyboard Display Unit

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

[www.hinz.com](http://www.hinz.com)