

«Onduline - construction material» LLC

Information about the object:

Project: Second phase of a project of plant construction

The technology of Onduline production involves high quality bitum saturation of pulp (organic) sheets at low temperature and pressure conditions. The sheets are painted before saturation which helps to obtain rich and fast colour. In contract to asbestos slate Onduline does not contain asbestos this is considered to be harmful for health. Onduline does not decay or get rusty. It is stable to chemicals.

The structure of cooperation with the customer within the project:

1. The customer –France Onduline, Russian branch – Ондулин, Nizhniy Novgorod
2. Contractor- Ofitech France , was responsible for the project development and software configuring
3. Contractor – “BPA” Company, Moscow, was responsible for project documentation, supply of equipment, assembling and start of the system and units.

Description of the customer's enterprise:

“Onduline” plant in Nizhniy Novgorod belongs to the international group of corrugated bitum roofing material production. It was opened on the 10th of July 2008.

Now “Onduline” is the world leader among the corrugated pulp-bitum roofing material producers. It has a share of 75% of the European market of corrugated pulp-bitum roofing material, 35 trade houses, 10 plants producing roofing and waterproof materials. It supplies the products to more than 100 countries of the world.

Onduline is light corrugated roofing and facing material produced by French 'Onduline' Company for more than 50 years.

Onduline is produced by pressing cellulose fibre (in other words just carton) and then the fiber is bitum saturated. The upper layer of the sheets is covered by resin and mineral paints which help to protect the roofing material and keeps its attractive appearance. The material does not contain any harmful chemicals. It is produced of environmentally-friendly materials.





Problem:

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As a part of cooperation with “Onduline - construction material” LLC, “BPA” Company has revised the French project. Measurement and control equipment, control and air operated cabinets have been installed, tested and started. Closed optic loop for continuous operation of all the equipment has been assembled.

The following works have been performed within the project:

1. Project documentation “Onduline roofing materials production line automatization in Nizhniy Novgorod” has been corrected.
2. APCS equipment and control and measuring instruments have been supplied
3. Construction and installation works of APCS, electrical equipment and measuring instruments.
4. Adjustment and start up works of APCS and measuring instruments.

PLC scheme:

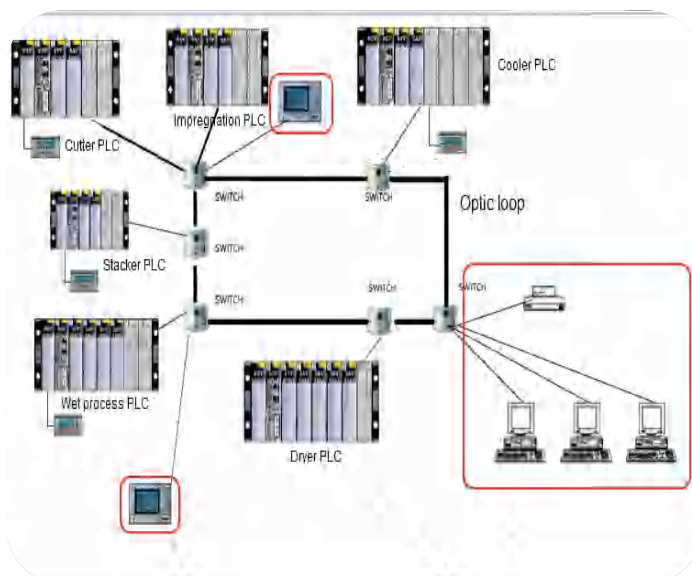
Activities:

The below mentioned activities have been performed within the project:

I stage - Assembly of equipment:

Assembly of equipment and materials according to the Project equipment and materials specification;

Assembling of control cabinets of the equipment at the territory of the own production base in accordance with the Project specifications and assembly drawings.



II stage – Installation works of APCS

Control cabinets installation;
Air operated cabinets installation;
Outlet signal circuit for measuring instruments switching in, as well as intermediary cabinets of measuring instruments, electrically driven and air operated power units for control and air operated cabinets;
Installation of racks;
Cable routing on racks;
Field measuring instruments switching in as well as motor operated valves and pneumatics;
Testing of connection scheme of outlet signal control circuits of field measuring instruments or actuators to automatic cabinets.



The supply of the equipment of the below mentioned manufactures has been arranged Schneider Electric, Hirschmann, Danfoss, IFM electronic, Endress + Hauser, Bosch-Rexroth, Legrand, Leuze electronic, Phoenix, APC.

The main functions of the line:

The line starts with the feed line. Then the material goes to shredder and after that to pulping machine where cellulose is saturated and mixed with water. At another stage the pulp is clarified, mixed with special additives and fed on so called 'wet table' where the cellulose fiber is leveled and the excess of water is removed. The fiber goes through extrusion press canister which helps to get a dense sheet. Then the sheet is dyed and corrugated. Formed and dyed sheet is fed to the dryer where it is dried while rotating at 270 degrees. After the drying the sheet goes to the cutting machine where it is cut and then fed to the area to be saturated by bitum at the temperature of 200 degrees. Ready and hot sheets are cooled by the sprayed water and then while moving along the line. Finally, at the packing area the sheets arrive with the temperature of 60 degrees. Then they are palletized and sent to the warehouse. Shredding, saturating, forming, pressing, drying, bitum saturating, cutting and dyeing is performed at the line 300 meters long. Only a few people control the whole process.

Second phase of a project of plant construction was finished in April 2012. It helped to increase the production facilities of the enterprise twice more and to reach the volume of 30 thousand meters a year. The second plant is a copy of the first plant. About 1 billion of rubles was invested into the project.



Terms of project execution:

The terms were short – only 5 months. Only with the help of good teamwork of “BPA” Company and “Onduline” JSC, construction, adjustment and start up works were performed in time and the project was finished in February 2012.

Additional information can be
received at the below mentioned links

<http://www.bpa.ru/>

www.bpa.ru

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