

Optima: cutting costs with total control of glassworks' activities

With competitiveness in mind, glassworks are now facing the need to have every part of their activities under control, also to avoid waste, both in terms of material and in terms of time. A software system that carries out this work, enabling companies to have information relative to production, warehouse and orders - Opty-Way® Enterprise - is presented here by its manufacturer, Optima.

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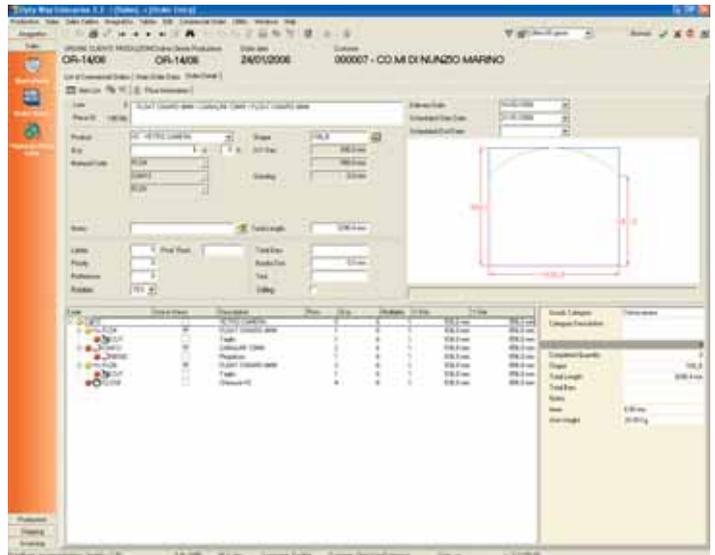


Fig. 1 - Opty-Way Enterprise - client order

Optimal production is the requirement of each company, whether it operates in the service or manufacturing market. For years considered a secondary division compared to other company activities, such as marketing and finance, production has, for some time now, got back its fundamental role in the overall system of the company, since efficient production contributes tangibly to the success and to the economic status of the firm.

The glass processing market, as many others, has reached high levels of competitiveness, and the aims of companies of this market now need to carry out a careful evaluation and control of their production systems and relative production costs.

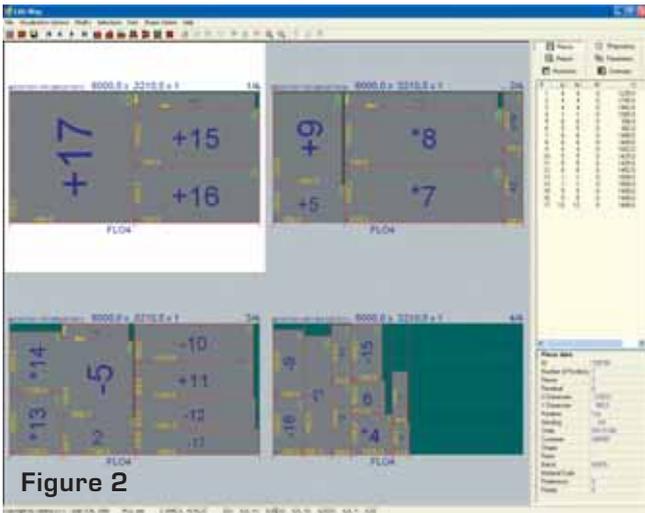


Figure 2

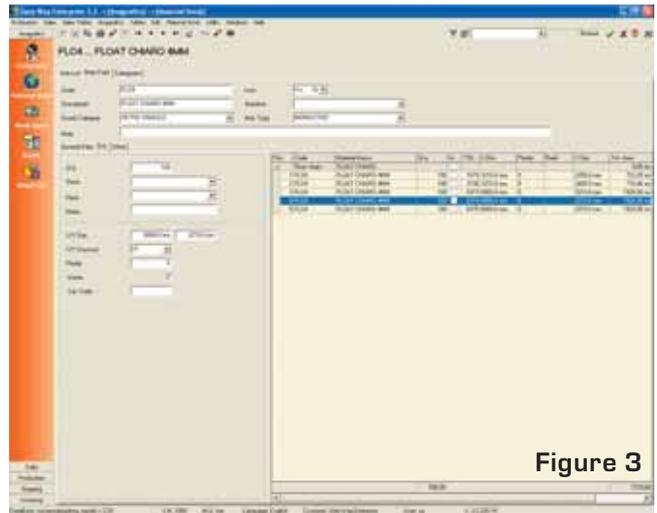


Figure 3

THE CONCEPT OF CONTROL

Control of production means, in fact, accurate assemblies, up-to-date and “in-time” information regarding orders, materials and process, as well as the ability to communicate the same information precisely and fast to the workers and to the management, with a in-detail indication of priorities so that corrective actions can be taken. An efficacious production control must operate so that the work becomes (or is maintained) economical, with an adequate service for clients and investments in stock on hand.

Glassworks’ activities are part of a “mixed” production as per the item(s) to be manufactured. The two main production lines are: insulating glass (double glazing, structural glazing), and processed glass (grinding, bevelling, tempering, screen printing, etc.). Given the peculiarity of glass, which can be sub-divided into a myriad of other products, similar as far as their base material is concerned, but each different from each other as per size, (X and Y dimensions), we can position glassworks’ production in the “batches” system.

Production type involves a structuring of the layout on three main lines: cutting, double glazing and processing, to which we can also add shipping management. Given, therefore, the variety of materials, but, above all, the very different dimensions of the finished articles, the company has to deal with a vast series of different batches. If we also add the inherent difficulty of transport and stocking of glass products, and the difficulty of “recognition and traceability” of the same, we can surely say that these differences highlight the important need of a precise and detailed information system and for a control system inside the batch production process which represents glassworks’ activities.

Fig. 2 - Cutting optimization

Fig. 3 - Stock on hand

Fig. 4 - Shipping orders

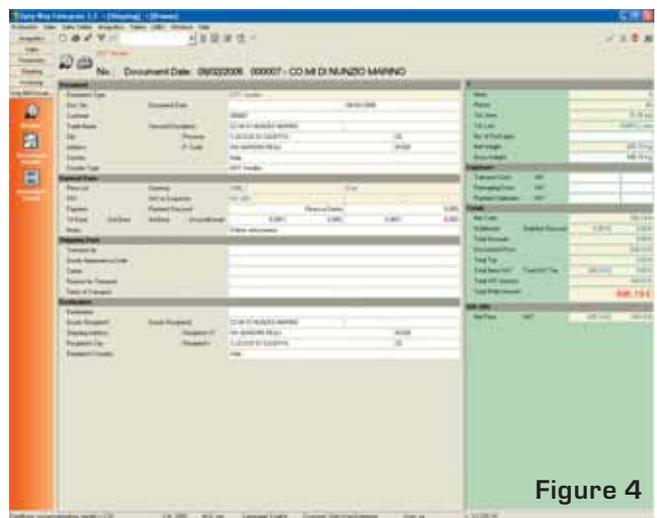


Figure 4

PRODUCTION PROGRAMMING

Given the high number of small batches that characterize glassworks’ activities, and the difficulties of storage and transport of glass, the creation and control of production programmes becomes a fundamental requirement for each glassworks. If we associate to this problem the “pressing need” to reduce to a minimum waste raw material, we can understand how the scheduling or programming of production becomes one of the main objectives of each company manager or owner.

Opty-Way® Enterprise, Optima’s integrated management system for glassworks, has a wide range of solutions to reach work goals, both in terms of choice of “what to produce” as well as the order in which the same products will be put into production. Each production batch created can be processed as per client or order sequence of which it is part, and each phase will be reordered according to that sequence, so as to improve production linearity, without excess waste material. If we consider an IG unit as a

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reference point, the production phases can be as follows:

- the glass can be cut as per a determined sequence;
- the glass sheets are stored on racks starting from the largest to the smallest (*Rack-Way* module);
- the profiles are bent with the same loading sequence of the racks; and
- the phases of assembly are carried out using the material needed in the order in which it can be found.

This example gives the perfect idea of how this software application helps to improve the overall performance of the productive system of the glassworks, both in terms of organization, as well as in terms of cost of the production cycle.

TRACEABILITY OF COMPONENTS AND BAR CODES

Another typical problem of the production cycle of glassworks is the difficulty in recognizing single glass sheets and finished products, since the single pieces often differ one from another only by millimetres. This situation is often dealt with using specially printed labels. These labels can be made of normal or thermic paper (indelible), and, above all, can have different sizes and shapes as per the final destination of the items.

Opty-Way® Enterprise provides the user with a system that enables to create personalized labels with the exact structure desired, in different shapes (each client can have its own label!!) as well as with bar codes. This technology enables the software to follow and recognize each and every item in production, by reading the code that identifies the item. With the same technique, the ongoing phases of production can also be followed, since each and every printout from Enterprise can have a bar code and can, therefore, be read directly, without error.

TOTAL CONTROL: FROM ORDER TO DELIVERY

Optima's production range, therefore, is a software system able to manage the entire production cycle. From simple mono-user optimization software, to integrated network systems to manage the entire company, from cutting optimization to that of the tempering furnace, from specific applications for the creation

of artistic glass doors and panels, to the complete integration of the processing of NC machines. This is where the philosophy of Optima and the way to interpret its presence in the difficult market of glassworking lies.

Opty-Way® Enterprise, client/server software system, with SQL database and tools offered by the most advanced technologies, enable glassworks to manage and control "in real time":

- management of client/suppliers, counterparts, warehouse material levels, production lines and other information;
- material lists, processing cycles;
- graphic lists with the parametrical creation of work profiles, insertion of client orders, and complete management of processing on different profiles;
- management of estimates and client orders;
- calculation of personalized price lists for the flat glass sector;
- cutting optimization, with management on production racks and/or shipping;
- creation of NC data for all automatic machinery (cutting, bending, and processing with work centres);
- ongoing status of production orders in their work phases;
- billing, client invoicing and registering;
- direct connection with general accounting systems; and
- generation of printed reports that can be personalized by the user.

With Opty-Way® Enterprise, therefore, it is possible to follow the progress of clients' orders "live". No longer a simple cutting optimization system, but a system distributed throughout the company, able to supply all the information needed to control the company's activities. ■

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