

Ianua: combining experience and technology for the realization of float plants

Collaboration between companies has always been a benefit, both for the companies involved, and especially for their clients. This article takes a look at just one of these recent agreements, between Ianua, with its many years of experience in the construction of float glass plants and glass processing plants, and PPG Industries, with its construction technology for the realization of float plants.

*Ing. Andrea Greinschgl**

IANUA ENGINEERING & CONTRACTING

Complete twin float line (600 t/d each) plant in Xiamen, China



COMPANIES OF THE GLASS SECTOR OWNED BY THE FININD GROUP

COMPANY	PRODUCTION
Ianua Eng. & Contr.	design engineering and construction of float glass plants
Ianua SpA	department for the construction of machinery for glass glass processing lines for the automotive industry laminated glass production plants tempering and bending furnaces
Isoclima SpA	special armoured glass for the automotive industry architectural tempered and bent glass
Iontech SpA	chemical tempered glass
Isoclima de Mexico	armoured glass for automotive applications
Sivis SpA	flat laminated and tempered glass
Lipik Glas, Croatia	patterned glass and tempered and laminated glass

At the basis of the success of Ianua SpA, with headquarters at Este, Padua, north-east Italy, there is continuous technological research and projection towards a tangible and stable future, thanks to cooperation with the different realities of the Finind Group, owned by private investors. This is also demonstrated by the high quality of its projects, based on substantial and essential values such as flexibility and availability under continuous and constant expansion.

IANUA ENGINEERING & CONTRACTING

Ianua Engineering & Contracting, with offices in Campi Bisenzio, Florence, central Italy, is the branch company specialized in the realization of float glass plants. The company is structured to supply its clients with all necessary services such as engineering, plant construction, erection and supervision, including the training of the factory personnel, technical assistance after plant start-up, plant maintenance and guaranteed spare parts supply for a number of years in accordance with the maintenance programme.

Float line



An advanced CAD system for computer-aided design, an extensive database and a number of software programs allow for real-time data exchange and project control.

Ianua Engineering & Contracting mainly operates in the field of engineering and construction of glass manufacturing and processing plants, taking advantage of the long and worldwide experience of its highly qualified engineers and technicians in this field, which is based on the supply of partial and complete turnkey plants to the major glass factories all over the world.

The company is specialized in the realization of float glass plants on the basis of turnkey contracts, which also include relative technology and services.

Its technical staff is integrated by a team of specialists with lengthy experience in the different manufacturing techniques and kinds of plants part of the project, thus enabling the company to cope with the full range of requested technologies.

In fact, Ianua's technical staff comes from previous experience matured with the most important worldwide glassmakers, such as: *Saint-Gobain*, *SIV*, *Pilkington*, *PPG Industries, Inc.*, and *NSG*, participating in the construction of float glass plants and glass processing plants in China, Russia, Malaysia, Egypt and Europe.

Ianua preferably operates as the main contractor for turnkey project processing lines,



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including structural design engineering, the development of construction drawings, management, quality erection and assembly. It is, moreover, able to realize auxiliary factory systems, as well as to carry out special erection for complete production lines.

As already mentioned, Ianua Engineering & Contracting is made up of a team of experts, who, during the last 20 years, have realized float glass plants in different parts of the world using various technologies.

The float glass plant in China for GFG - *Guangdong Float Glass*, was carried out in 1986-87, on a turnkey basis for the process line, and was the float glass plant with the longest life in the world: 15 years for the first campaign. This plant was realized with PPG technology and for PPG Industries, Pittsburgh, United States.

The float glass plant in Egypt (*Egyptian Float Glass*) was completely carried out by the same team of experts, including civil works and buildings and, consequently, to be considered as a real turnkey plant.

Other plants have been carried out in Malaysia for NSG (Japan), in Italy for PPG and in Great Britain for Saint-Gobain.

FLOAT GLASS PLANTS BY IANUA WORLDWIDE

Ianua was the coordination and project-management company for the float plant for

Float glass
plant bath
and lehr
arrangement



Manfredonia Vetro, with a capacity of 550 MT/day and worldwide advanced technology, that started production in May 2002. Ianua coordinated all the activities for the project, including interfaces between the different contractors and the civil works.

In addition to the above, Ianua also obtained the order for the auxiliary plants, including the execution of the basic and detailed engineering and the development of all the construction and coordination activities of the single suppliers in the execution, installation and testing of the plants.

In 2002, Ianua carried out the complete revamping of a plant for the production of U-glass and patterned wired glass plant for *Lipik Glas* in Croatia. Production capacity was increased from 60 tons per day to 75 tons per day, and the maximum width of the patterned glass ribbon was increased from 1.80 to 2.15 metres, according to international specification. The factory has been successfully under production since August 2002.

COLLABORATION WITH PPG

From March 2001, Ianua signed an agreement with PPG Industries to utilize its construction technology for the realization of float plants. Now, Ianua has the capabilities to guarantee, by means of this license, technical assistance and training on existing PPG plants in United States.

Today, together with PPG, Ianua has been selected by *Intex Glass Ltd.* to realize the construction of four complete float glass lines in China. Two lines will be constructed in Xiamen for *Unitex Glass (Xiamen) Co. Ltd.*, and two lines in Wu-Han. Each line will have a production capacity of 600 tons per day.

The start-up of the first line, which is under construction in Xiamen, is scheduled for April 2005.

This very important project, which will last until 2008, will bring float glass of very good quality to the Chinese market, destined to the production of different types of glass for the automotive industry, mirrors, glass for architectural uses, solar cool glass.

As per this agreement, Ianua will produce and supply 60 per cent of the machinery and equipment necessary for the realization of the float process lines. All the following plants and machinery will be designed, constructed, built and



tested before shipment in the company's engineering and construction facilities in Italy:

- batch plants;
- cullet recovery systems;
- furnace steel structures;
- furnace auxiliary systems and special machinery;
- bath steel structures:
 - casing;
 - top rolls;
 - linear motors;
 - carbon pushers;
 - fences;
 - lift-out mechanisms;
 - tweels;
 - dross boxes, and so on.

All auxiliary systems necessary for process plant production, such as:

- cooling water systems;
- oil distribution systems;

Cutting line arrangement

- compressed air distribution systems;
- special gases production and distribution systems (N₂-H₂);
- plant electrical panels (MV-LV);
- electrical distribution; and
- piping distribution.

The only parts that Ianua will purchase on the market, according to PPG recommendation with its own design and detailed engineering specifications, will be: refractories for furnace and bath, distributed control system, lehr casing and complete cutting line.

Ianua has the resources to guarantee clients the realization of plants executing all the necessary basic engineering, detailed engineering, project coordination, construction and erection, training of personnel, heating-up of plants, start-up of plants, also guaranteeing, by means of performance tests, the quality and quantity of the glass to be produced. ■

Float line lehr arrangement



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