

Glass production at Quinn Glass with SIMATIC PCS 7



Customer Info

Customer

Quinn Glass

Business Group

Quinn

Country

Northern Ireland

Location

Fermanagh

Industrial Sector

Container glass

Project:

glass production at Quinn Glass



SIMATIC PCS 7 controls new glass factory. Operating a modern glass factory requires a high degree of automation, distributed intelligence and an efficient process control system. Quinn Glass of Northern Ireland made the right choice when it selected the **SIMATIC PCS 7** and **Totally Integrated Automation**. Quinn Glass operates the most modern center for glass manufacture in Great Britain and Ireland. After a construction period of just 18 months, the plant came on line in County Fermanagh, Northern Ireland. 300 employees are now responsible for the daily production of up to 600 tons of bottle glass on eight production lines. The manufacture and processing of glass poses a major challenge for automation and process control technology. If only one furnace is in operation, any disruption can result in huge costs or lead to irreparable damage. That's why Diarmuid O'Donovan, responsible for electrical equipment and instrumentation at Quinn, didn't entertain any thoughts of compromise when it came to control technology: "The furnace are in continual operation for around eight years until they are exchanged. We expect a lifetime of at least 20 years for a process control system and a high degree of reliability during this time." Siemens and the SIMATIC PCS 7 process control system were selected from nine potential suppliers. "In addition to its broad knowledge of the sector, the support offered by Siemens played a major part in our decision," explained O'Donovan. The system now installed with around 3,500 I/O points is operated by five operator stations. An OP25 Operator Panel is also available for the on-site operation of the cooling furnace. Profibus-DP is used for communication in the plant and Industrial Ethernet at the operator stations. Integration in Quinn Glass Management Information System (MIS) is planned. The tasks of the process control



system are in the so-called hot area and also in the upstream and downstream processes. This involves glass batch preparation, insertion of the glass batch, furnace, feeders and annealing furnace. The control of the furnace is particularly critical as temperature between 1580°C and 1590°C must always be maintained. Quinn uses regenerative furnace. The heating is switched over every 20 minutes. With SIMATIC PCS7, the furnace parameters, the influence on the glass consistency and the energy consumption can be constantly optimized. Normally, each end has its own chimney, but at Quinn it was decided to have a common outlet, as the problems which may arise as the result of pressure fluctuations in a shared system can be easily overcome with SIMATIC PCS7. As with many plants of this size, the project engineering for the control technology did not go completely according to plan. In the original planning, an independent control system was planned for the exhaust gas purification plant. However, it soon became clear that the integration of this part of the plant into the control system would provide better control over the entire process. In the course of the project, it was also decided to integrate the controls for the auxiliary systems into the control system. The same applies to the batch control, which was only incorporated at a relatively late stage. This demonstrated the strength of the SIMATIC PCS7. While other products can only talk about flexibility, with this system demands could be met which would be difficult to implement with conventional systems. The number of I/O points was also a point in its favor. Conventional systems with have already reached their limits at 3,500 points, this PCS 7 automation solution is only an example of a medium-sized installation. SIMATIC PCS7 is primarily a symbol of modularity and scalability – properties which give the plant designer the highest degree of flexibility.

Siemens solution:

SIMATIC PCS 7
OP-28 Operator Panel
Profibus-DP

Key points pro Siemens:

- Know -How, Support
- Highest flexibility

More information: www.siemens.com/glass-industry

