

JM Schuller produce glass fiber with SIMATIC PCS 7

**Project:**

Modernize furnace 2 and furnace 3



The Schuller GmbH – a subsidiary of the internationally active Johns Manville Company since 1971 – is one of the top companies in textile glass production. After years of good experience with the Teleperm M process control system, the company management decided to modernize the Wertheim production with Simatic PCS 7, the Siemens control system succeeding Teleperm M.

In 1936, Werner Schuller reached an important milestone in the history of the Schuller GmbH with the development of glass fibers that were used for spinning. Today, almost 70 years later, the company is the world's leading manufacturer of glass fiber products and the largest glass fiber mat producer in Europe. The recipe for the company's success is based on a skilful combination of technical creativity, decade-long expertise in innovative customer-oriented solutions and clearly defined production criteria. What counts is a production at the highest technical level – fast, flexible, just in time – and the finest quality products. In the factory's own glassworks at the Wertheim site, C-glass pellets are manufactured as a base material for the subsequent fiber production. The batch house feeds the raw materials for production into two electrically heated melting furnaces. The resulting liquid raw glass gets the proper shape on the pellet machines. After cooling, the pellets are transferred to the roving or hank fiber production.

From Teleperm M to Simatic PCS 7

Both melting furnaces were automated with Teleperm M AS 230 during a cold repair in the 1980s. Since then the system has been operating reliably and without a single failure – operation of the control system was only interrupted during the scheduled routine annual maintenance. The discontinuation notice for the Teleperm M AS 230 systems triggered the decision to modernize the furnaces with the Simatic PCS 7 process control system.

Siemens solution:

SIMATIC PCS 7 process control system, Project planning, installation, commissioning

**Two-stage implementation**

Each of the two melting furnaces was equipped with its own AS 416 automation system that communicates with a redundant PCS 7 Operator Station via Industrial Ethernet. The I/O level and important control circuits with Sipart DR-24 positioners, thyristor actuators, variable speed drives and the pelletweighing unit with Siwarex M are networked directly via the Proibus DP. The whole conversion was executed in two stages. The most important requirement that Schuller made: The glass production was not to be interrupted or stopped during the entire modernization. When the contract had been awarded to Siemens, the project of converting the furnace number 2 was set on course in the spring of 2001. Existing low voltage switchgear and parts of the existing control room were integrated in the hardware planning. Based on the requirements specification previously negotiated with the Schuller GmbH, a team of glass experts at Siemens took over the PCS 7 engineering. The customer conducted the software acceptance test, and the actual migration began immediately after the hardware plans were submitted. Thanks to the excellent cooperation between the project teams of Siemens and Schuller, the peripheral signals were converted quickly to the new system without affecting the continuous glass production. "Furnace 2" has been in operation using PCS 7 since April 2002.

PCS 7 offers greatly extended operating and monitoring features compared to Teleperm M while controlling the same quantity structure that have been optimally implemented in the software and have led to a high acceptance with the personnel in production. The changeover of "Furnace 3" to PCS 7 began in May 2002 and ended in the same year.

Factors for choosing Siemens

- Migration strategy
- Good experience in the previous project

**Customer Info****Customer**

JM Schuller GmbH

Business Group

Johns Manville

Country

Germany

Location

Wertheim

Industrial Sector

Glass fiber

