Monitoring Extrusion Equipment Using Proficy

Manufacturers of extruded plastic materials rely heavily on the automated systems that keep their extrusion lines moving and maintain a high level of production quality. Raw plastic material has to be fed into the hopper at the right rate, extrusion screws have to turn at the right speed and maintain the right temperature to ensure the plastic melts and mixes smoothly. As the extrusions leave the die, they have to be inspected for defects to maintain quality.

In order to keep extrusion lines running smoothly, automated manufacturing managements systems can be used to keep an eye on all of the variables that contribute to a quality product. Software systems such as Proficy allow manufacturers to monitor system performance, identify bottlenecks, and troubleshoot problems. Proficy's control panels allow operators to easily access any data they need about their extrusion line and solve problems fast.

Supercharge Your Control Panel

Extruders are becoming more complex and contain more electronic systems than ever before. Extruder OEMs are packing increased intelligence into their control panels by replacing HMI's with industrial PC's running Proficy. Proficy Cimplicity handles the traditional HMI functions (PLC connectivity, user screens, alarming) while also opening the door to near limitless functionality including:

Historical Collection - Proficy allows extrusion systems to collect data at high speed for long term historical archiving either locally in the control panel or across plant network. Once Historian is on, reports can be generated using common tools such as MS Excel. Flexible historical trends can also be imbedded in HMI screens.

Replay Function - Review past events with Digital Graphic Replay. Operators can hit rewind and see what happened by looking at screens as they were a few minutes or a few shifts in the past.

Analytics - Deliver key performance indicators such as OEE or automatically generate SPC charts to drive efficiency in the line. Analytics can be used to evaluate the effectiveness of changes to the manufacturing system.

Web Based Remote Access - Using Proficy's web server, users can view extruder station and history usage the web browser on their existing desk PC. Managers that are off-site can access plant data and discuss with onsite personnel.

Workflow - Industrial workflow's can be embedded in the control panel PC. These workflows give operators digital work instruction on SOP's and also provide an excellent method for alarm response and corrective action. When a critical alarm occurs, and workflow can be launched that instructs the operator on what to do to correct the issue and return to normal operations.

Change Management - Version control of your PLC program AND HMI configuration can be handled locally in the control panel. Change management secures your process by ensuring that system owner is notified of all changes and that each change is logged and with an audit trail which included what changed and who changed it.

Benefits of Proficy to Plastic Extruders

By using Proficy to provide extensive control monitor tools, plastic extrusion machine operators gain a tighter control on the quality and efficiency of their production line. Operators are quickly notified when sensor or inspection parameters are outside of acceptable levels, and Proficy provides instant guidelines on what to do to fix the problem based on best practices. Proficy allows users to review past shifts and compare parallel production lines to evaluate efficiency.

In addition to the technical benefits that Proficy provides, the pricing points of the 1 station licenses of these products make them competitive with today's HMI-based solution, but offer a new level of possible functionality.