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The Acquisition of Modern Aluminum Extrusion Systems

by Roger A.P. Fielding, BENCHMARKS

Commissioning and start-up, or more properly: installation, commissioning and start-up are the culmination of a process which has moved from motivation to change or enhance manufacturing facilities and equipment, through understanding of what might be involved, to the specification, evaluation and selection of a modern aluminum extrusion system.

Modern aluminum extrusion systems integrate the operations of log heater, shear, taper quench, extrusion press, press quenches, saws, pullers, handling systems, stretchers, finish cut saws, stackers and aging ovens. Although a typical project may include only part of the extrusion production system, the project is always motivated by the desire to make improvements to the total system, and the process of acquisition is invariably the same.

Six discrete steps have been used to describe the process of acquiring modern aluminum extrusion systems. The performance specification, which describes what is expected of the system, has been shown to be the key to developing an effective relationship between customer and supplier, and to the ultimate success of the project. The performance specification describes in words and numbers what is expected from the system. The performance standards are the basis for accepting delivery of the installation from the supplier.

The selection process, which was discussed in the last article, is dependent on rigorous comparison of the alternative proposals. Additions (or deletions) are made to each supplier's proposal to bring all their offers into line, so that a true comparison can be made.

Commissioning and Start-up

Definition: To put in working order.

Key Words:

Acceptance, performance

There's no room for personal preferences! The selection process depends on Cost-Benefit Analysis to understand what they (the extrusion system, the equipment, and any changes to the equipment) do to the performance of the extrusion business in terms of safety, operating performance and cost.

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The Acquisition of Modern Aluminum Extrusion Systems

Motivation:
Definition: Something that encourages.
Key Words: Profit, cost, lead time, productivity, recovery, safety, environment.

Conception:
Definition: What remains in the mind as the product of careful mental activity.
Key Words: Recognition, understanding.

Specification:
Definition: A detailed, precise description.
Key Words: Goals, performance standards, design.

Evaluation:
Definition: The act or result of judging the worth or value of something.
Key Words: Fitness for purpose, comparison, alternatives, price.

Selection:
Definition: The act of choosing.
Key Words: Measurement, cost-benefit analysis.

Commissioning and Start-up:
Definition: To put in working order.
Key Words: Acceptance, performance.

President's Message

Lawrence R. Difatta
President of Granco Clark

Albert Einstein once said, "Everything should be made as simple as possible, but no simpler." In many respects, this thought can be applied to the selection of an equipment supplier and is particularly important during the long-term relationship of after-sales support that exists once equipment is installed.

Granco Clark configures itself to help make your decisions on new equipment acquisitions a simple process. Our experienced sales and mechanical engineering staffs, in-house controls engineering group, involved management, and dedicated employees deliver equipment, service and support second to none in the industry – all while on the road to ISO-9001 certification.

These factors constitute the right mix to make supplier selection simple. Coupled with an understanding that the secret of success lies in constancy of purpose, Granco Clark is uniquely positioned to meet the varied needs of our customers.

The market has a reliable and predictable way of determining winners and losers in the daily battle to obtain business. Organizations that have the right product, people and facilities focused on one simple goal—customer satisfaction—achieve standing within their customer base. In that context, it is accurate to say that Granco Clark's share of available business has increased dramatically over the last four years. This is no accident. It is the result of creating an organization focused sharply on the needs of customers.

Where once the attitude in the industry was that all equipment suppliers are about the same, sophisticated customers operating in an ever-changing market have recognized the differences and have so stated with their selection of Granco Clark. Our emphasis on project deliverables has been acknowledged within the industry, and your "word of mouth" recommendations continue to be a powerful force working in our favor.

So, when evaluating whom your equipment partner will be in the future, consider the above points.

It's as simple as that.

SCS Extrude

The Next Generation Control System for a Totally Integrated Extrusion Line

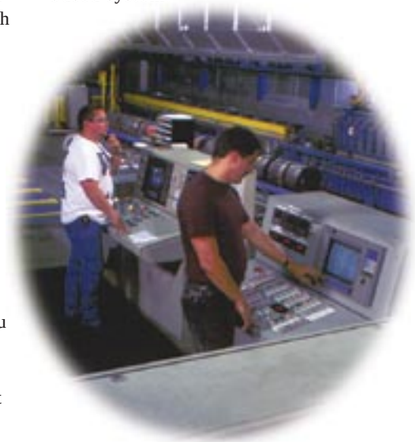
First introduced in 1986, the Granco Clark Supervisory Computer System (SCS) was developed to provide extruders with a completely integrated control system for automated extrusion lines. In 1994, when development began on the next generation of SCS, we commissioned an independent market research firm to gather customer's opinions on performance, preferences and recommendations for improvement.

We Listened to You

We wanted to make improvements to the SCS based on your perspective, not ours. The consensus: you asked for a more flexible, user-friendly system. The result: SCS Extrude, the next generation nerve center for automated extrusion lines.

Interfacing with Ease

The SCS has always enhanced efficiency by developing production schedules, loading equipment parameters, tracking faults, and logging production and downtime data. Now it does all this and more in the user-friendly environment of Windows NT®, the platform replacing the previous VAX-based system.



Windows NT is a high-performance, widely used operating system that can be easily integrated with standard information management systems. In addition to the new platform, SCS Extrude is now developed in MS Visual Basic, using a relational database. With standard Windows point-and-click screens, the graphical interface is easy to use.

The Control Station, outfitted with a powerful industrial computer, drives the application software that communicates between the SCS Extrude and floor-level PLCs. This system allows the extrusion manager or press crew to easily prioritize the job list, assess line performance, monitor faults and alter parameters.

Smart Troubleshooting

SCS Extrude now incorporates a second-generation fault diagnostic system, providing even faster troubleshooting for more extrusion line uptime. The fault system provides four levels of information. First, a list of faults is displayed on the SCS computer screen. After selecting a fault from the list, the operator can choose from three different displays: a system diagram of the fault location, a visual image of the device that detected the fault, and a description of the appropriate troubleshooting steps to be taken.

Don't Take Our Word for It

UMEX, a new extrusion facility, in Downey, California, recently purchased a complete Granco Clark system for its 3600-ton press line. UMEX produces high-volume, large-shape extrusions, up to 51 feet in length, for a wide range of applications, including the construction of truck trailers, air cargo containers and communication racking systems.

UMEX chose a Granco Clark system with SCS Extrude because, "Granco Clark was willing to work closely with us to customize a system that would meet our specific needs. They offered more flexibility with the development of our system and outstanding support and instruction for a smooth start-up," explained General Manager Jack Courduff.

"The SCS Extrude saves equipment parameters. Setup is exactly the same every time, allowing us to consistently produce a higher quality product. The data logging and event tracking give us instant access to production data. We have been impressed with the performance of the SCS, the extrusion equipment and the level of service provided by Granco Clark," noted Karl Requejo, Plant Engineer. ●

Benefits of the SCS Extrude

Faster Changeover:
Loads die change parameters without operator input.

Repeatable Setups:
Operating parameters can be precisely duplicated.

Automatic Reporting:
Tracks events throughout the system and displays their status.

Fault Discovery/Correction:
Uncovers faults, diagnoses them and displays recommendations to correct the problems.

Greater Product Output:
Quicker changeovers and more uptime for more salable product per line

Enhanced Quality:
Higher quality…less scrap.

Data Logging:
Stores production data.

ET2000™

ET2000 will be here before you know it. From May 16-19, at the Hyatt Regency Chicago, Granco Clark's booth #328 will be the first thing you see when you enter the exhibit floor. For more information, visit the American Extruders Council web site at www.aec.org.

Acquisition from page 1

Having selected and ordered the best alternatives, the work of installation, commissioning and start-up can proceed. Whether a new "green-field" installation, the expansion to an existing facility, or modifications to an existing extrusion press system, preliminary engineering for the installation will have been part of selection process. The new equipment will require foundations, electrical power, water, and compressed air. The operation of the new equipment will often impact on a plant's heating and ventilating needs, and on its safety arrangements: walkways, guarding and fire protection. All of these issues will have been addressed during the selection process. The necessary changes must now be put in place before the new equipment is delivered.

Profile Handling Equipment

A properly engineered system will be simple to install. Because of the rigorous selection process, budgets are easy to track. Project management is transparent.

Because commissioning – "putting into working order"– proceeds throughout the installation, the customer's start-up team of supervisor, operators and maintenance people should be getting their training and exposure to the new equipment throughout much of the commissioning phase of the project. Start-up and acceptance of the new aluminum extrusion system is complete when it has been shown to meet the agreed performance specification.

The end ●

New Equipment Installations

United States

Alexandria Extrusions

Alexandria, Minnesota

As part of a major expansion and modernization project, Alexandria Extrusions has selected Granco Clark to supply two new aging ovens. These ovens will improve temperature uniformity, thereby increasing the quality of extrusions. The aging ovens will be integrated into an automated rack handling system that moves racks from the extrusion area to the aging area, through the age ovens, to fabrication and shipping.

Werner Company

Anniston, Alabama

With their new Granco Clark billet heating furnace and integrated billet saw, the Werner Company will have the capacity to provide more than 80 billets per hour to their extrusion press. The furnace, Model 69-50-6, provides a capacity of 11,000 pounds of 8-inch diameter billets per hour, and the Model BCS-08 billet saw will provide high throughput with low maintenance.

Aluminum Shapes

Delair, New Jersey

This successful extruder has recently undertaken a major rebuild of an existing press line, replacing their press controls and the majority of their handling equipment. Granco Clark has been selected to provide all of the new handling equipment, including a 600-GPM high pressure spray quench, 1200-pound twin puller and 100-ton stretcher. The upgrade also features a complete sawing system,with storage table, saw feed, saw and gauge.

Futura Industries

Clearfield, Utah

Futura Industries has selected Granco Clark to supply a handling system upgrade for an existing 1000-ton press. This upgrade is part of Futura's commitment to continuous improvement, providing better product handling and increased throughput in the saw area.

The upgrades feature a higher capacity "open jaw" stretcher and a new 36-inch-wide sawing system, including a belt batching table, saw feed, saw gauge and discharge belt table.

Thermalex

Montgomery, Alabama

Thermalex has recently ordered a new powered roll runout conveyor system for their No. 2 press line. This system will replace the existing powered slat-type conveyor and liftover system supplied in 1991. The raise/lower runout will offer a smooth transfer of extrusions to the belt-style cooling conveyor, producing higher quality finishes free of graphite marks.

Abroad

Can Art Aluminum Extrusion, Inc.

Lakeshore, Ontario, Canada

Can Art has selected Granco Clark as the supplier of extrusion automated handling and heating equipment for their new plant in Lakeshore, Ontario. The equipment will be installed on a new 2200-ton Sutton press, and is similar to the five-year-old Granco automated system that Can Art is presently using in their Brampton, Ontario, plant. The new system features a powered roll runout with special heat-resistant rollers, double puller, one man/no man stretcher, transfer belts and a wide-capacity saw gauge system. A Granco Clark model 69-30-3 "SST-Hot-Jet" billet furnace is also part of the package. With their new Granco Clark system and its advanced technologies, Can Art will continue to produce competitive, high quality extrusions.

Abroad

Cheng Hsin Aluminum

Taipei, Taiwan

This multi-press extruder, located in metropolitan Taipei, has recently placed an order for a new aging oven. The new oven is a high performance double end flow design and will provide Cheng Hsin with an additional eight metric tons of capacity per cycle. This is the second order that Granco Clark has received from Cheng Hsin within the last 18 months.

Aluminio De Panama S.A.

Panama, Republic of Panama

Due to increased business, Miguel A. Amado is expanding his extrusion operation with the addition of a second line. The new line, which is expected to be in production by late August, will include an 1800-metric-ton press equipped with a Granco Clark Hot Jet Billet/Log Furnace and Hot Log Shear, double puller, roller runout conveyor with an all-belt handling system, one man stretching and automatic sawing.

GRANCO CLARK Worldwide

Serving the information needs of the international aluminum extrusion community.

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