NEWS RELEASE

Greer Steel Installs Hi-Strength Mini-CTL Line

Dover, OH - Greer Steel, a distributor and processor of close-tolerance carbon steel strip has installed a Braner/Loopco Precision Servo-Feed Cut-to-Length Line in its Dover, OH flagship facility. The new Cut-to-Length Line converts 15-ton x 30" wide surface-critical 120,000-140,000 PSI tensile strength coil in gauges from .025" through .220" into precise length panel flat blanks. Equipped with a massive 17-roll backed-up Straightener, a Precision AC Servo-Feed, and a Hi-Speed Hydraulic Shear, the new CTL Line generates precise sheets and blanks at production rates to 40+ PPM.

15-Ton x 30" x .220" x 140,000 PSI CTL Line

Entry Section: Master coils are transported and loaded onto the CTL Line via Floor Level Coil Car. The Coil Car is equipped with narrow coil support stanchions to handle coils as narrow as 2" wide. An Uncoiler that handles 15-ton x 72" OD coils with 16" and 20" ID coils unwinds the coil into the Straightener. A Paper Rewinder rewinds interleaved paper from the master coil. A Telescoping Blade Peeler and Non-Marking Pinch Rolls quickly threads hi-strength coil into the Straightener.

Processing a Hi-Strength Paper Interleaved Coil

17-Roll Backed-Up Straightener: A massive backed-up Straightener converts hi-strength coil into flat strip. The Straightener is capable of processing a gauge range from .025" through .220" thick. Mechanical property specifications are 140,000 PSI tensile from .025" through .188", and 120,000 PSI from .189" to .220" thick. Strip widths can range from 30" maximum down to 6", narrower with special handling. The Straightener is equipped with seventeen 3.500" diameter chrome plated work rolls with three-back-up flights. All 17-work rolls are driven from a DC motor and multiple output shaft gear reducer though universal drive shafts. The Straightener crown is adjustable via motorized jack screws. Independent entry and exit crown motors allow precise front-rear work roll tilt.

17-Roll Backed-Up Straightener Produces Panel Flat Hi-Strength Strip

Automatic Straightener Control: A PLC controller is employed to quickly set-up the Straightener for various gauge and mechanical properties. Entry and exit roll gaps are computed based upon gauge and yield strength, and the work roll gaps are automatically accomplished. The operator can override the automatic control to make roll gap adjustments while running the coil. A low-inertia roller table is installed between the exit end of the Straightener and the looping pit to allow the operator to constantly inspect the strip flatness and surface condition.

Panel Flat Hi-Strength Strip Emerging from the Backed-Up Straightener. Automatic Roll Gap Controls Speeds the Set-Up Process

Free-Loop Operation: The Straightener flattens and drives the strip into a free-loop ahead of the Servo Feed. A heavy hydraulic Table bridges the looping pit and carries the strip from the Straightener to the Servo Feed. The strip is supported on hi-capacity low-inertia rolls mounted in large radius multi-link entry and exit loop quadrants designed to prevent coil-set from being induced as the strip enters and exits the looping pit. Two sets of pushbutton adjustable heat-treated roller strip guides assure that the strip runs on the centerline.

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Flat Strip Supported on the Exit Quadrant and Entering the Strip Guides

Precision Electronic Servo-Feed: Two-sets of widely spaced roller side guides center the strip into the Servo Feed. The guides also assure the strip is square with the Servo Feed in order to maintain precise diagonal blank tolerances. A high-traction non-marking Servo-Feed powered by a precision microprocessor controlled AC servo motor feeds and meters the surface-critical strip to precise length tolerances. The Servo-Feed draws the leveled strip from the free-loop and feeds to a pre-set length through the Shear. Part lengths are precisely measured by a digital encoder, while a microprocessor automatically establishes ideal acceleration/deceleration rates. Part length and batch count are key pad entered into the digital operating system. Servo Feeds compare favorably to *"reciprocating mechanical feeders"* in productivity and reliability. A reciprocating mechanical feeder grabs the strip, shoves forward to a positive stop, engages holding clamps, shoves the reciprocating clamp *backwards*, grabs again and releases the holding clamp before starting another feed cycle. Grabbing, releasing, sliding backwards, and re-grabbing consumes the majority of a reciprocating feeder cycle time. By comparison a Servo-Feed simply rotates feed rolls in one direction. The need to make multiple reciprocating feed cycles further diminishes a reciprocating mechanical feeder's productivity when producing long parts. The Servo-Feed's non-reciprocating operation, low acceleration/deceleration rate, few moving parts, and a total absence of chains, length adjust screws, shock absorbers, limit switches, valves, pumps, slides, clamps, & hydraulic hoses gives it consistent accuracy and *"bullet-proof"* reliability.

Hi-Cyclic Rate Precision Electronic AC Servo-Feed Processing Hi-Strength Surface-Critical Strip

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Hi-Speed Shear: The Greer Steel CTL Line employs a hi-speed Hydraulic Shear to cut 120,000 PSI shear strength parts to length. The Hi-Speed Hydraulic Shear is capable of a 60-strokes/minute cyclic rate, which is comparable to a mechanical shear cyclic rate. The Shear employs PLC controlled hydraulic cylinders to drive the upper guillotine ram through the cutting cycle. 4-edge shear blades are mounted on the guillotine ram and the lower blade holder. Blade gap is adjustable from a single point for processing the range of gauges and mechanical properties. Because the Shear employs cylinders rather than a pneumatic clutch and brake to drive the ram, the shearing cycle is virtually silent. The Greer Steel Shear is fast, has a virtually silent shear cycle, and the few moving parts offers *"bullet-proof"* reliability.

Hi-Speed Hydraulic Shear Offers Speed, Silent Cycle, & Bullet-Proof Reliability

Runout Belt: Sheared parts are transported away from the Shear on a variable-speed Belt Conveyor. Because the CTL line is primarily employed to produce special order surface-critical mini-blanks rather than hi-tonnage pattern sheets, part stacking is accomplished manually. Although hand-stacking is not "state-of-the-art", it is a failure-proof method for stacking 4" x 12" *(for example)* mini-blanks, and allows several mini-blank stacks to be neatly and efficiently piled onto a common pallet. Surface-critical precision blanks must be closely inspected to avoid rejections, and manual stacking accomplishes the inspection of each and every part without additional manpower.

CTL Line Generating Precision Mini-Blanks

Productivity and bullet-proof reliability make the choice of a Braner/Loopco Cut-to-Length Line a *"no-brainer".*

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