

16 Pass Duplex Rollforming Line for the Production of Steel Building Frames (50-100 Wide)



Performance

Line speed : 14 components / min
: subject to punching.
Max component length : 6 metres

Coil - 3000kg x 300mm x 2mm Galv. Mild Steel

(P)CD3000.300 DOUBLE SIDED DECOILER

With hydraulic mandrel expansion, scaled mandrel segments to assist in coil positioning, Pneumatic tension and safety brake, Threading drive, Twin motorised pneumatic snubbers and powered rotation.

PEELER THREADER UNIT

A peeler threader unit is fitted to aid safe loading of the strip. The peeler blade catches the leading edge of the strip and diverts it into the straightener.

MS52.300 MOTORISED STRAIGHTENER

With integral infeed pinch rolls, 3 over 4 straightening rolls and ingoing self centring guides.

ULTRASONIC LOOP CONTROL

With carryover table and loop side guides.

RF100-300 SERVO ROLLFEED

Servo rollfeed unit for feeding punch station with accurate lengths for punching operations carried out periodically along components.



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CUT OFF SHEAR

Hydraulically actuated shear based on a die set design. The unit is situated after the rollfeed to give a datum position with a clean straight leading edge.

HYDRAULIC PUNCH SYSTEM SELF CENTRING PUNCH STATIONS

These punch stations are traversed into position via a servo motor.

SINGLE PUNCH STATION

Used to punch a common drawsunk hole into common products.

FIXED POSITION POWER FRAMES

Consisting of 5 die-set power frames mounted about the centreline of the strip. Each frame has a separate control valve and cylinder.

Scrap conveyors remove slugs from the punch station into suitable receptacles.

ULTRASONIC LOOP CONTROL

With an accumulator storage system to present the strip to the rollformer. The use of this system means a looping pit is no longer required. This also includes a carryover table for ease of threading up the line.



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F2(50)-16-DUPLEX SERVO ROLLFORMER

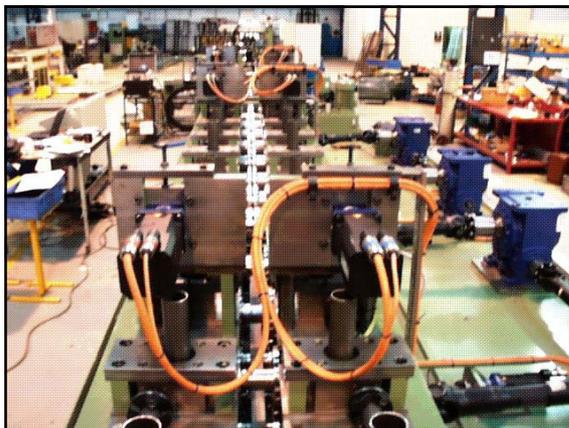
A 16 pass duplex servo rollform mill with 50mm diameter shafts. Variable speed low inertia servo drive, with drive transmitted to the forming heads via telescopic propshafts.

The top rolls are all adjustable and are linked then into banks where the rolling pressure is set by a series of servo motors. This eliminates the need for lengthy operator intervention periods setting each pass individually when running different gauge materials. The adjustments take place at the touch of a button.

Width adjustment on this machine is achieved automatically via servo motors controlled by the software system and adjust to the desired product as it is called for. Again this adjustment takes place at the touch of a button.

An adjustable entry guide assembly with digital readout is mounted prior to the rollforming head section. This guides notched strip coming from the loop and ensures it is presented correctly to the forming passes.

On the exit of the rollformer there is De-twist unit mounted, to take out any bow or twist which may be induced into the product during the forming process.



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TWIN HEADED INKJET PRINTER SYSTEM

Each print head will mark products coming from the rollformer with the required text. An encoder is mounted onto the strip to give the system a speed feedback for printing.



FIXED POSITION HYDRAULIC SWAGING & CUT OFF STATION

This station will form swages on the ends of components. This station will also cut off the remaining side tabs on the components.

The swage is signalled to operate when the strip is positioned and still. Excess material from the swage operation is formed into the base of the product.

All scrap material punched out by this station is again taken away from the operation by scrap conveyors into suitable receptacles.

This station has the encoder measuring system prior to it for positional feedback. This give accurate positions of swages and cut off points.



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EXIT CONVEYOR WITH SIDE EJECT

The roller conveyor is positioned after the swaging unit and will consist of an integral take away roll assembly to ensure that the cut component is separated from the following component.

All components below 500mm in length will be diverted to a stillage positioned beneath the conveyor. Longer products are taken and then side ejected towards the operator.

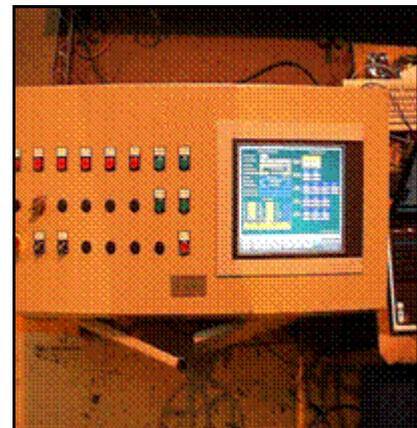
Scrap components less than 500mm long will be dropped into the stillage with longer scrap components being ejected to the rear of the conveyor system.



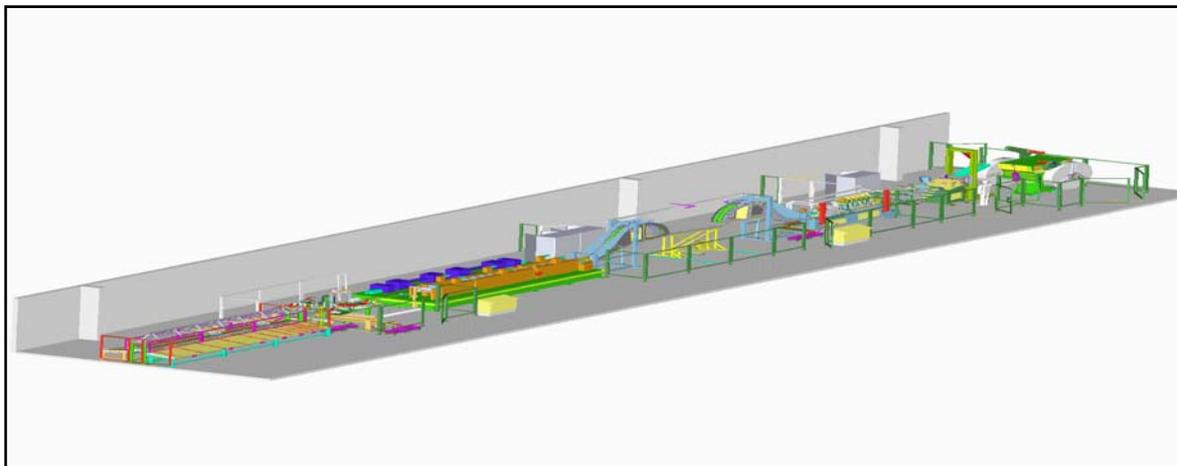
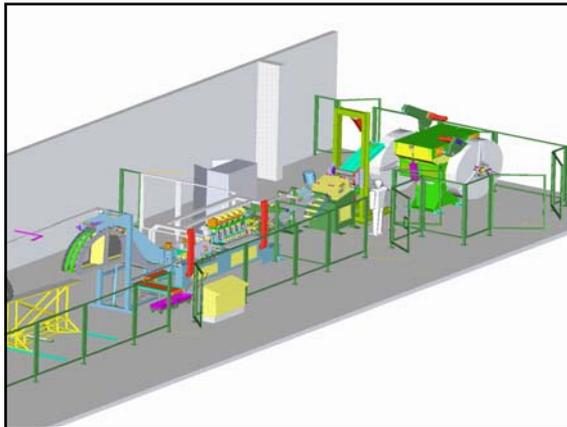
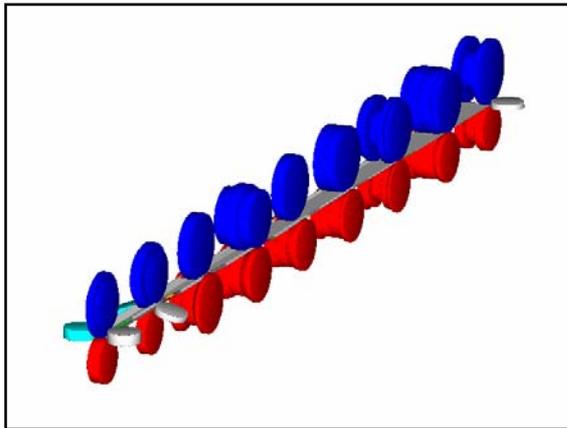
LINE CONTROLS

The line control system accepts a list of detail information presented to it by the customers software system, to produce the required components. Controls for the machine are housed in appropriate panel enclosures at the rear of the line, with the main control desk situated at the front of the line.

Wiring between machines and enclosures will be via in-floor trunking.



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SPECIALISTS IN ROLLFORMING TECHNOLOGY

Formit Ltd is dedicated to meeting your rollforming requirements through the application of the latest CAD Technology.

Since 1989 Formit Ltd has progressed from strength to strength by listening to its customers needs and meeting their expectations in terms of design, delivery and performance.

The strength of engineering skills within Formit give it the ability to supply not only rollforming solutions, but fully integrated turnkey production lines. Using coil processing equipment partner allows the ability to fully retain control of all the equipment incorporated into your production line to ensure a seamless quality "on time, on budget" installation.

Formit utilises a full 3D modelling CAD facility and full COPRA rollforming process simulation software by DATA-M. Use of the latest software & the expertise of an in-house "DESIGN AND BUILD TEAM" ensure that all equipment supplied by Formit exactly meets your needs.