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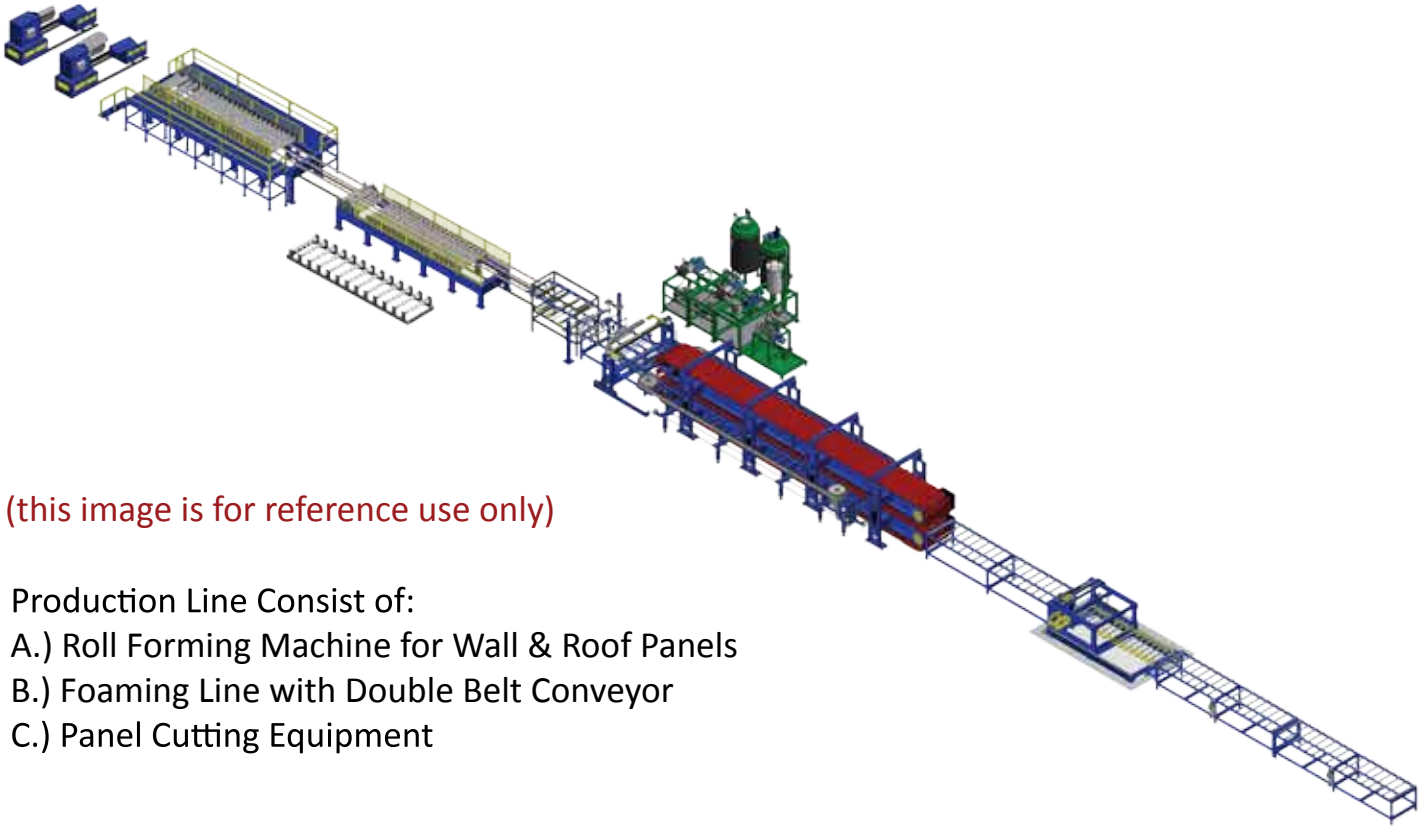
LINE FOR SANDWICH PANELS PRODUCTION IN CONTINUOUS MODE

MODEL : L - 13PU (13meters)

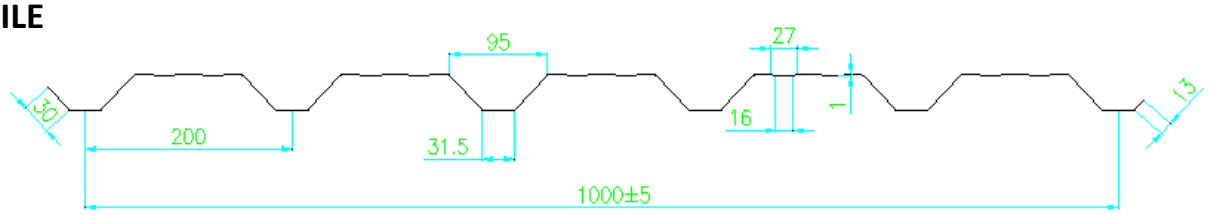


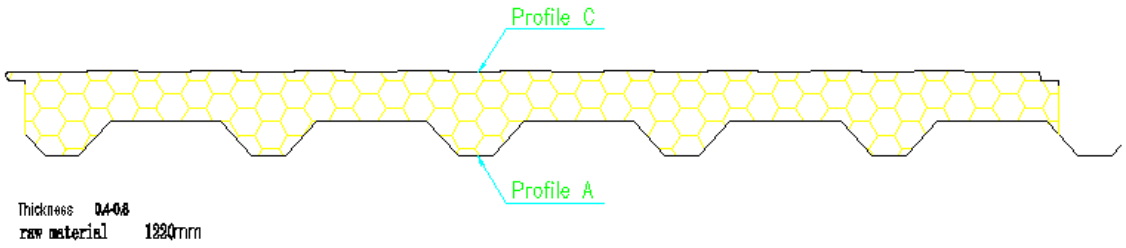
(this image is for reference use only)

Production Line Consist of:
A.) Roll Forming Machine for Wall & Roof Panels
B.) Foaming Line with Double Belt Conveyor
C.) Panel Cutting Equipment

A.) ROLL FORMING MACHINE

A - PROFILE





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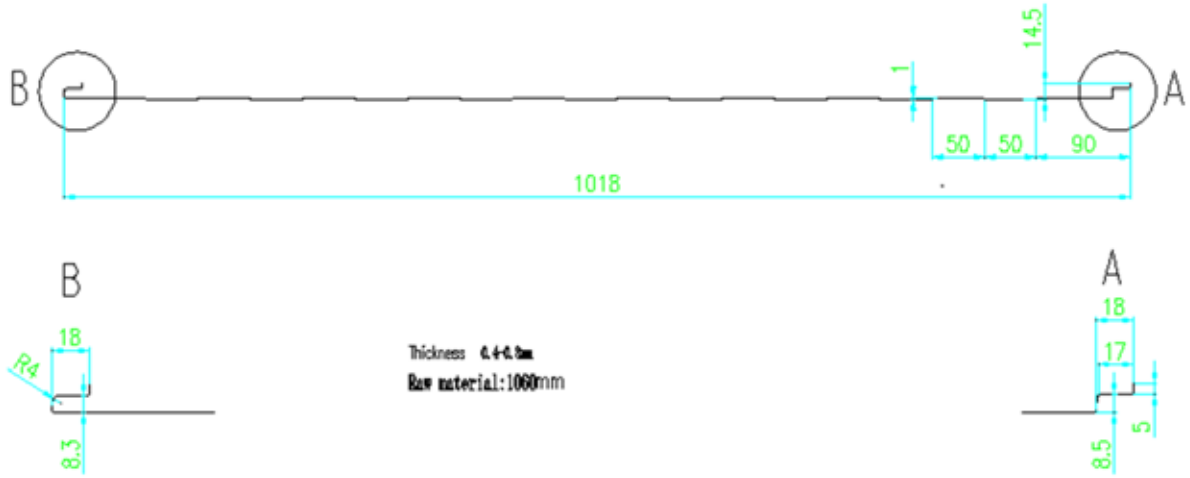
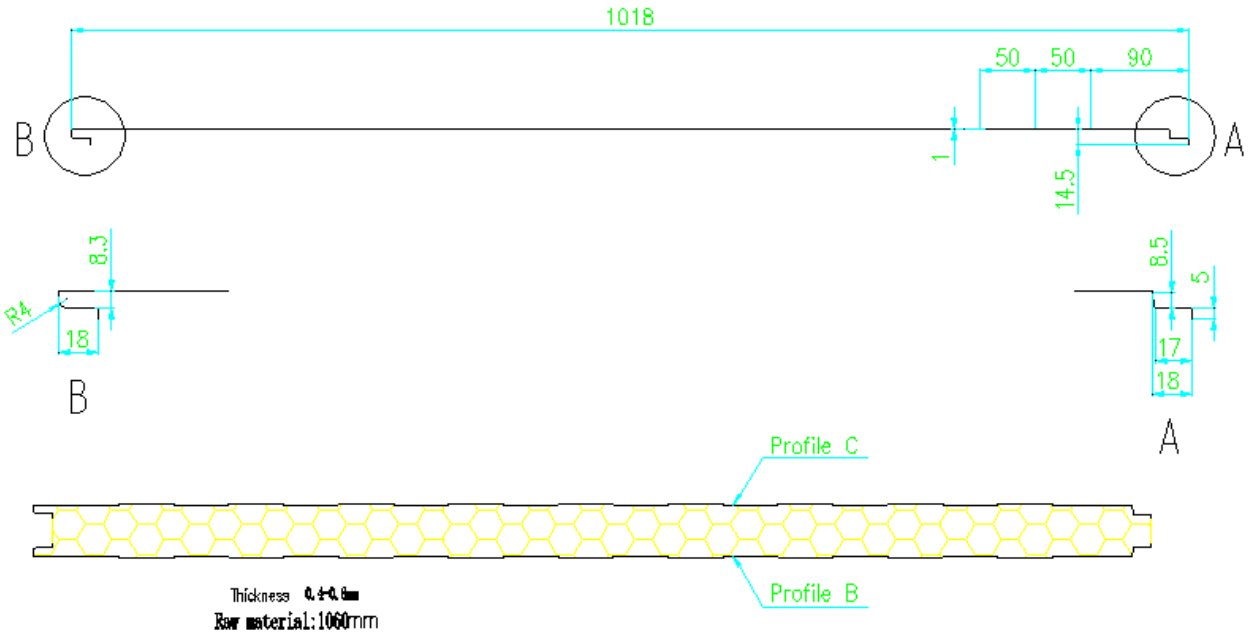
B - PROFILE



C - PROFILE



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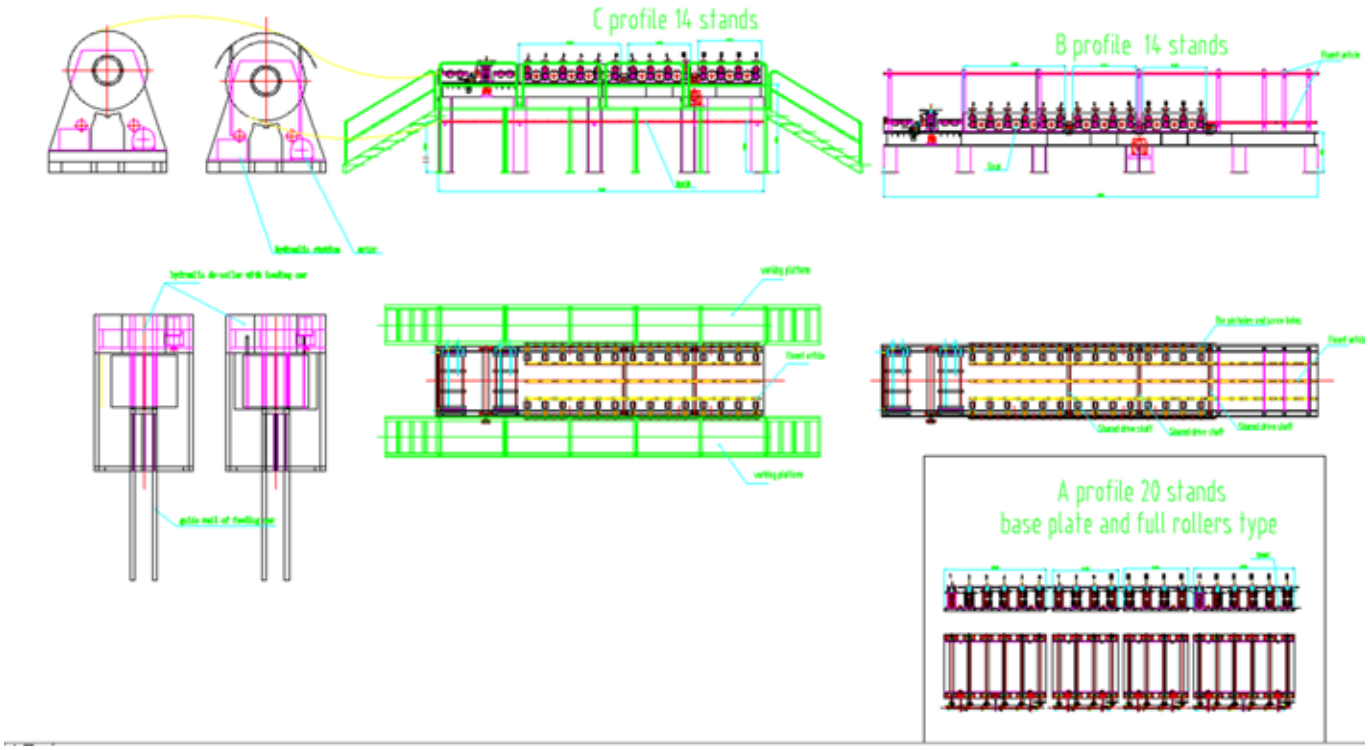
WORK FLOW DRAWING



C cassettes are on the high frame, A,B cassettes are on the lower frame. For B, C cassettes, replace the main shaft with two side forming, using the rollers on the two side for forming the shoulders, leave the ribs on one stand of rollers with big diameter. As for the transmission system, we are using bevel gear system on the A cassettes, gear system on the B, C cassette. Those two types of transmission system will be no effect on the convenience of changing cassettes.

Inverter	Siemens
PLC	Siemens
Encoder	Omron
Touch screen	Siemens
Other electrical appliances	Schneider

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FOR A PROFILE (MAIN MACHINE PART)

1. Matching material: according to your drawing
2. Material thickness range: 0.4-0.8MM
3. Main motor power: 7.5KW (Brands of motor and reducer are Siemens.)
4. Forming speed: 8-12m/min
5. Quantity of stands: 20 stands
6. Shaft Material and diameter: ¢ 75mm, material is 40cr
7. Material Of The Stations: Guide pin style
8. Tolerance: 3m+-1.0mm
9. Way Of Drive: bevel gear
10. Controlling system: PLC system
11. Voltage: 380V/ 3phase/ 50 Hz
12. Length of the forming machine: about 10m
13. Material of forming rollers: 45#steel with chrome plate treatment
14. The surface of the rollers will be treated with mirror polish
15. The spacer will be electroplating.

FOR B PROFILE (CASSETTES)

1. Matching material: according to your drawing
2. Material thickness range: 0.4-0.8MM
3. Main motor power: 7.5KW（Brands of motor and reducer are Siemens.）
4. Forming speed: 8-12m/min
5. Quantity of stands: 14 stands
6. Shaft Material and diameter: ¢ 65mm, material is 40cr
7. Material Of The Stations: L type whole processed plate
8. Tolerance: 3m+-1.0mm
9. Way Of Drive: gear
10. Controlling system: PLC system
11. Voltage: 380V/ 3phase/ 50 Hz
12. Length of the forming machine: about 7 m
13. Material of forming rollers: 45#steel with chrome plate treatment.
14. The surface of the rollers will be treated with mirror polish
15. The spacer will be electroplating.
16. There are special stand of rollers for forming the low ribs, the diameter of the roller is 150mm,the drive motor is 3KW(it will be Siemens brand).This will be add in the front of the frame, this stand will be on the lower frame, for B profile. As for the A cassettes, unscrew the rollers, the clearance will be enough for the material coming through and not effect on the material.

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FOR C PROFILE (MAIN MACHINE PART)

1. Matching material: according to your drawing
2. Material thickness range: 0.4-0.8mm
3. Forming speed: 8-12m/min
4. Quantity of stands: 14 stands
5. Shaft Material and diameter: ¢ 65mm, material is 40cr
6. Material Of The Stations: L type whole processed plate
7. Tolerance: 3m+-1.0mm
8. Way Of Drive: gear
9. Controlling system: PLC system
10. Voltage: 380V/ 3phase/ 50 Hz
11. Size of the forming machine: about 8m
12. Material of forming rollers: 45#steel with chrome plate treatment
13. The surface of the rollers will be treated with mirror polish
14. The spacer will be electroplating.
15. There are special stand of rollers for forming the low ribs, the diameter of the roller is 150mm,the drive motor is 3KW(it will be Siemens brand).This will be add in the front of the frame, this stand will be on the high frame, only for C profile.

SPECIFIC PARAMETERS OF EQUIPMENT

HYDRAULIC DE-COILER / COIL CAR

(1) Capacity: 10.0 tons
(2) Feeding width: MAX 1250mm
(3) Expanding range: 480-520mm
(4) Way of uncoiling: power-driven
(5) Hydraulic station motor, driving motor and reducer are all Siemens products.
(6) Coil car capacity: 10 tons
(7) Coil car rail length: 4 meters

CONTROL BOX: BRAND SIEMENS

(1) Voltage, Frequency, Phase: 380 V, 50 Hz, 3Phase (this can depend on customers' requests)
(2) Automatic length measurement
(3) Automatic quantity measurement
(4) Computer used to control length & quantity.
(5) Length inaccuracy can be amended easily
(6) Control panel: Button-type switch and touch screen
(7) Unit of length: millimeter (switched on the control panel)

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PACKING DETAILS

10.0 tons hydraulic de-coiler/coil car	2 sets
Main roll forming machine（profile A）	1 set
Main roll forming machine（profile C）	1 set
Cassettes （profile B）	1 set
Control cabinet(electrical parts: Siemens)	1 set

(ROLL FORMING MACHINE PHOTOS FROM PREVIOUS PROJECTS AS REFERENCE)








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B) FOAMING LINE COMPOSED OF

B.1) Oven for metal sheets heating, 4 m long, 20000 k/cal power, type SW4 with infrared lamps; Features as per infotec no. 069801001 upon request

B.2) High pressure foaming machine Composed of: 4 Components
High pressure metering machine ULTRAMIX-PLUS 4

Essentially consisting of:
- 1 Tank station, 250 l for Polyol
- 1 Tank station, 250 l for MDI
- 1 Tank station, 60 l for Catalyst
- 1 Electric control and equipment for Tank station
- 2 Temperature control equipment for main components Polyol and MDI
- 2 Heat exchangers for Polyol and MDI
- 1 Water re-cooling unit chiller
- 1 Metering unit for Polyol mixture
- 1 Metering unit for MDI
- 1 Metering Unit for Catalyst
- 1 Metering Unit for Blowing Agent (HCFC)

B.3) 1 Foaming Portal (laydown) at FIXED DISPLACEMENT type T1700
The foaming portal's task is to apply the reactive mixture via the mix head to the bottom facing, in the DOUBLE BELT mixture dispensing zone.
The main subassemblies can be derived as follows:
- Mix head guide system
- Dispensing height adjustment max 200 mm
- Longitudinal portal adjustment with parking brake (manual)
- Mixhead with cable track
- Blowing Agent injection on the high - pressure side

B.4) Output Volumetric flow-meters, on metering line for two components complete with video operator board for production parameters control and visualization.

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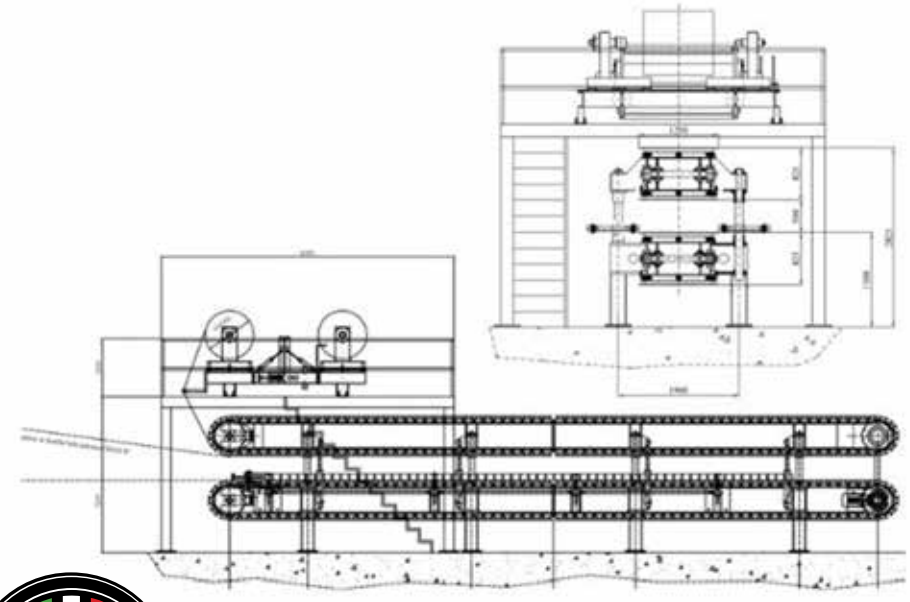
B.5) 1off double belt conveyor, fit to produce 13 m long sandwich panels, with following main features:
- max production speed: 5 m/min;
- slats max width: 1200 mm;
- Max thickness of panels under production: min. 20 mm., max. 240 mm.;
- integrated slats chain system, CNC machined to assure flatness and accuracy;
- double motorization synchronised by brushless motors;
- hydraulic lifting system by panel size gauges;
- Hydraulic lifting system for upper belt and balancing.

B.6) Thermoregulation system of double belt by hot air circulation by means of hot water system so to automatically assure a controlled temperature of air up to 60°C max. Power: two from 60,000kW. The control system is independent for the two belts (upper and lower), carried out by reading on slats and by electric fans that force and recycle the air inside the two belts.

B.7) Lateral caterpillars, type CTR 10 SW, each one 10 m long for producing 20 to 240 mm thicknesses. Motorization synchronised to the double belt. Side sealing system for above thicknesses not included

B.8) Set of lateral plastic-made modular containments to produce 50 mm thickness panels, c/w rapid-assembling system on caterpillar.

B.9) 3 m. long free-idle conveyor connected to cutting unit.



1off double belt conveyor 13 meters

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(DOUBLE BELT PHOTOS FROM PREVIOUS PROJECTS AS REFERENCE)

B.10) Control panel.The line is managed by a control panel for the power part and by a PLC controller for the sequential part. There is also a pulpit where all the manual controls of line, the control and adjustment equipment are located. A movable push buttons panel handling the production controls is located near the production control point. The control pulpit accommodates also an OP/PC for pre-setting and controlling the production on more working pages. As explanation, we list some programming and control video pages.

MACHINE CONDITION PAGE
For production data setting according to used components.

WORKING PAGE
Visualization of all production data checked within real time.

PROGRAMMING PAGE
Setting of working data, cycle times and safeties.

ALARMS
Visualisation of all alarms with relevant code.

CONSUMPTION
It visualizes the consumption of used raw materials under continuous cycle.

Other necessary pages, in addition to the ones programming and visualizing the machines diagrams and PLC.

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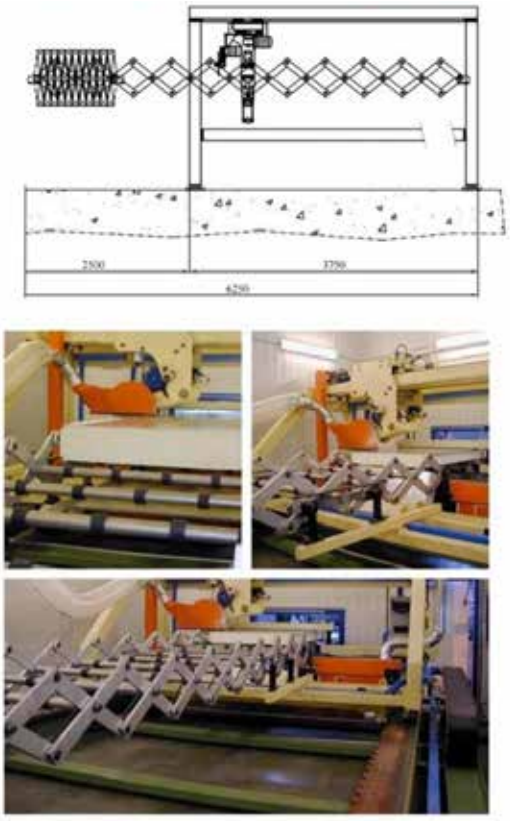
C) CUTTING EQUIPMENT

C.1) 1off cut-to-size circular saw-operated group, for metal sheets PU insulated panels c/w control panel.
Optional use only for Roof Panel:
1 off additional blade for overlapping cut adjustable from 50 to 250 mm; Type TDS 1000 SW

(THE OVERLAP CUTTING CAN BE ADDED ACCORDING TO YOUR REQUIREMENT)



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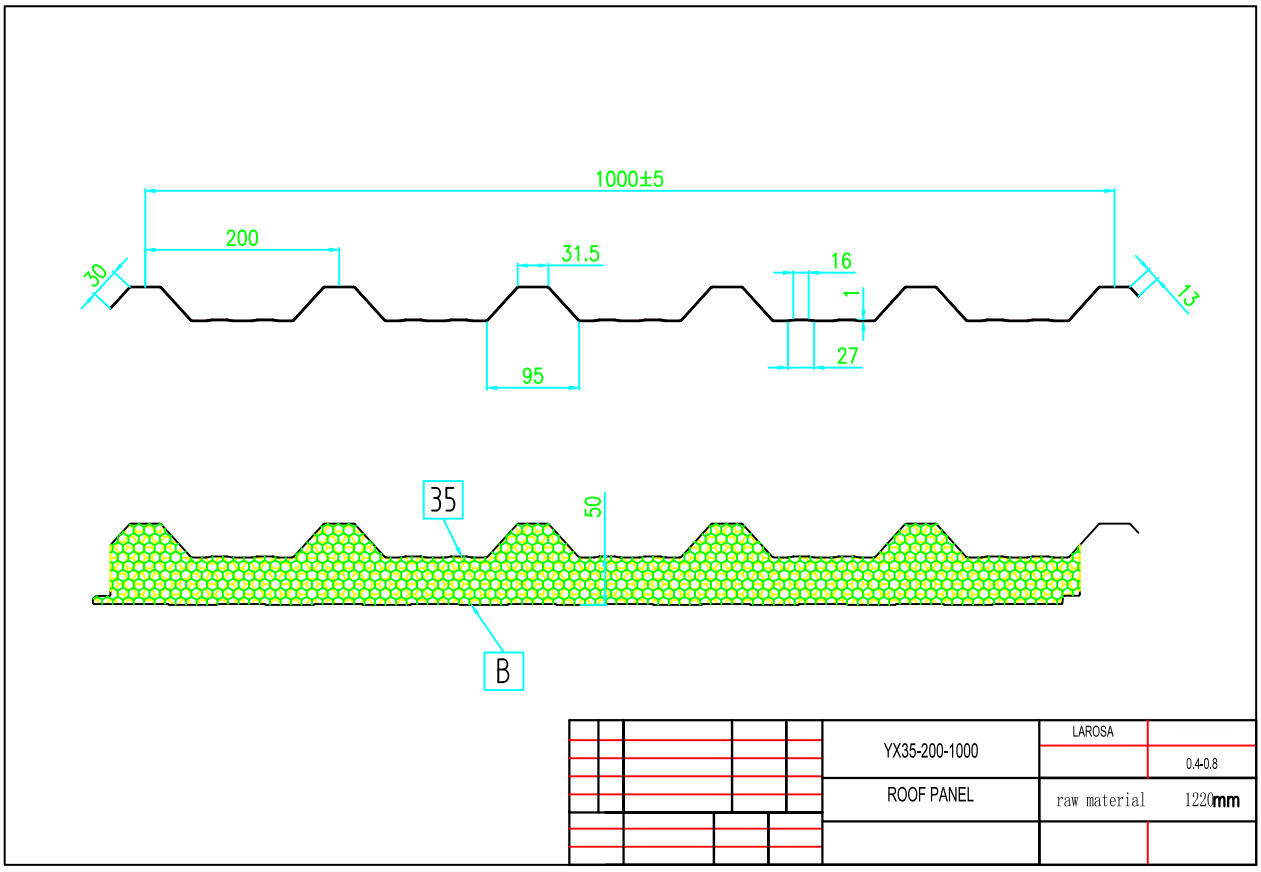

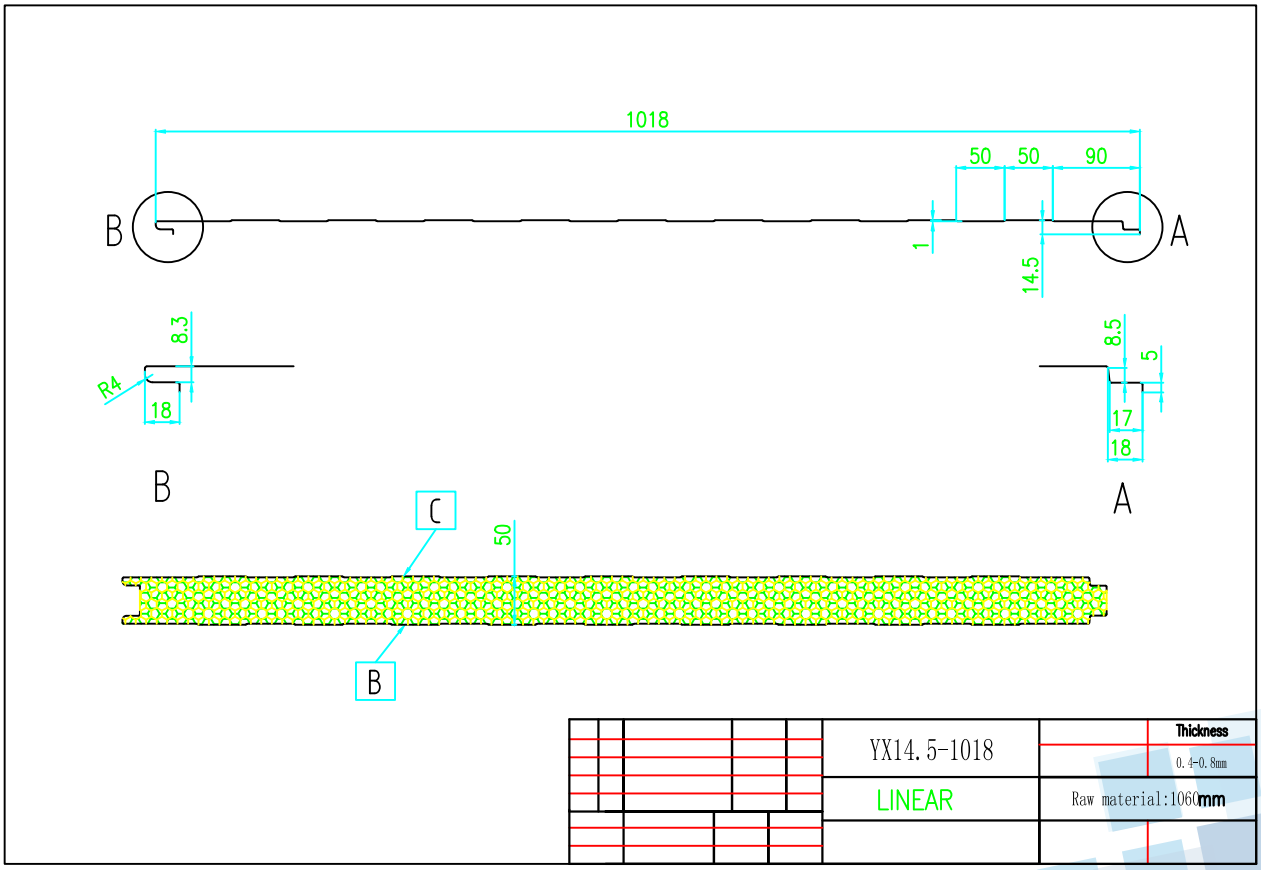

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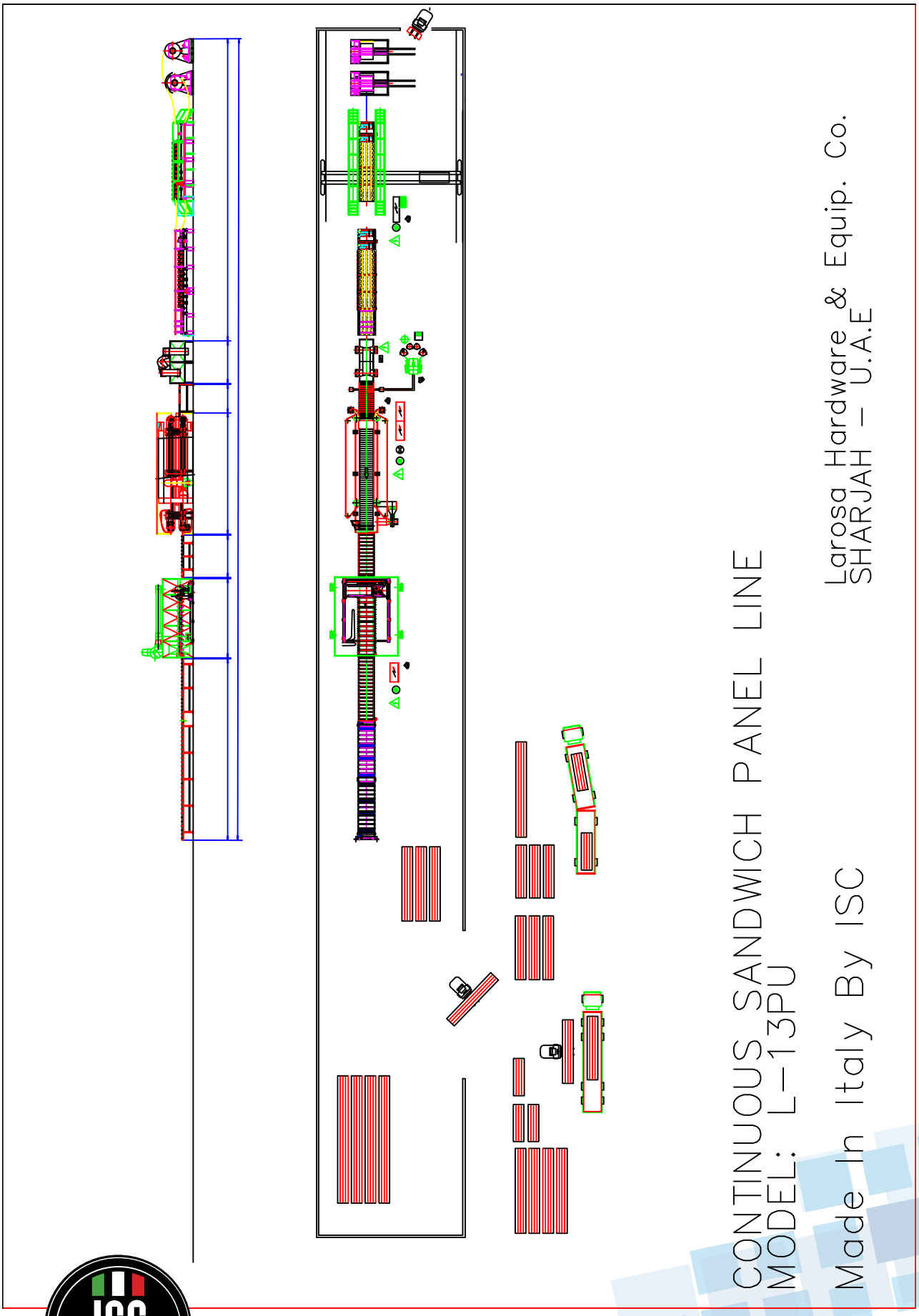

CONTINUOUS SANDWICH PANEL LINE
MODEL: L-13PU

Made In Italy By ISC

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