

Sinus machine



- PUR-PIR Sandwich Panel Production Line
- Polyurethane Foam Machine
- Cut to Length Line
- K-SPAN Forming Machine
- Sheet Rollforming Machine (Trapezoidal C&Z Purlin)



FLOW CHART



Sinus Machine: A Reliable Provider of Sandwich Panel Machines

Founded in Kocaeli, Turkey in 2019, Sinus Machine is a leading manufacturer of high-quality sandwich panel machines. The company is dedicated to providing its customers with the best possible products and services, and has built a reputation for delivering top-notch machines that are both reliable and efficient.

Sinus Machine is committed to quality, and holds both ISO 9001 and CE certificates, which are globally recognized standards for quality management and product safety. These certificates demonstrate the company's commitment to providing high-quality products and services to its customers.

1- PUR-PIR SANDWICH PANEL PRODUCTION CONTINUE LINE

2- DISCONTINUE SANDWICH PANEL MACHINE

3- SINGLE LAYER SANDWICH PANEL LINE

4- TRAPEZE LINE

5- CUT TO LENGTH MACHINE

6- DUST SUPPRESSION FOG CANNON

7- K-SPAN MACHINE

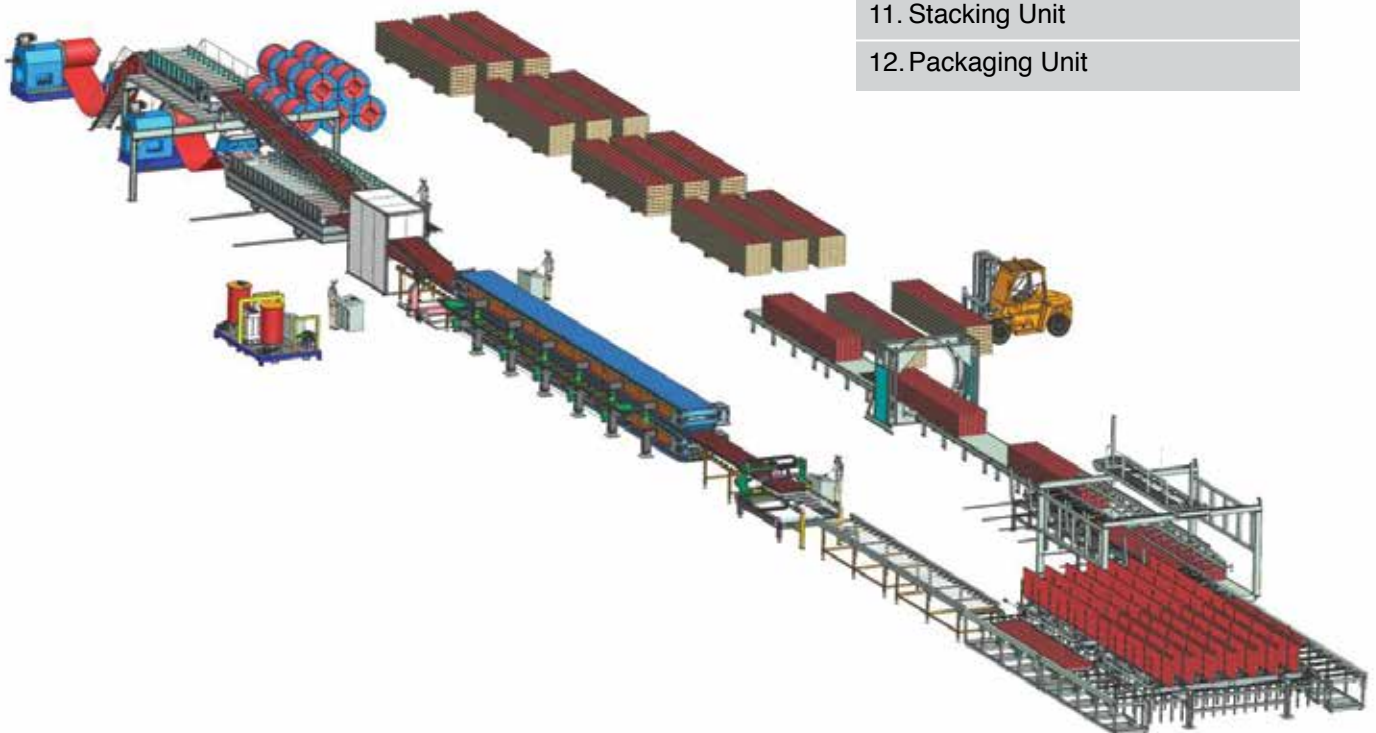
8-U&C & PURLIN MACHINE



PUR-PIR SANDWICH

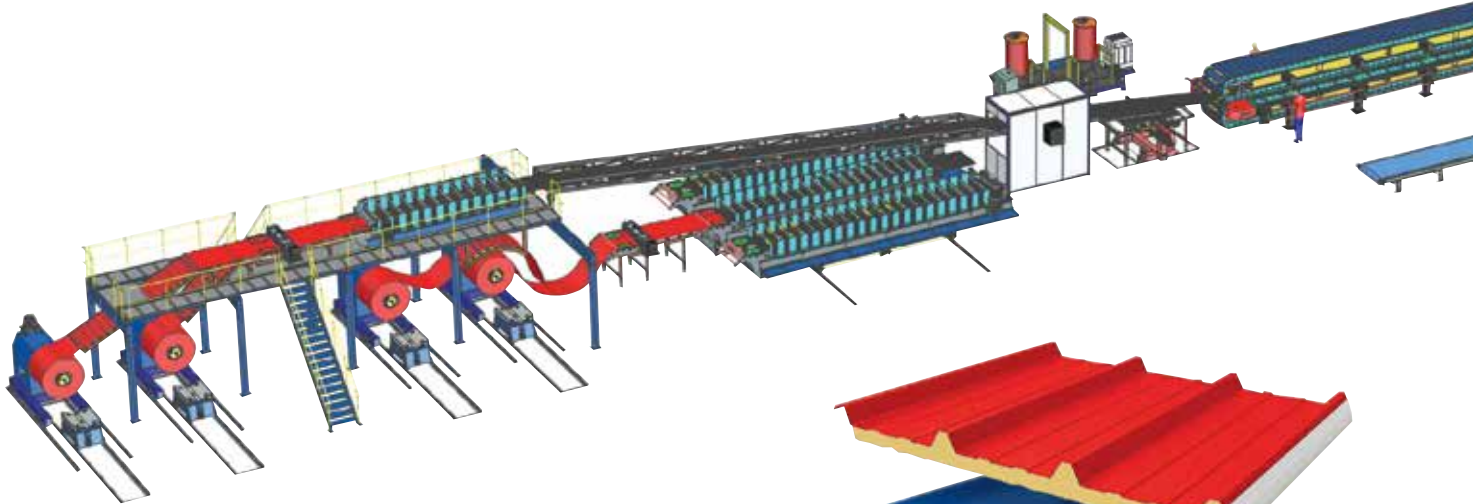
PANEL PRODUCTION LINE

1. Uncoiler
2. Corona Unit (Optional)
3. Rollform Unit
4. Mineral Wool Feeding (Optional)
5. Heating Cabin
6. PUR/PIR Foam Unit
7. PUR/PIR Casting Unit
8. Double Belt Press
9. Length Cutting Unit
10. Cooling Unit
11. Stacking Unit
12. Packaging Unit



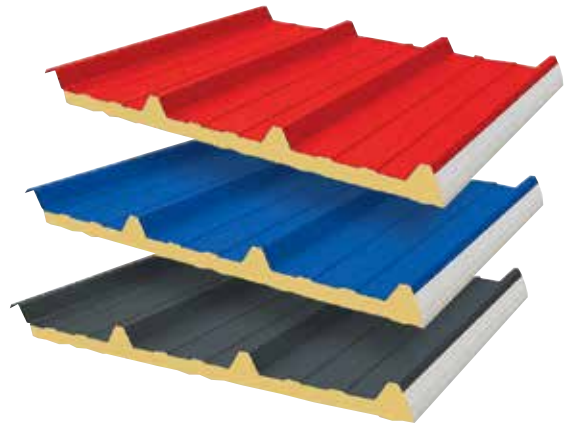
CONTINUE PANEL PRODUCTION

COMPLETE SYSTEM



PUR-PIR SANDWICH PANELS TYPES

WALL, ROOF, COOL ROOM PANELS



SIN-1

- Coil Width: 1220/1070mm
- Product width : 1000mm
- Panel Thickness : 50-200mm
- Coil thickness : 0.35~0.8mm



SIN-2

- Coil Width: 1070/1070mm
- Product width : 600~1200mm
- Panel Thickness : 50-200mm
- Coil thickness : 0.35~0.8mm



SIN-3

- Coil Width: 1200/1070mm
- Product width : 800~1000mm
- Panel Thickness : 50-200mm
- Coil thickness : 0.35~0.8mm



SIN-4

- Coil Width: 1220/1070mm
- Product width : 1000mm
- Panel Thickness : 50-200mm
- Coil thickness : 0.35~0.8mm



SIN-5

- Coil Width: 1070/1070mm
- Product width : 600~1200mm
- Panel Thickness : 50-200mm
- Coil thickness : 0.35~0.8mm



SIN-6

- Coil Width: 1070/1070mm
- Product width : 600~1200mm
- Panel Thickness : 50-200mm
- Coil thickness : 0.35~0.8mm



SIN-7

- Coil Width: 1200/1070mm
- Product width : 1000mm
- Panel Thickness : 50-200mm
- Coil thickness : 0.35~0.8mm



SIN-8

- Coil Width: 1250/1070mm
- Product width : 1000mm
- Panel Thickness : 50-200mm
- Coil thickness : 0.35~0.8mm



**Industrial
Facilities**



**Commercial
Facilities**



Cold Storages



**Social
Structures**

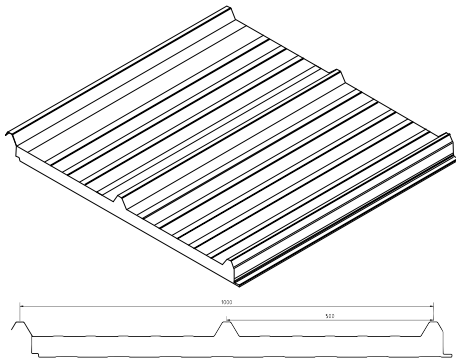
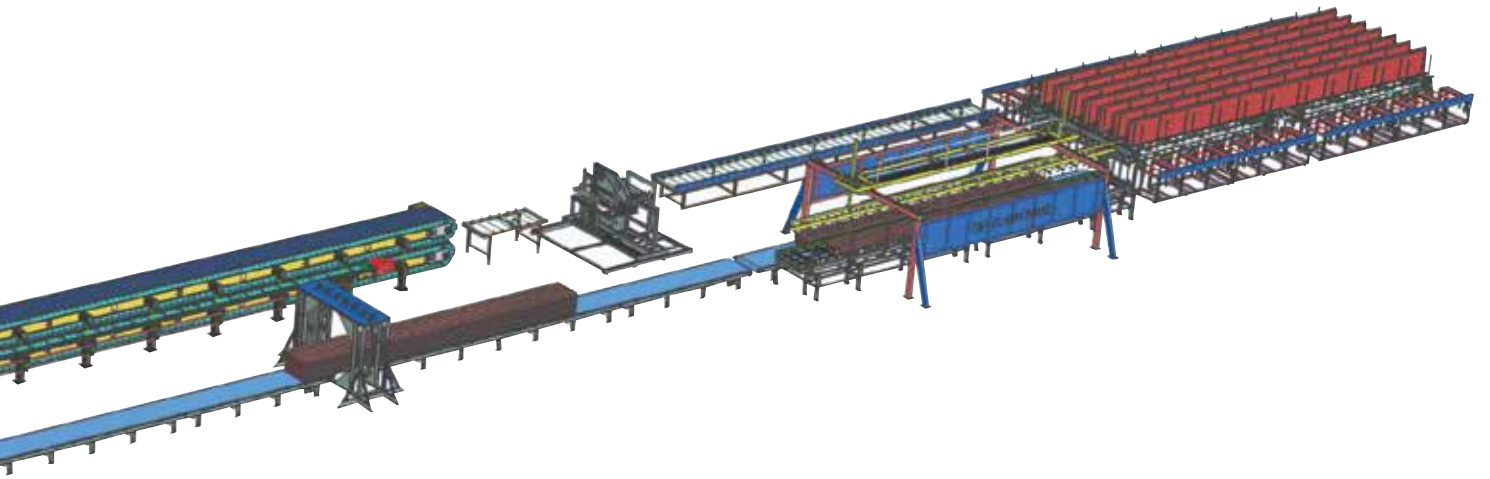


Power Plants

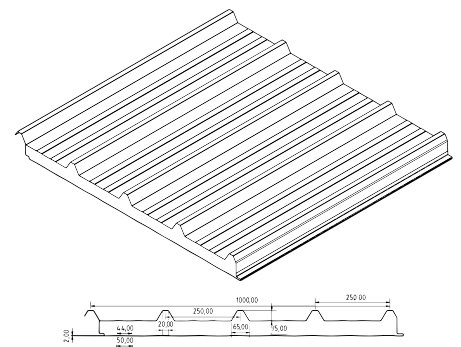


**Agriculture and
Livestock
Buildings**

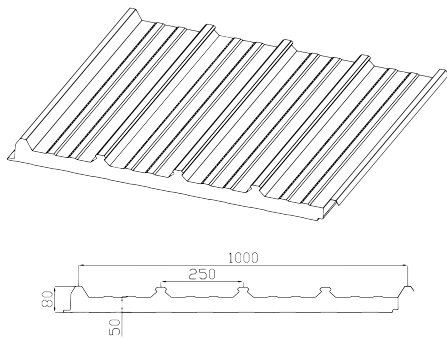




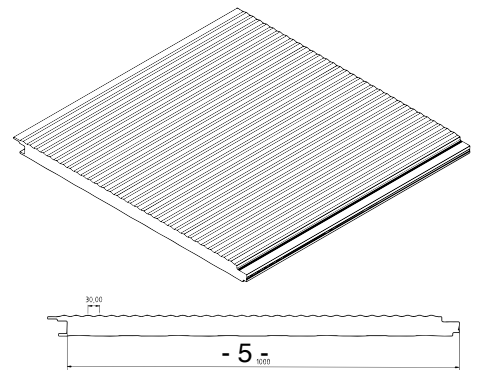
- 1 -



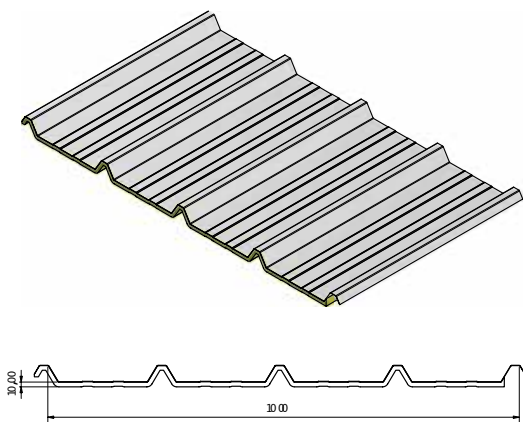
- 4 -



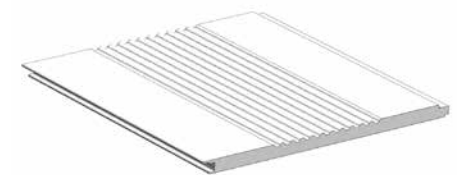
- 2 -



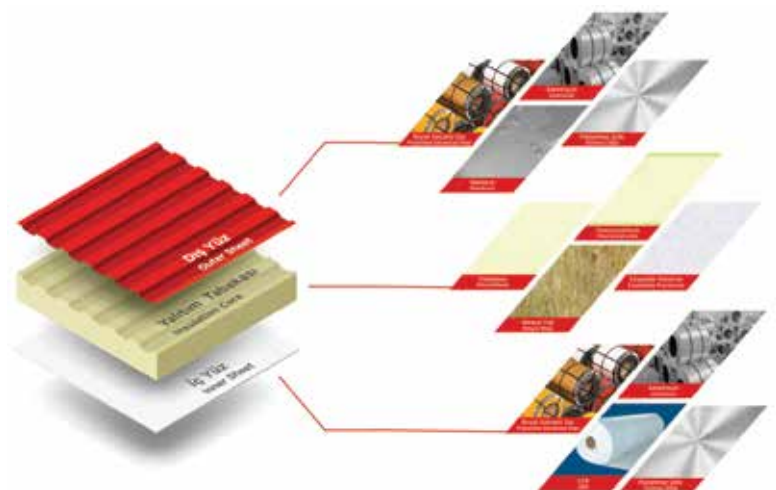
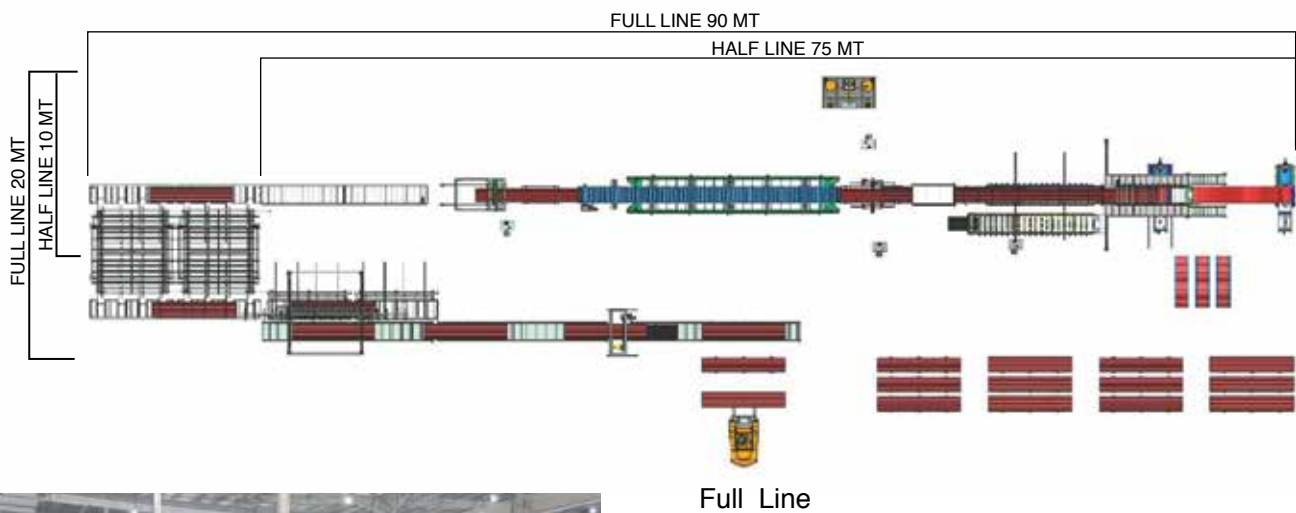
- 5 -



- 3 -



- 6 -





PUR-PIR SANDWICH

PANEL PRODUCTION LINE

PANEL PRODUCTION CAPACITY Meters / Minute

Press / Thickness	10mm	40mm	50mm	70mm	80mm	90mm	100mm	120mm	150mm	200mm
12 Mt	6--7									
18 Mt		5-6	5-6	4-5	4-5	3-4	2-3	2-3	2	1
24 Mt		7-8	7-8	6-7	5-6	4-5	3-4	3-4	2-3	1-2
30 Mt		10-11	9-10	8-9	7-8	6-7	5-6	4-5	3-4	2
40 Mt		12-13	11-12	10-11	9-10	8-9	7-8	5-6	4-5	2-3

Main power: ~ 200 - 295kw

Total power: ~ 255 - 320kw

Total weight: ~ 80 - 140ton

Total Length: ~ 75mt - 120mt

ELECTRICAL PANELBOARD COMPONENTS

Siemens S7-1500 Premium PLC, KTP - TP SERIES HMI



1-1 - UNCOILER

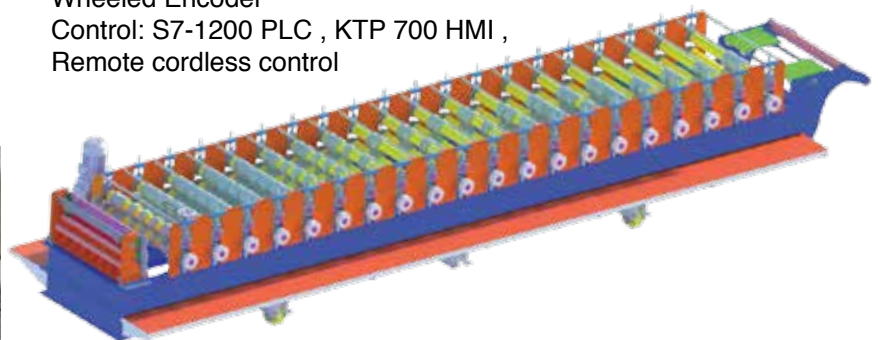


Dynamic brake system, Remote Controlled
Uncoiler Capacity: 2.000 - 10.000 Kg
Uncoiler Inner / Outer Diameter: (500mm +/- 50mm) / 1250mm
Uncoiler Width: 1250 mm
Control Type: Photo or laser sensor controlled, automatic operation
Mandrel Expanding type and Distance: 3 arms, 450-550 mm

1-2 - ROLLFORM

Roll Form Line: 18-24 Station
Roll Form Bearings: Ball Bearings Blocks
Roll Form Materials: Chrome Coated Steel
Shafts: Ø 75 - Ø 85
Power Train: Chain Transfer (1 INCH)
Driving Device: Siemens G120C
Roll Form Speed: 15 meter/minute

Motor Type: 5.5 kW AC Motor Gearbox ,
Yılmaz Brand Reducer
Encoder: Sick Brand, High resolution,
Wheeled Encoder
Control: S7-1200 PLC , KTP 700 HMI ,
Remote cordless control



1-3 - CASTING UNIT

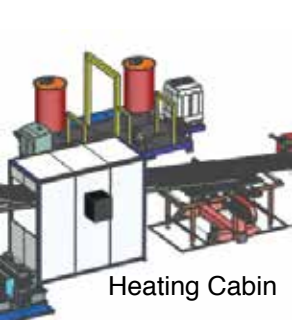
PU CASTING ROBOT (MIXHEAD TRAVERSING SYSTEM WITH SIEMENS SERVO CONTROL)

2-5 Component casting hydraulic head
Siemens KTP1200 12" HMI screen monitoring the whole system
2.0 kW Servo motor assisted for length movement
Working Area (Length) 500 -1200 mm
Working Area (Vertical) 300 mm
Working Area (Horizontal) 1800 mm
Robot lengthwise position adjustment (vertical) 1000 mm
Robot Horizontal movement adjustment AC motor with Gearbox , Siemens brand servo motor ve Sesame brand planetary reducer
Casting robot 2-4 sector Control systems + Poker head + Static mixer + Oscillation



2-5 COMPONENT PUR / PIR FOAMING SYSTEM (HIGH PRESSURE) POLYOL + ISOCYANATE + BLOWING AGENT + CATALYST1 + CATALYST2

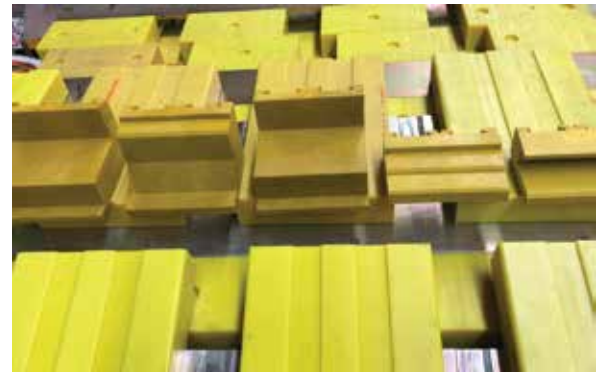
Polyol and Iso pump Bosch Rexroth brand A7VK Type or Brevini , Cat1 , Cat2 , Blowing Agent pumps Speck or Hydracell brand, 7,5Kw Gamak
Pouring Capacity: 26 Kg/Min
Tank capacity : 500 liters for POLYOL and ISOCYANATE , 250 liters for Cat1 , Cat2
Pentane cabin interior, gas safety sensors, air intake system, digital input pressure transmitter, Exproof engine and sensors are Trafag brand
Max internal tank pressure: 4 bars, Mechanical pressure relief valve and Electrical Pressure safety monitoring system
Ultrasonic Digital type automatic level filling , Sick brand
Transfer pumps included, Screen onboard Flowmeter, Endress Hauser, Honsberg or Equal brand
Heat exchanger MIT brand Polyol and Iso
Chiller with cooling feature for blower agent 5 kw, Ülker brand
Digital Pressure and Temperature transmitters, Trafag brand
Loading with wireless control for tank transfer filling, actuators Sms-tork brand
Heating and cooling chiller 12 kw, Ülker brand
Position actuator for PU and PIR casting
SMS torque Position switches on the actuator
Precise Siemens servo motor control for Cat 1 , Cat 2 , Blower Agent
Tank pressure control with Nitrogen gas for ISO



Heating Cabin

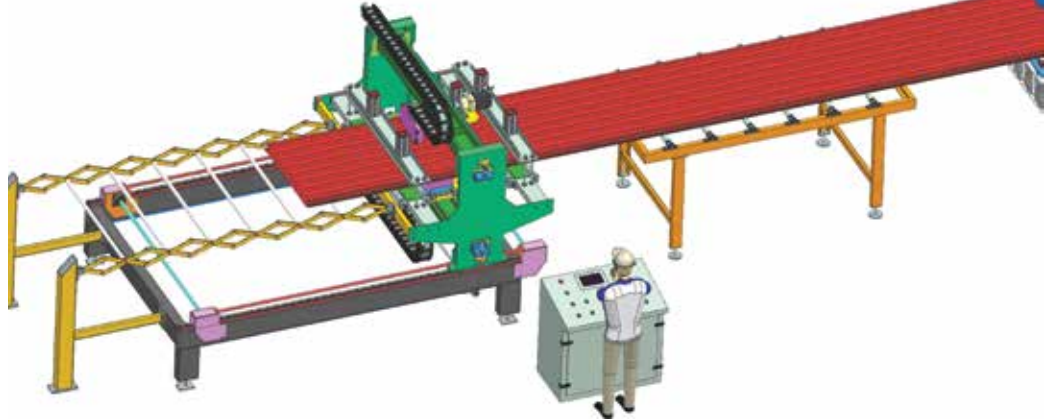


1-4- DOUBLE BELT PRESS



Monitoring All Units with 6-12 IP cameras
Lifting: Hydraulic cylinder or Screw lifting
Slat Materials: CNC Engraved Steel, Heat Treated
Slat Dimensions: 250mm x 1250 mm x 13~14 mm (15mm processed)
Main Motor: 3.5-7 kW AC Servo Motor
LATERAL CONTAINMENT CATERPILAR SYSTEM
Driving System: Chain carried and modular system support
Width Stroke Adjustment: Manual stroke adjustment with AC Motor + Gearbox
Adjustment Stroke: 250 mm
Support Material: Plastic + Fiber

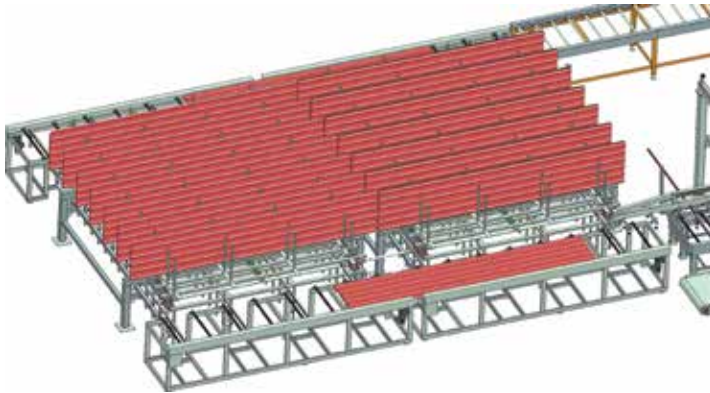
1-5- CUTTING - CURING - STACKER - PACKING UNIT



Lenght: 6 mt
Saw Motor: 7.5 kW AC Motor Fan Cooled, Speed controlled
Saw Cutting Working:Encoder Closed Loop PLC Control
Fly Cutting Unit Speed:1-15 meter/ minutes
Saw Type: Band Saw type / Radial saw

Cutting Length Precision: 5 mm
Dust Suction:4 kw , Double bagged with 5000 m3 suction capacity
Cutting motion motor: 2 kW Siemens Servo Motor and Sesame Planetary reducer, Position controlled
Body Movement: 3.5 kW Siemens servo motor and Sesame Planet reducer, Posi-

tion controlled
Lane Break Control: Monitoring and Parking with Pressure Transmitter
Safety and Security: Sick Brand Safety Relay and Light Curtain
Encoder: Sick Brand High Resolution Wheeled Encoder



PANEL COOLING AND CURING UNIT

Platform Dimensions: 12 x 6 meters
Stages: 25
Loading: Panel auto loading & unloading unit
Max Panel Lenght: 14m
Max Panel Thicness: 200mm
Design Type:PLC Controlled Line Synchronous

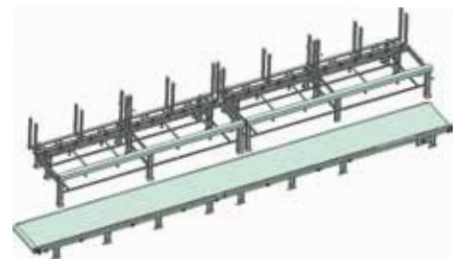


STACKER LINE (VACUUM UNIT)

Vacuum Transfer Roller Conveyor Size:12000 mm (Lenght) 1200mm (Width) (16mt panels)

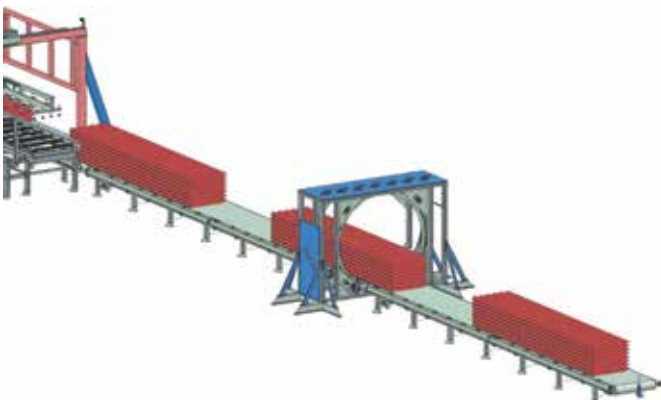
Vacuum Unit Power: 4 kW AC Motor
Z axis movement, 3.5 kW servo motor controlled, Siemens brand
Z axis movement drive: Belt System
Vacuum Pad Type:European Brands
Roof Panel Exchange System Exchange with Two Arm System, up-down movements

X Axis movement: 2 kW Servo motor controlled, Siemens brand
Tilting arms: Arm movements will be servo motor driven, position controlled

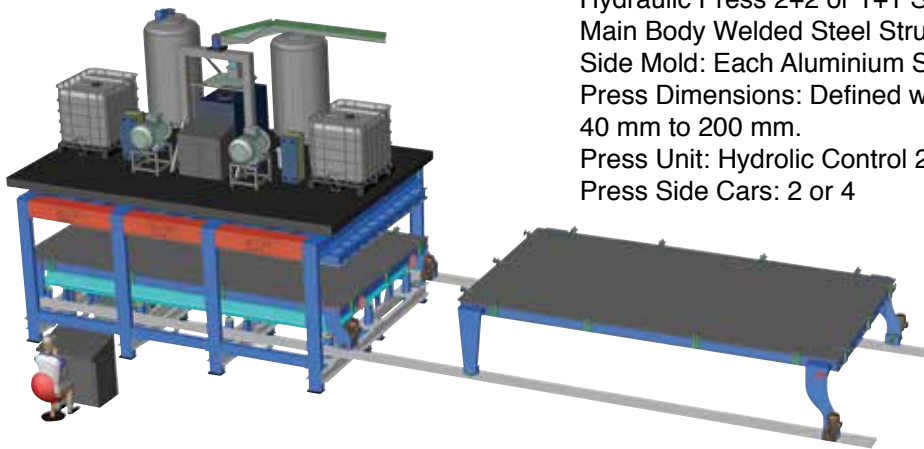


WRAPPING MACHINE

Capacity:22 Roof Panels
Maximum Length: 2 mt - 16 mt
Maximum Width: 1200 mm
Wrapping Line Total Power: 11 kW
Working Mode: Manual / Automatic
Driving System: 4 kW AC Motor with Gearbox, Yılmaz brand
Maximum Stretch Diameter: 250 mm
Maximum Stretch Length: 600 mm
Cutting and stretch: Pneumatic piston driven
Input and output conveyors: 3 kW Ac motor and Yılmaz brand reducer



2- DISCONTINUE SANDWICH PANEL MACHINE



Hydraulic Press 2+2 or 1+1 Shuttle System Details

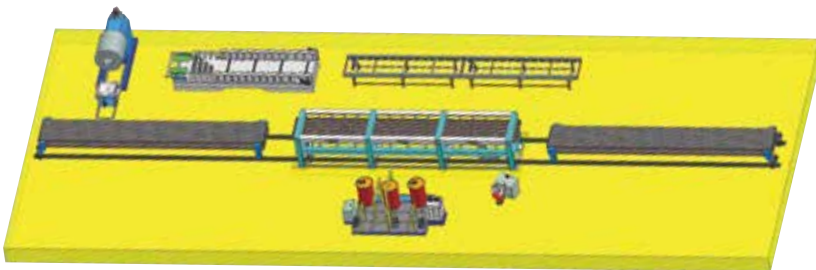
Main Body Welded Steel Structure

Side Mold: Each Aluminium Side Molds are 40 to 200mm

Press Dimensions: Defined with press, Panel thickness from 40 mm to 200 mm.

Press Unit: Hydraulic Control 250 bar pressure

Press Side Cars: 2 or 4



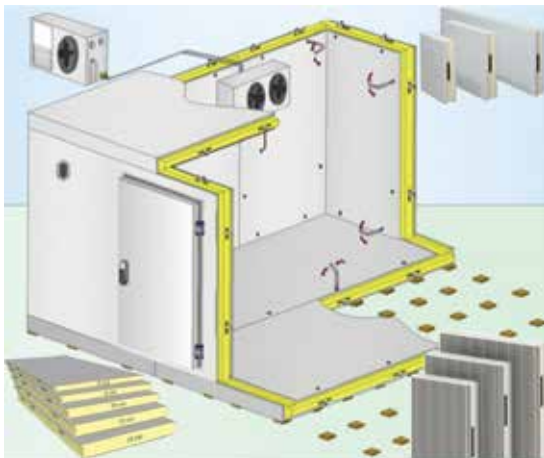
Hydraulic Equipment: 6,8 or 10 pieces of hydraulic cylinder 120 - 300 mm stroke (stroke length can be adjusted), 400 lt hydraulic tank 15 KW motor

Press Heating: Full automatic heating control by PLC, Electric heating by cables inner aluminum plates or/and water heating system, 37kw total power or more

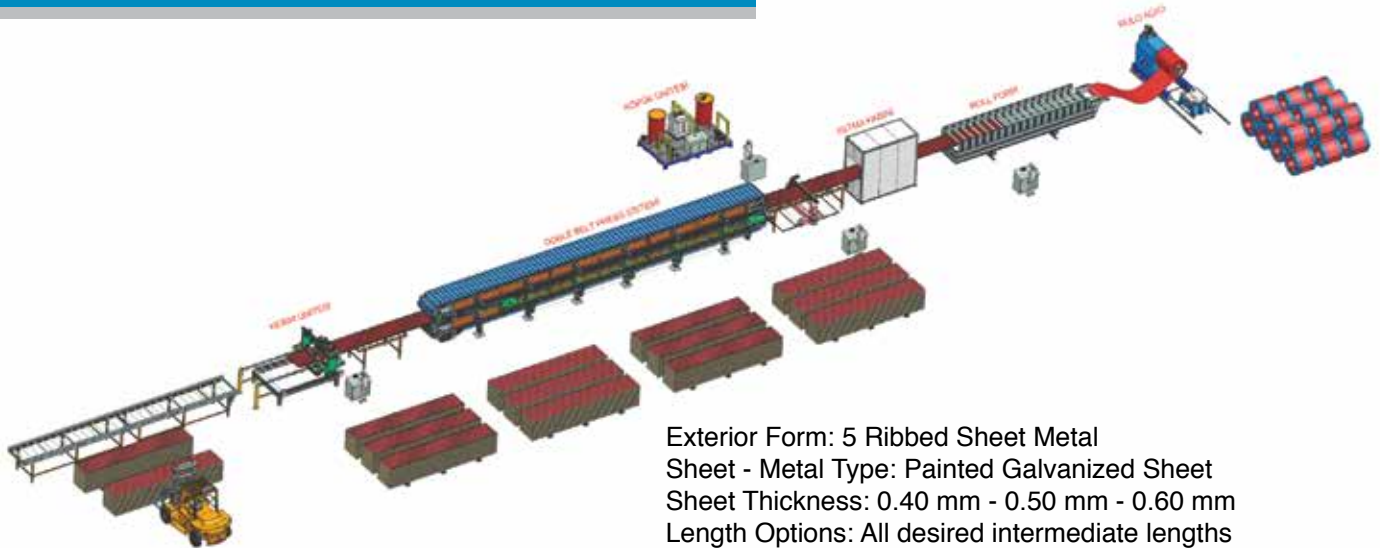
Automatic hydraulic or pneumatic system of locking the panel molds in position on a tray
Electronic components: PLC controlled movement including remote control and sensors

Inner Plate for Press: Aluminum

Foam unit rail on press: Optional



3- SINGLE LAYER SANDWICH PANEL LINE



Exterior Form: 5 Ribbed Sheet Metal
 Sheet - Metal Type: Painted Galvanized Sheet
 Sheet Thickness: 0.40 mm - 0.50 mm - 0.60 mm
 Length Options: All desired intermediate lengths
 Useful Width: 1 mt/tull
 Insulation Layer: Polyurethane
 Insulation Thickness: 10 mm
 Interior Surface: Covered Polyethylene Film, Craft Paper or Aluminium Sheet
 Remote cardles controlled

4- TRAPEZE LINE



Exterior Form: 5 Ribbed Sheet Metal
 (or desired pattern)
 Sheet - Metal Type: Painted
 Galvanized Sheet
 Sheet Thickness: 0.30 mm to 0,80 mm
 Length Options: 0,60mt to 12mt
 Useful Width: 0,80mt or 1 mt
 Working Speed : 25-30 mt/min
 Continues Production with Fly Cutter
 Stacking unit with PLC order
 entrance.
 Remote cordless controled

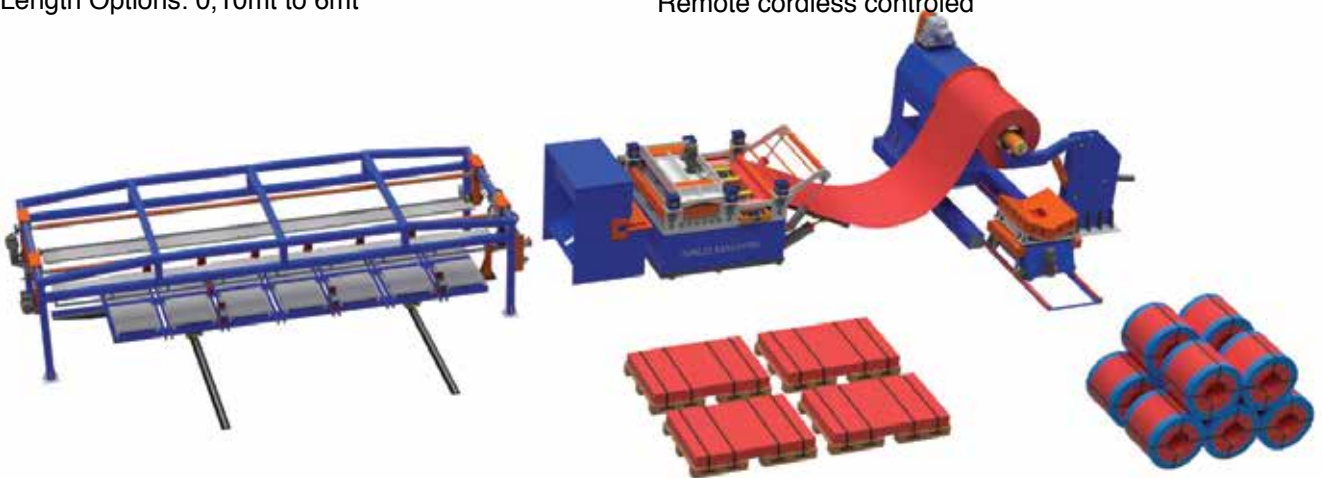


5- CUT TO LENGTH MACHINE



Exterior Form: Flat Sheet Metal
Sheet - Metal Type: Hot Rolled, Painted or galvanized and Other
Sheet Thickness: 0.30 mm to 3.00 mm
Length Options: 0,10mt to 6mt

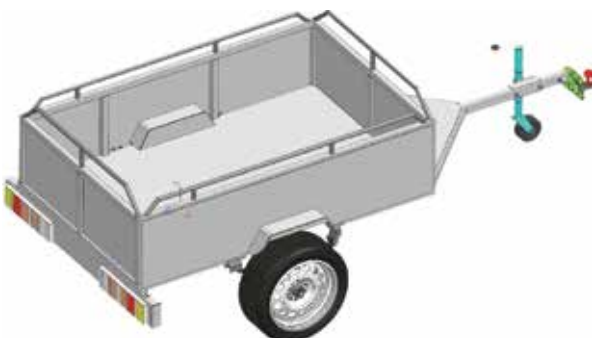
Useful Width: max 1600mm
Working Speed : 15mt/min
Continues Production with Cutter
Stacking unit with PLC order entrance.
Remote cordless controled



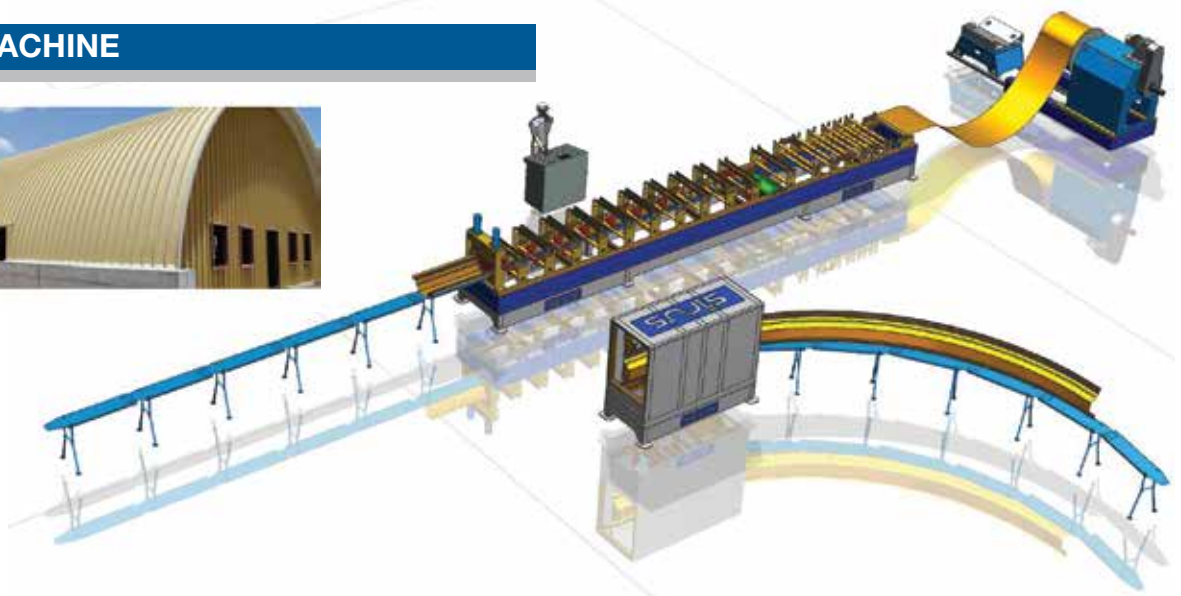
6- DUST SUPPRESSION FOG CANNON



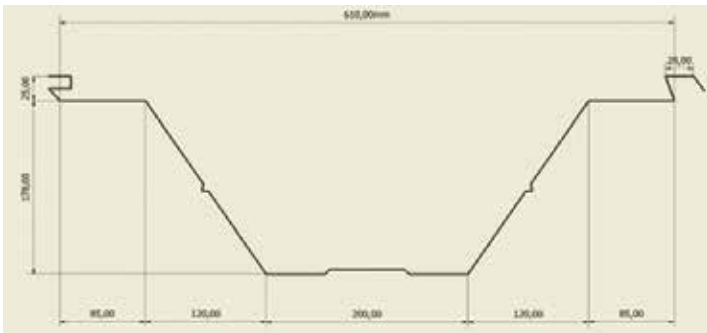
Throw: 20 mt to 300 mt (without wind)
Pump Power: 3 kw to 7.5 kw
Fan Power: 20 L/min to 60 L/min (adjustable)
Nozzle qty: 30-120 (Stainless steel)
Water Pressure: kpa 10 - 20 bar
Rotation Angle: 0-340°
Pitching Angle: -5° +30°
Mono Phase: 230-240V AC
Three Phase: 380-400V AC
Remote cordless controled



7- K-SPAN MACHINE



Type - 1



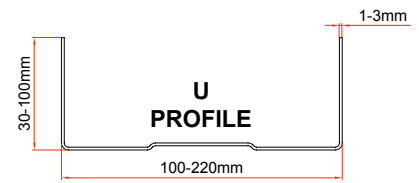
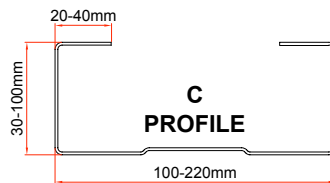
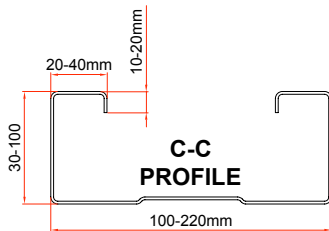
Type - 2



DESCRIPTION

Machine Dimensions (meters) :11x2,3x2,4 mt.
 Total Weight:15 Ton
 Total Power:23,5KW
 35KW Electric Generator included
 5Tons Coil opener
 Fully cardless Remote and strong buttons with PLC controlled
 Color Sheet input mm :914mm - 1000mm width, 0,60-1,20 mm Thickness
 Output sheet width 610mm - 680 with 203mm dept curve
 Speed of output: (Straight sheet:15m/min) ,(Curving sheet:13m/min)
 Large Span 38m
 Fully remote cardless PLC controlled uncoiler, servo motor, encoder, HMI screen and other control switches.

8- U&C PURLIN MACHINE



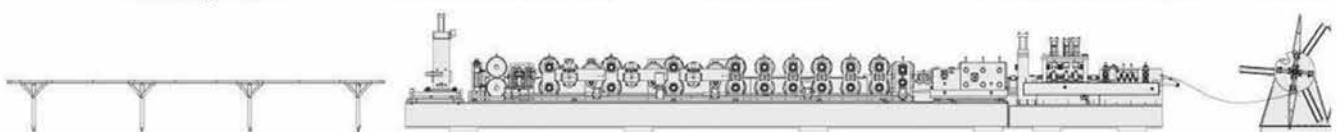
Product support frame

Hydraulic punching & cutting

Main roll forming

Feeding and leveling & cutting

Decoiler





SINUS
machine

SINUS MACHINE TECHNOLOGY AUTOMATION ENGINEERING ROBOTIC INDUSTRY AND TRADE. LTD. ŞTİ.

Karadenizliler Mah. Türkkan Sk.No: 10 Başiskele / Kocaeli / TÜRKİYE

Tel: +90 262 335 15 28 - +90 (551) 014 01 29 WhatsApp: +90 542 713 75 47

info@sinusmakine.com sales@sinusmakine.com