PU-PIR Sandwich Panel Production Line
Discontinuous Panel Production Line
Polyurethane Foam Machine
Trapezoidal Sheet Roof Forming Machine
Metal Tile Roof Roof Forming Machine
Cut to Length Line / Slitting Line
Flexible U-C Purlin Machine
ABOUT THE COMPANY

DONEM MAKINA was established in Kartepe – Kocaeli, TURKIYE in 1996. As being stated 2 factories one with 4.600 m² closed and another 3.200 m² area.

With our full guarantee we offer:
- PU-PUR Sandwich Panel Production Line
- Discontinuous Panel Production Line
- Polypurethane Foam Machine
- Trapezoidal Steel Roof Forming Machine
- Metal Tile Roof Roll Forming Machine
- Cut to Length Line / Slitting Line
- Flexible U-C Purlin Machine

DONEM MAKINA, has long years’ experience in designing, manufacturing, and installing complete systems for the production of PU-PUR SANDWICH PANELS, corrugated sheets and metal roof tiles with more than 100 employees, is the middle east - western European leader with sales and after sales services.

Being creative and up to date with latest technology in our designs – products’ quality.

Moving forward with our unique designs, constant development and creativity in our industry is what made us one the most competitive in this field to gain the honor of being model to manufactures. Choosing DONMET means obtaining immediate access, anywhere in the world, to highly trained technical personnel and top level facilities, reliable information, and unparalleled services, all of which are available at a quality/price ratio that is extremely competitive in the international market.

DONMET has recently become one of the best sellers around the world with our keen to manufacture the best product in terms of quality / price / services.

Above all our high performance, standards, which is eventually rated by our powerful presence in the international market which is marked by exporting more than 500 line until today to more than 22 countries.

Welcome to visit the east European and the middle east’s leading manufacturer
PU-PIR SANDWICH PANEL PRODUCTION LINE

Our continuous PUR / PIR sandwich panel production line is already recognized its value by exporting to European country with CE and other major sandwich panel producing companies at domestic and foreign. DMMET, we are keep to develop in accordance with customer’s needs for the high quality sandwich panels.

APPLICATION of the PU-PIR PANEL PRODUCTION LINE

This production line is suitable for manufacturing socket type (wall plates panel) and lapped type (roof tile panel) pu sandwich panels.

FLOW CHART


MAIN TECHNICAL DATAS

- Production Type: Continuous and automatic production
- Specification of Material: 0.3 - 0.8 mm
- Width of Material: 1250 mm Max
- Main Power: 240 kW
- Total Power: 300 kW
- Structure of Roll Forming Machine: Upper and lower pressing group producing with the pu complex mainframe
- Forming System: Continuous and automatic foaming, foaming capacity can be stepless adjustable.
- Foaming Thickness: 20 - 300 mm
- Speed: 0 - 16 m / min
- Way of the Controlling: Siemens PLC Computerized controlling
- Total Weight: about 160 Ton
- Total Lenght: about 85 meter
PU-PIR SANDWICH PANEL PRODUCTION LINE

CONTINUOUS PRESS

The continuous press is the main stage of the sandwich panel production process. The two belts are made by a grade steel slats characterized by its high strength and surface hardness. Due to special mechanical machining the finest surface finish is achieved and ensures perfect heat transfer; absolute flatness and a long lifetime.

The two conveyors are separately heated and thermally insulated resulting in a homogeneous temperature distribution, highly efficient transfer of heat and low consumption values for electricity, thermal energy and lubricants.
# PU-PIR SANDWICH PANEL PRODUCTION LINE

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Press Length</th>
<th>Min-Max Wall Panel Thickness</th>
<th>Min-Max Roof Panel Thickness</th>
<th>Max Production Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMMET 18</td>
<td>18 meter</td>
<td>40 mm - 150 mm</td>
<td>40 mm - 120 mm</td>
<td>8 m / min</td>
</tr>
<tr>
<td>DMMET 24</td>
<td>24 meter</td>
<td>40 mm - 180 mm</td>
<td>40 mm - 150 mm</td>
<td>10 m / min</td>
</tr>
<tr>
<td>DMMET 30</td>
<td>30 meter</td>
<td>40 mm - 200 mm</td>
<td>40 mm - 200 mm</td>
<td>12 m / min</td>
</tr>
</tbody>
</table>
PU-PIR SANDWICH PANEL PRODUCTION LINE

**Type of Production**: Sandwich panels insulated with PU and PIR foam

**Type of Insulation**: Polyurethane

- **Rigid PUR blend - class B2/B3**
- **Foam density 38 ÷ 45 kg/m³**

**RIGID Facing Materials**

- Pre-painted and galvanized steel
- Pre-coated steel with PVC

**Material Thickness (mm)**

<table>
<thead>
<tr>
<th>Material Type</th>
<th>Thickness (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-painted and galvanized</td>
<td>0.35 ÷ 0.80</td>
</tr>
<tr>
<td>Pre-coated steel with PVC</td>
<td></td>
</tr>
</tbody>
</table>

**Estimated Production Capacity**

- **Standard components**
  - PLC and Operator Panels: SIEMENS
  - 3-phase electric motors: ABB, GAMAK
  - Inverter: ABB, SIEMENS
  - Contactors, relays: SIEMENS, Allen Bradley
  - Selector switches, lamps, push-buttons: SIEMENS
  - Pneumatic components: Festo, Wirthman

**Panel Thickness**

<table>
<thead>
<tr>
<th>Panel Thickness</th>
<th>Line Speed (m/min)</th>
<th>Production (m/shift)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 mm</td>
<td>12.0</td>
<td>4,320</td>
</tr>
<tr>
<td>60 mm</td>
<td>8.0</td>
<td>2,880</td>
</tr>
<tr>
<td>80 mm</td>
<td>7.0</td>
<td>2,520</td>
</tr>
<tr>
<td>100 mm</td>
<td>6.0</td>
<td>2,000</td>
</tr>
</tbody>
</table>

The above listed Production capacities refers to ideal working constructions with theoretical standard chemicals and can be subject to modification according to the raw material overall quality, the chosen chemical system, the foam density, the dosing machine pumps flow rate and the maintenance status of the plant. Production capacity calculated considering 7.5 h/shift.
DONEM MAKINA, a member of Dmmet Group, has more than 10 years' experience in designing, manufacturing, and installing complete automatic systems for the production of Pu-Pır Sandwich Panels, with more than 130 employees, is the East European and Middle East Leader with sales and after-sales services. We always have the latest technology and also move it forward with our new designs and products and also have the pride of being a model for other manufacturers.
SINGLE PANEL PRODUCTION LINE

Single panel has a rigid polyurethane foam core, CFC-free and weighs approximately 42kg / m³. Due to its high efficiency profile geometry and a 10 mm or more thick polyurethane (or PIR) foam layer adhered to the top shell, our product has an extremely high stability. Scope of application: for photovoltaic roofs, new buildings, renovation works and all kinds of agricultural or industrial buildings.

<table>
<thead>
<tr>
<th>Model</th>
<th>Press length</th>
<th>Panel thickness</th>
<th>Max production speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNGL 12</td>
<td>12 meter</td>
<td>10 mm</td>
<td>10 m/min</td>
</tr>
<tr>
<td>SNGL 18</td>
<td>18 meter</td>
<td>10 mm</td>
<td>14 m/min</td>
</tr>
</tbody>
</table>
ADVANCED POLYURETHANE MACHINES

DPM Series dosing machines for highly diverse polyurethane applications

DPM series covers a wide range of options for manufacturing polyurethane components. DPM series features an attractive price/performance ratio and ideal delivery times. DPM machines are equipped with high quality components to guarantee reliable process control and high component quality. Solvents and other substitutes are no longer required.

Application areas
Construction, Technical items, Automotive, White goods

A-Side (Polyol)
- Axial piston pump, pump drive with frequency converter, 250 lt raw material tank, level monitoring, heat exchanger, automatic diaphragm barrel pump, agitator, flow measurement (optional), edge filter in suction lines.

B-Side (ISO)
- Axial piston pump, pump drive with frequency converter, 250 lt raw material tank, level monitoring, heat exchanger, automatic diaphragm barrel pump, agitator (optional), flow measurement (optional), edge filter in suction lines.

Flow range From 130 g/s to 1000 g/s total flow rate

Mixing head DMH "L" type Mixing Head (self cleaning)

Control Panel
- PLC control, Siemens S7 1200 with HMI touch screen operator panel

Dosing Unit
- Axial piston metering pumps, frequency regulated & in the a-s, pump drive with ABB frequency converter - foundation of a closed-loop system

Mixing Head Hydraulics
- plunger type, high pressure pump, pressure accumulator, valve, filter, cylinder, 50-bar output, mixing head control valves

For a trouble-free processing of all different PU systems, we use edge filters in the suction side, we also offer motor-driven filter systems.

Perfect temperature control thanks plate heat exchangers. The plate heat exchangers are mounted on the machine frame.

Temperature - Control System

Edge Filter

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Temperature - Control System

Edge Filter

- For a trouble-free processing of all different PU systems, we use edge filters in the suction side, we also offer motor-driven filter systems.
<table>
<thead>
<tr>
<th>DPM</th>
<th>500</th>
<th>1500</th>
<th>2500</th>
<th>5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total flow rate at MV 1:1</td>
<td>120 g/s - 480 g/s</td>
<td>350 g/s - 1300 g/s</td>
<td>740 g/s - 2520 g/s</td>
<td>1350 g/s - 5000 g/s</td>
</tr>
<tr>
<td>Raw material tank</td>
<td>x 250 lt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installed capacity</td>
<td>22 kW</td>
<td>40 kW</td>
<td>60 kW</td>
<td>90 kW</td>
</tr>
<tr>
<td>Processable viscosities of the components</td>
<td>20 – 2,000 mPas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base frame dimensions</td>
<td>2160 x 1850 mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total weight (without liquids)</td>
<td>1,050 kg</td>
<td>1,400 kg</td>
<td>1,550 kg</td>
<td>1,700 kg</td>
</tr>
</tbody>
</table>

* Not available as a standard.
POLYURETHANE FOAM
MOULDED FOAM PRODUCTION

Application areas: Automotive industry, White goods, Defense industry, Agricultural industry, Construction, Furniture, Textile
POLYURETHANE FOAM

PENTANE SYSTEMS

The need to reduce the environmental impact from greenhouse emissions policy of our company has the key point development, pushing DMMET GROUP to design a foaming machine helping those foam with hydrocarbons to sustainable development. However, choosing a machine for PU foaming with Pentane is always a very important choice.

The experience of the DMMET GROUP has developed this series of foaming machines for making the only choice.
CONTINUOUS SLABSTOCK LINES

Foam Production Lines
Continous Foam Production Lines

The combination of perfect high-pressure dosing and an efficient stirrer mixer makes Dmmet Group continuous slabstock lines the perfect solution in the efficient processing of all commercial materials in almost all density ranges. Dmmet Group continuous slabstock lines are opening up a variety of prospects for the cost-effective manufacture of high-quality foams of any length, up to 2000 mm in width and, depending on the foam type and specific density, with a height of up 1500 mm.
DISCONTINUOUS PANEL PRODUCTION LINE

DDP systems for the discontinuous manufacture of sandwich elements offer a wide range of dimensions, facings and foam systems. The combination of high quality and reliable hydraulic presses for nearly all applications together with high pressure dosing systems guarantees efficient manufacture of products with an excellent range of properties.

Dmmet Group offers its customers 1+1 and 2+2 shuttle systems.
DMMET, produces efficient and flexible production lines for trapezoidal and corrugated profiles. DMMET offers these solutions as multi-deck lines and as quick-change cassette lines. Roll forming machines for single profile production are also available from us.
### Trapezoidal Sheet Roll Forming Machine Properties

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coil Material</strong></td>
<td>Steel, Galvanized</td>
</tr>
<tr>
<td><strong>Coil Thickness</strong></td>
<td>0.3 - 0.8 mm</td>
</tr>
<tr>
<td><strong>Coil Width</strong></td>
<td>1000 - 1200 - 1250 mm, Customized</td>
</tr>
<tr>
<td><strong>Decoiler and Coil Car</strong></td>
<td>Decoiler Type: Mechanical or Hydraulic or Automatic type</td>
</tr>
<tr>
<td><strong>Coil Weight Capacity</strong></td>
<td>10T</td>
</tr>
<tr>
<td><strong>Rolling Stations</strong></td>
<td>18 forming stations, depend on profiles</td>
</tr>
<tr>
<td><strong>Roller Material</strong></td>
<td>High grade 45# steel, surface with hard chrome 0.05 mm</td>
</tr>
<tr>
<td><strong>Three Diameter</strong></td>
<td>86 mm</td>
</tr>
<tr>
<td><strong>Drive Type</strong></td>
<td>Chain Drive</td>
</tr>
<tr>
<td><strong>Cutting Type</strong></td>
<td>Hydraulic cutting</td>
</tr>
<tr>
<td><strong>Cutting Die Material</strong></td>
<td>SW 2375 STEEL, HRC 58-62</td>
</tr>
<tr>
<td><strong>Cutting Tolerance</strong></td>
<td>+/- 1mm (10m)</td>
</tr>
<tr>
<td><strong>PLC Brand</strong></td>
<td>Siemens S7</td>
</tr>
<tr>
<td><strong>Inverter Brand</strong></td>
<td>ABB</td>
</tr>
<tr>
<td><strong>Encoder</strong></td>
<td>Omron</td>
</tr>
<tr>
<td><strong>Hydraulic System</strong></td>
<td>Turkish Brand</td>
</tr>
<tr>
<td><strong>Auto Stacker Max 12000 mm</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Table Function</strong></td>
<td>To support the profile sheets after cutting</td>
</tr>
</tbody>
</table>

- **Main Roll forming Station**: 18 stations, depends on profiles
- **Roller Material**: High grade 45# steel, surface with hard chrome 0.05 mm
- **Shaft Diameter**: 86 mm
- **Drive Type**: Chain Drive
- **Forming Speed**: 0-25 m/min
- **Main Power**: 7.5 KW
- **Cutting Type**: Hydraulic cutting
- **Cutting Die Material**: SW 2375 steel, HRC 58-62
- **Cutting Tolerance**: +/- 1 mm (10m)
- **Electrical System**: Siemens S7, ABB, Omron
- **Hydraulic System**: Turkish Brand
- **Auto Stacker Max 12000 mm**
- **Table Function**: To support the profile sheets after cutting
DMMET has extensive experience in metal tile profiles and a broad overview of manufacturing technology, and offers wide range of metal roof tile designs. We can also create completely new product designs and innovations according to specific customer requirements.

METAL TILE ROOF ROLL FORMING MACHINE

%100 Satisfaction

METAL TILE ROOF ROLL FORMING MACHINE PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Thickness</td>
<td>0.3 - 0.7 mm</td>
</tr>
<tr>
<td>Material Width</td>
<td>Depend on Profile</td>
</tr>
<tr>
<td>Decoiler</td>
<td>Manu. Passive Uncoiler (Customer can choose hydraulic decoiler)</td>
</tr>
<tr>
<td>Weight Capacity of Uncoiler</td>
<td>10 Ton</td>
</tr>
<tr>
<td>Main Forming Power</td>
<td>5.5 KW</td>
</tr>
<tr>
<td>Hydraulic Power</td>
<td>4 KW</td>
</tr>
<tr>
<td>Roller Material</td>
<td>45# Forge Steel, Polished And Coated with 0.05 mm Hard Chrome</td>
</tr>
<tr>
<td>Principal Axis Diameter</td>
<td>Depend on Profile</td>
</tr>
<tr>
<td>PYC of Metal Tile Roll Forming Machine</td>
<td>Siemens</td>
</tr>
<tr>
<td>Cutting Blade Material</td>
<td>12 Stations (Depend on Profile)</td>
</tr>
<tr>
<td>Auto Stacker Unit pneumatic System</td>
<td>1,2' chain Transmission</td>
</tr>
</tbody>
</table>
Our corrugated sheet (trapeze), sinusoidal, metal roof tile production lines, are manufactured with the world number 1 equipments such as SIEMENS-ABB-SKF-OMRON and many others. We design and manufacture the machines according to the customers requirements , so, To get a quotation , sending the drawing or photo of the required profile will be enough.
FLEXIBLE U-C PURLIN MACHINE

Pre-Punching and Pre-Cutting Purline Roll Forming Machine

Flexible production line for prefabricated C and U members for wall, truss and floor framing. Wall, truss and floor frames for prefabricated buildings like: residential houses and villas, office buildings, social premises, module containers, facade elements, etc.

Members produced with all the needed perforations (sheet working) like joint details, screw holes, through holes, openings ...
The lines are equipped for such processes as trimming, recoiling, precision leveling, and cutting-to-length. DMMET manufactures cut-to-length lines for steel, stainless steel, aluminum, and all types of non-ferrous metals in strip widths from 600 to 1,600 mm and strip thicknesses from 0.1 to 4.0 mm. Our references include steel plants, steel service centers, the automotive industry, and metal processors of various kinds. Individual customer solutions distinguish our innovatively designed, frequently proven, and highly productive lines DMMET cut-to-length lines cut aluminum sheet and strip for industrial applications and for the aeronautical industry to the desired precise dimensions.

**CUT to LENGTH LINE**

**CONSISTS OF THE FOLLOWING UNITS**

1. Coil Car
2. Coil Opener
3. Sheet Re-coiler
4. Tool Holder
5. Punch Bulgaria
6. Invester Unit
7. Movable Shear
8. Conveyor
9. Pneumatic Storage Table
10. Pinch Rolls
11. Calibrator
12. Pneumatic Storage Table
13. Automatic Spender
14. Hydraulic Unit
15. Automation Panel (MMC)
SLITTING LINE

Produces Slitting Lines and Multipurpose Lines for sheet material in range:
• thickness 0.4 – 4.0 mm (typically)
• width up to 1500 mm (typically)
Machines are designed and built for heavy duty use. The construction, materials and components used are selected keeping in mind reliability and long life span.
FORMING INNOVATION BY TECHNOLOGY