



# fingerprint in aluminium



supplier of sector leaders

Formal Alüminyum San. ve Tic. A.Ş. O.S.B. 35. Cadde NO:27 38070 KAYSERİ / TÜRKİYE www.formal.com.tr

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# Formal Aluminium



TÜRKİYE'S Second Top 500 industrial ENTERPRISES



COS Sectoral Profiles Shipping Industry Aviation Industry Hydraulic-Pneumatic Industry Heating - Cooling Industry Construction Industry Machine Industry Furniture Industry Automotive Industry Rail Systems Advertisement Indsutry Defense Industry Solar Energy Industry City Furniture



Project

Laboratory

Services

Extrusion Press (3,500 - 1,800 - 1,460 - 1,100 UST) Anodizing Plant Electrostatic Powder Coating Plant Mechanical Treatment Plant Packaging Plant

**Ultrasonic Testing Device** 

**Tensile Tester** Microscope **Hardness Tester Aluminium Billet Measurement with Spectrophotometer Etching Machine Drying Oven 3D Printer for Prototype 2D Profile Section Measuring Device Coating Thickness Gauge Color Measurement with Spectrophotometer Gloss Measurement with Glossmeter Qualicoat and Qualanod Test Equipment Anodizing Pool Measuring Equipment Precision Cutting Saw Automatic Specimen Mounting Device** Automatic Lapping and Polishing of Thin Sections



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#### FORMAL ALÜMİNYUM SAN. VE TİC. A.Ş.

FORMAL Alüminyum Sanayi ve Ticaret A.Ş With 42 years of experience in manufacturing of aluminum profiles, started its activities in Kayseri industrial area in 2003 on a closed area of 29,000 m<sup>2</sup> and a total area of 41,000 m<sup>2</sup>.

FORMAL, which has adopted customer satisfaction as a principle, carries out its product design and development work with its experienced technical staff, according to the demands and needs of customers. In addition to offering standard profile sizes, it also offers finished and semi-finished products (in the CNC environment) by performing formatting processes, in particular according to the requirements and tolerances of industrial customers.

In addition, it produces surface solutions for standard profile surfaces and processed in its own anodizing and polishing and brushing facilities for electrostatic surfaces and powder coverings. 25% of our products are in the domestic market and 75% in the (European) international market. Our current staff numbers 350 people, including 65 in white collar, 18 engineers and the rest in blue collar.

Our extrusion production capacity is 28,800 tons per year, our anodizing surface treatment capacity is 3,050,000 m<sup>2</sup> per year and the painting capacity is 2,000,000 m<sup>2</sup> per year.

#### With ISO/IEC 27001: 2013, ISO 9001: 2015, ISO 14001: 2015 and ISO 45001: 2018

integrated management systems certified by Bureau Veritas, we manage our processes with a focus on risk.



#### www.formal.com.tr

#### 8"-10" Extrusion Factory

FORMAL Aluminum has an annual production capacity of 28,800 tons thanks to its 3,500-ton Double Action press, which it commissioned in the first quarter of 2020, the technical features of the press, and the ability to produce extruded aluminum profiles in various alloys with additional cooling systems (Quench).

- 3,500 UST fully automatic extruder press has a working capacity of 8" and 10".
- Diameter of billet ; 203 mm 254 mm
- A 4-zone professional cooling system and a 22m outlet tray for the cooler are available.

With the cooling system, the hardnesses T3 - T4 - T5 - T6 - T66 can be obtained by cooling with methods air, water, air + water.

- The Double Action system allows the production of seamless tubes.
- After stretching, the stacking system is used to organize baskets without touching the profile.
- With the double extractor system, the quality of the product is increased during the transfer.

• Seamless tubes will be produced in addition to the special profiles used in rail systems, the aviation sector, the shipping sector, the machine industry and the automotive sector.

Aluminum billets with 1xxx, 2xxx, 3xxx, 5xxx, 6xxx, 7xxx, 8xxx alloy properties will be used.



1070, 6063, 6082, 7075 alloy aluminum billets; In addition to standard and project-specific profiles, solid bar, flat, angle bar profiles are also produced.

We are producing 1xxx-2xxx-3xxx-5xxx-6xxx-7xxx series of alloy aluminum profiles at Our Existing Extrusion Plants From 5" to 10".





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#### 5"-6"-7" Extrusion Factory

FORMAL Aluminum has an annual production capacity of 28,800 tonnes with its 3,500 - 1,800 - 1,460 and 1,100 UST presses.

FORMAL, producing profiles and solutions for many sectors in a wide range of products, can provide its customers with a raw aluminum profile up to 13 meters thanks to its 14-meter heat treatment furnace.

The aluminum billets used in the extrusion lines are the main raw materials and can be used in the 1050, 1070, 6005, 6082, 6463 series aluminum raw materials, in addition to the 6060-6063 alloy in our production.

FORMAL, which adopts customer-focused work as a principle, aimed to produce by producing special lengths and desired quenching values where necessary.

Our products comply with TS EN 755 and TS EN 12020 and carry the CE marking. The chemical composition, appearance, size and weight of the products are controlled throughout the process.



Our aluminum profiles that can be produced in 1xxx-2xxx-3xxx-5xxx-6xxx-7xxx alloys MILL FINISH, ANODIZED, PAINTED, POLISHED and BRUSHED you can choose as a mechanical process, you can get the specifications specified in technical details.



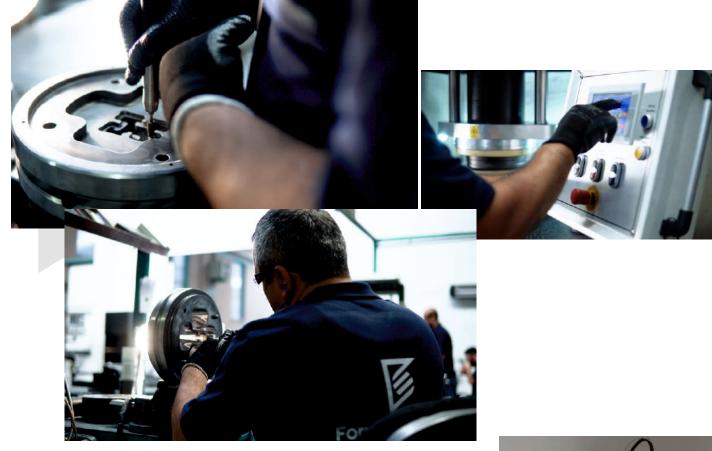


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## **Mold Making Unit**

Molds are the first and perhaps the most important elements of manufacturing. FORMAL provides its customers with a technical service experienced in this first stage of production, providing solutions for both profile design and product development, it also obtains the support and services of external suppliers specializing in the manufacturing and distribution of products. Mold design to achieve the desired tolerances and surface quality.

We address leaders in many industries with approximately 7,238 molds in the casting department.



#### **Technical Design**

With our expert technical staff, you can prototype your projects designed on CAD / CAM programs with our 3D printer, with our application that puts an end to mold cost.





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#### **Anodizing Covering Plant**

FORMAL Aluminum has a Capacity of 60,000 Amperes Anodizing and 18,000 Amper Electrolytic Colored Anodized in the Anodizing Plant in Mat, Polished (Glossy), Brushed (Chromed Effect) as well as special applications in White (Natural), Bronze and Black colors then the desired covering thickness can be processed. Anodizing (Anodic Oxidation) of aluminum profiles up to 7 meters can be carried out, because the bath lengths are 7.5 meters. Particularly in exterior and interior door advertising products, the length of anodizing baths is an advantage for our customers.

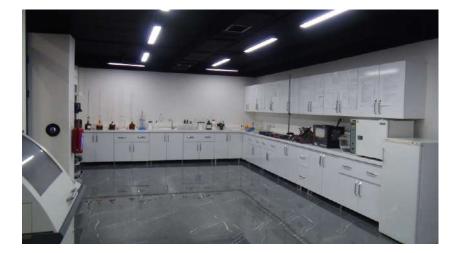


Our quality certificate QUALANOD and the certificate of quality TS 4922 continue our production of products treated with glossy, matte and brushed anodized surface with a capacity of 3,050,000 m<sup>2</sup> per year.

Surface treated products are controlled by a dye and covering thickness test and a sheet adhesion test during the process.

In addition, the chemical compliance values of the pool are controlled by laboratory tests.

You can reach our anodized color chart at our sales representatives.







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#### **Electrostatic Powder Coating Plant**

Formal Aluminum Electrostatic Powder Coating Plant is capable of coating 2,000,000 m<sup>2</sup> of paint annually with 2 movable paint booths and 20 corona robotic arms.

With the movable electrostatic powder coating plant, the existing capacity has been doubled and it has been possible to invest in very important areas such as energy saving and environmental awareness.

The main feature of the new plant is to reduce the chromium content in the chromating process, which must be done before painting by working Crom-free, and therefore produce on the one hand while maintaining environmental health.

Our electrostatic powder coating plant meets all the QUALICOAT quality standards.

Electrostatic Powder Coating Plant with the QUALICOAT certificate has international validity, and the production is established in QUALICOAT standards with an annual capacity of 2,000,000 m<sup>2</sup>. Painted products, intermediate controls and weight loss calculations in the laboratory, boiling water tests, scratch tests, shock tests, bomb tests, cylindrical bending tests, gloss measurements , the measurements of the thickness of the covering are effected in order to measure the quality of the product.





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## **CNC - Mechanical Treatment Plant**

In the FORMAL Aluminum mechanical treatment plant, finished products and semi-finished products with operations such as cutting, slitting, drilling, milling, threading, mitering, welding with an accuracy of 0,1 mm with machines CNC with multi-axis numerical control.

In particular, it enables the assembly of the product without the need for industrial customers to invest in an aluminum processing process. In this facility, solutions are produced by processing products up to 10.5 meters.





We have a total of 7 CNC machines, Including 3 of 5 axis CNC , 3 of CNC 4 axes , 1 of CNC 3 axes.

We have 12 precision cutting saws, 2 v cutting saws and 4 special eccentric presses with various specifications. Department of Mechanical Processing; 55% of our products can meet all surface treatment solutions,



The length, miter, technical design adequacy and tolerance values of the processed products and the standards compliance checks are performed and the process is recorded with intermediate inspection forms.





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## **Packaging Plant**

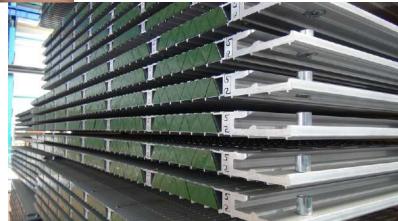
FORMAL Aluminum packaging line, offers standard packaging methods aside; also shrinking, foil, wrapping, stretching and web pulling machines. With these models, the visible surfaces of the profiles are protected and easy installation is established.

In the FORMAL Aluminum packing plant the shipment of seamless products is aimed. With the methods of crating for long and short distance deliveries, your products will be delivered to you especially with the packing methods that you will have chosen during your orders.



Packaging methods applied in line with customer demands are checked by process control teams before shipment. Please contact your sales representative for labeling compatible with your barcode systems.

In the preferred packaging methods according to the surface properties of the products, the areas where they will be used and the storage conditions, produced profiles after being checked by our Process Control teams, it is carefully packaged by our units, so all necessary precautions are taken to avoid any problems during delivery.









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#### Laboratory

The analysis of the incoming raw materials is carried out with our mobile spectrometer and the mechanical analysis of the products is carried out with our tensile tester.

Certificate 3.1 can be issued to our customers in accordance with EN 10204.

In addition, profile section measurements are performed in 2D with our profile projection device,





Brightness and color measurements are carried out by our Quality Control engineers, who are experts in micron thickness and hardness measurements.

**Ultrasonic Testing Device Tensile Tester** Microscope **Hardness Tester Aluminium Billet Measurement with** Spectrophotometer **Etching Machine Drying Oven 3D Printer for Prototype 2D Profile Section Measuring Device Coating Thickness Gauge Color Measurement with Spectrophotometer Gloss Measurement with Glossmeter Qualicoat and Qualanod Test Equipment Anodizing Pool Measuring Equipment Precision Cutting Saw Automatic Specimen Mounting Device** Automatic Lapping and Polishing of Thin Sections





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## **Logistics Services**

Formal Aluminum Logistics service area provides the necessary support for your orders to arrive safely and on time.

All of our shipments are carried out by e-government services, and you can follow the exit time and driver information of your products instantly after loading.

You can choose your delivery type in the order, such as EXW, CIP, DAP, ....etc.



Logistic Service You can choose your delivery type in the order,

such as EXW, CIP, DAP, ....etc.

Centre

Freezone Logistic Service

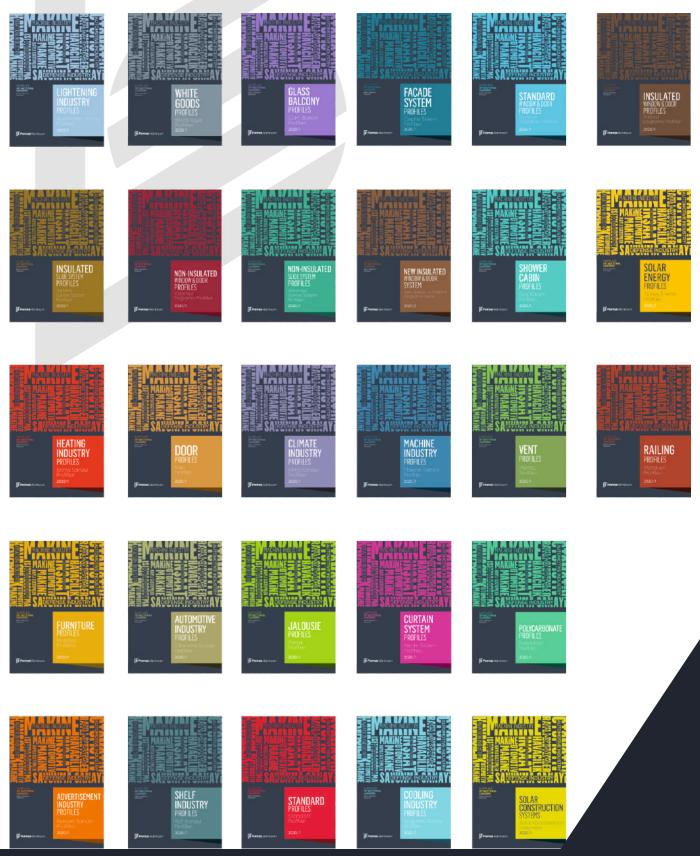




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#### **Profile Catalogs**

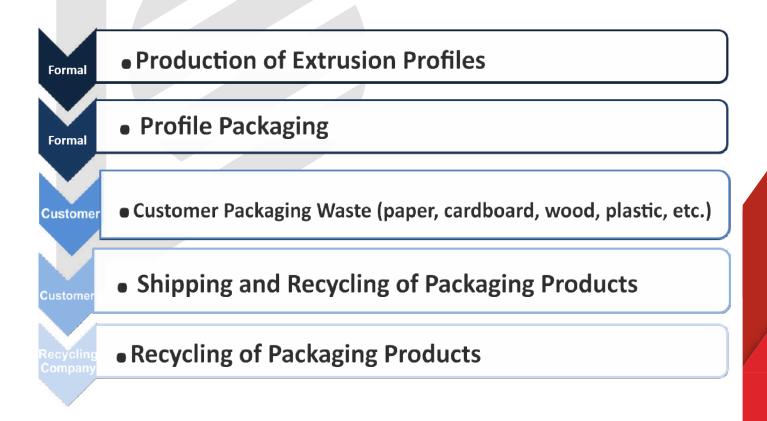
#### You can find our new profile catalogs from www.formal.com.tr





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# Recycling Materials Used During Production and Delivery of the Profile At Customer's







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# **Formal** Aluminium 2003 Formal Alüminyum San. ve Tic. A.Ş.

Organize Sanayi Bölgesi 35. Cad. No:27 KAYSERİ / TÜRKİYE

Free Zone Branch:Kayseri Serbest Bölge Anbar Sb Mah. 17.Cad. No:6 KAYSERİ / TÜRKİYE

Detailed information and communication: www.formal.com.tr 444 9 258

aluminium profile and solution producer



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**Promotional Video**