



## **A First in Turkiye: Top Quality Grinding Ball Production**

Aday Döküm has launched the production of high-quality mill balls quenched in oil. With our partnerships with world-renowned companies in the field of Grinding Ball production, we are taking groundbreaking steps in the industry.

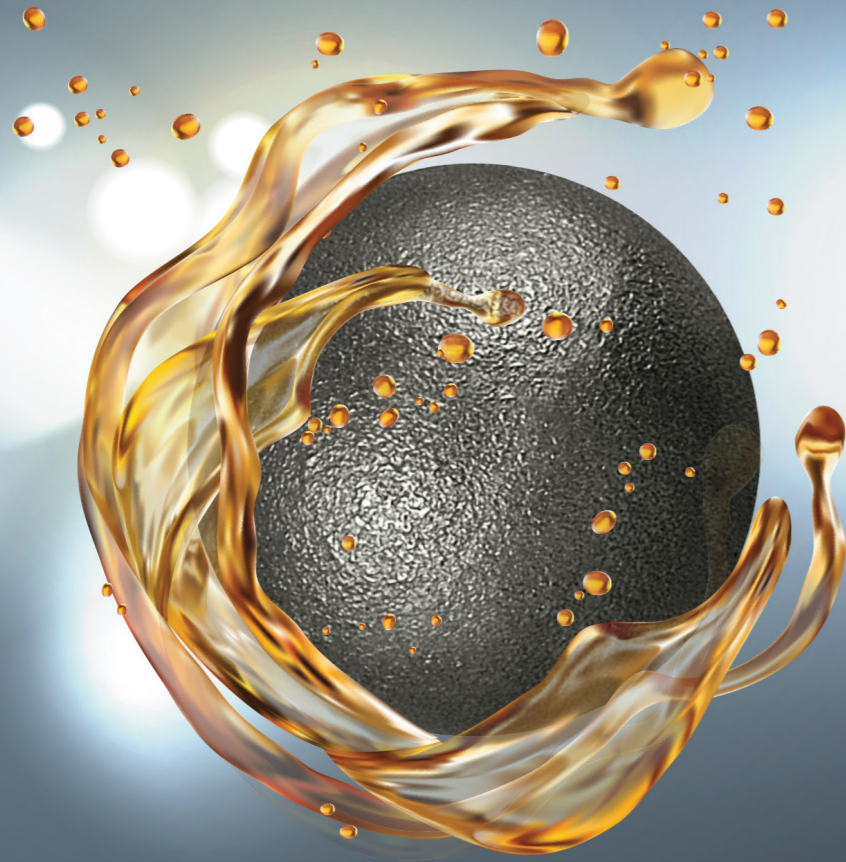


# GRINDING MILL BALLS

## ADVANCED TECHNOLOGY PRODUCTION

### Peak Quality in Ball Production!

High grinding efficiency, low energy consumption, and reduced carbon footprint in mills.



With a 30-year experienced team, we offer **world-class quality standards** production, Specifically designed for the cement and mining sectors, our facilities boast **28 different standards**,

**Heat treatment furnace** with a length of 28 meters, 80 burners, 18 control zones and a fully automatic control system.

Utilizing dual-stage heat treatment and **quenching in oil**,

Our grinding balls exhibit high wear resistance and homogeneous wear properties.



ISO 14001:2015

ISO 9001:2015

ISO 45001:2018



An Enterprise With Roots Dating Back To 1977:

## Aday Döküm

Our company, originally known as Albayrak Döküm, was founded in 1977 at the Sincan Foundry Industry Site under the leadership of Adnan Albayrak in a 1,000 m<sup>2</sup> area. In 2001, the company adopted its current name, Aday Döküm.

Over the years, our company has continued its growth trend and, in line with evolving technology, operates with its expert team at the factory located in the Maliköy Foundries Specialized Organized Industrial Zone (OIZ).

With a casting capacity of 15,000 tons per year, we specialize in the production of single-piece graphite cast iron (pig iron) ranging from 500 grams to 4000 kg, as well as ductile iron (spheroidal graphite iron), steel (low, medium, and high alloy), and high-chromium white cast iron. We have become one of the leading establishments in the Turkish casting sector, catering to various industries such as construction, automotive, machinery, hydraulic, electrical, and manufacturing spare parts for heavy machinery.

### Our Mission

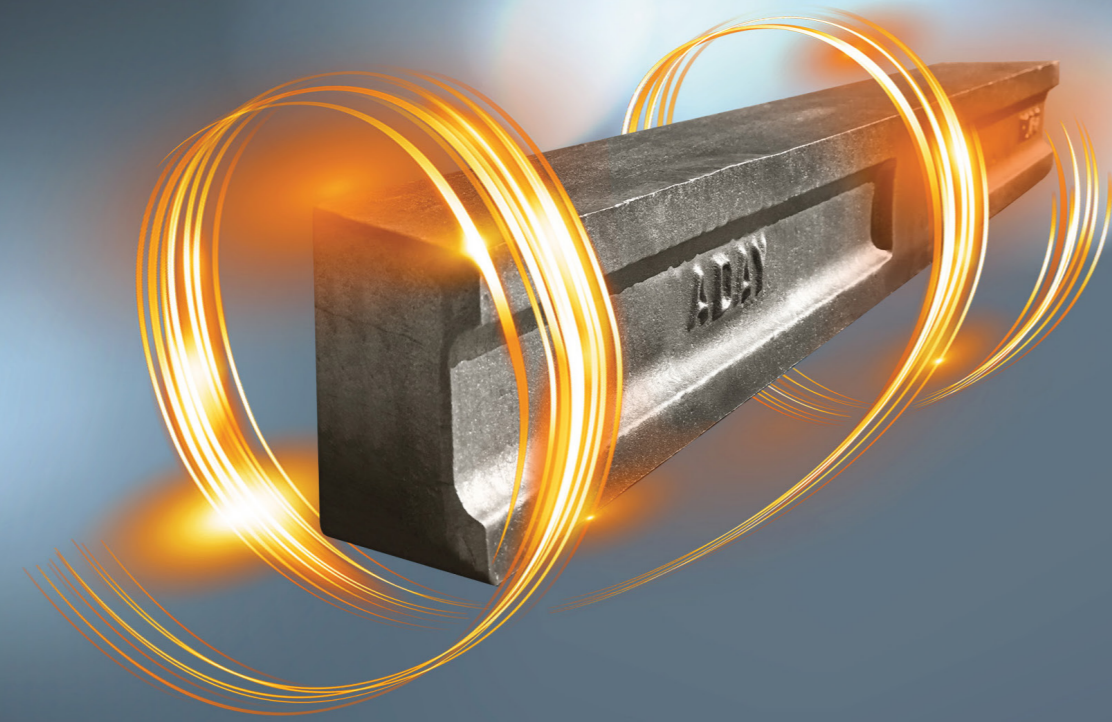
Our mission is to create a safe and ethical working environment for our employees, while being sensitive to public health and the environment. We aim to effectively utilize our capacity, uphold quality standards without compromise, and dynamically adapt to changing market conditions and extraordinary circumstances. As a company in the casting industry, we strive to pass on our knowledge and experiences to future generations, ensure continuous technological advancement, and generate value for all stakeholders and the national economy through our competitive structure. Our ultimate goal is to create sustainable dynamism.

Our company has set the goal of maintaining a top-level quality production approach and exceeding our customers' expectations.

### Our Vision

To be a reliable business partner on a global scale in the field of casting production, creating innovative solutions and opportunities.

## MILL LINING PLATES



46 years of casting experience,  
**Dual heat treatment application** to extend the working life of liner plates,  
**28 different** specialized process standards,  
**Oil, water, and air quenching** with a fully automatic heat treatment furnace with a capacity of 10 tons.

## Technology And Efficiency

The latest technology systems are at the core of our production processes. As a result, we carry out our tasks more efficiently, faster, and with fewer errors. By saving time and costs, we meet our customers' needs in the best possible way.





### **Melting**

- 4 Melting Furnaces
- Total Capacity: 5 ton/hour
- Power: 3000 kW



### **Sand Preparation**

- 2 mixers
- Total Capacity: 40 ton/hour



### **Moulding Line**

- Vertical and Horizontal Moulding Lines
- Zimmermann GV-1
- Zimmermann GV-3
- Omega Sinto
- DISA Fully Automatic Moulding



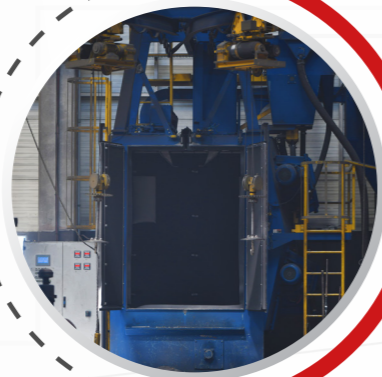
### **Cold-Box Core Making**

- Capacity 12,5 L
- Production Capacity: 40 mold/hour



### **Manual Core Making**

- Ecoletec
- UF/PF
- Advanced Resins



### **Sandblasting**

- Capacity: 1.500 kg/loading



### **Heat Treatment Furnaces**

- Natural Gas Heated, Car Based Liner Heat Treatment Furnace
- Fully Automatic Natural Gas Heated Push Type Austenitizing Furnace

# Moulding Line

## ■ Vertical Moulding Line

Disamatic - 2110

- Capacity 185 moulds/hour
- Mold Size: 500x400x100+315 mm
- Mold Weight Range: 0-20 kg

## ■ Horizontal Moulding Line

Zimmerman GV-1

- Capacity 20 mold/hour
- Mold Size: 630x500+200+200 mm
- Mold Weight Range: 1-60 kg

Zimmerman GV-3

- Capacity 20 mold/hour
- Mold Size: 700x700+300+300 mm
- Mold Weight Range: 1-120 kg

## ■ Resin Moulding

Omega Sinto

- Capacity: 10 mold/hour
- Mold Size: 500x500-3.000x3.000 mm
- Mold Weight Range: 1-10 ton

# Heat Treatment Furnaces

## ■ Natural Gas Heated, Car Based Liner Heat Treatment Furnace

- Production Capacity: 8 ton/charge
- Furnace Size: 2000x2500x1.000 mm
- Maximum Furnace Heat: 1.200 °C

## ■ Full Automatic Natural Gas Heated Push Type Austenitizing Furnace

- Production Capacity: 2,5 ton/charge
- Furnace Size: 1450x21.500x700mm
- Maximum Furnace Heat: 1.100 °C



# Quality First

We uphold our commitment to delivering only the highest quality products to our customers in every project. We ensure this promise through various control methods and equipment.

AS ADAY CASTING, WE ATTACH GREAT IMPORTANCE TO MAINTAINING OUR QUALITY STANDARDS AT THE HIGHEST LEVEL.

We meticulously implement quality control processes at every stage and inspect our products down to the finest detail.

We uphold our commitment to delivering only the highest quality products to our customers in every project. We ensure this promise through various control methods and equipment.

As Aday Döküm;

- We are committed to providing products that meet the expectations and demands of our customers.
- We adhere to legal requirements, customer specifications, and applicable conditions.
- We ensure customer satisfaction through the quality of our service.
- We maintain good relationships with customers and promptly address any complaints to their satisfaction.
- We strive to improve all processes that affect product/service quality and introduce innovations.
- We closely follow evolving technology and make necessary investments.
- We guarantee continuous improvement through the training and involvement of our employees.

# Sand Analyzes



Ash Furnace



Sand Moisture Analyzer I



Sand Moisture Analyzer II



Electronic Universal Sand Strength



Simpson Technologies



Digital Absolute Perm-meter

# CNC Machining

## Victor VCF106

- Width: 1060 mm
- Height: 610 mm
- Depth: 600 mm

## CNC Lathe Victor VTurn-26E/60

- Turning Diameter: 520 mm



Victor VCF106



Victor VTurn-26E/60



A First in Türkiye:  
**Top Quality  
Grinding Ball Production!**

Aday Döküm has launched the production of high-quality mill balls quenched in oil.

High-Tech Production

High Quality Control Standards



Cast Grinding Mill Balls

## Grinding Ball Production

Pioneering Collaborations and Technological Innovations

As Aday Döküm, we are taking ground-breaking steps in the industry thanks to our collaborations with the world's leading well-established companies in ball production. Thanks to these valuable collaborations, we optimize production processes with innovative technologies by establishing the most modern facilities.

# Unstoppable Development

Through controlled heating and cooling methods, we produce grinding balls that are harder, more resistant to wear and corrosion, stable and have stronger properties. This special approach is the key to longer-lasting, highly efficient, and high-quality balls.

# Superior Performance

For the first time in Türkiye, high chrome balls are quenched with oil after controlled heat treatment. This special process ensures homogeneous wear of the balls during grinding processes. As a result, the surfaces of the balls wear uniformly, contributing to superior performance.

Aday Döküm is the first company in Türkiye to implement an integrated system consisting of continuous heat treatment and oil quenching process in the production of grinding mill balls.



# Technical Qualities Of the System



- 2022 model, compliant with German standards, featuring specialized know-how design for the ball,
- Fully automatic, computer and robot controlled,
- Process planning barcode system,
- Automatic loading and unloading weighing system,
- Automatic adjustable hardening process with oil or compressed air,
- 23-meter internal furnace length,
- 18 controlled zones,
- 80 upper and lower heated burner,
- Uniform heat distribution (+/- 10 degrees),
- Oil bath volume 37 L/kg of ball,
- In addition to oil bath circulation, 2 special local circulation systems,
- Oil bath temperature controlled by Dry-Cooler automatic control system,
- Coupled system between heat treatment furnace outlet and oil bath,
- Suitable for serial production with 24-hour uninterrupted operation capability,
- Repeatable results,
- Suitable for complex and special heat treatment processes.





# Advantages of the Integrated System

- Special perlite process that increases ball wear resistance can be performed automatically inside the furnace (this feature is not available in conventional furnaces);
- Minimal differences in quality between balls;
- Micro-structure of the balls is homogeneous throughout, leading to significantly reduced uneven wear on ball surfaces;
- Balls have higher hardness and strength, resulting in greater wear resistance;
- All balls consist of martensitic structure and chromium carbides, with the amount of residual austenite, which negatively affects strength, minimized;
- Wear resistance of the balls is 30% higher compared to air cooling process;
- By carefully controlling the heating and cooling process through all these procedures, grinding balls that are harder, more resistant to wear and corrosion, tougher, and with more stable properties are produced;
- As a result, this integrated system enables high grinding efficiency, low energy consumption, and reduced carbon footprint in mills.



# Advanced Quenching & Separation Technology

## Meticulous Steps for First-Class Quality

With the Disa-cool system, the post-casting process of the balls includes separating the sand on their surfaces and partially quenching them. This innovative system enables us to achieve superior results.

Thanks to these systems, the homogeneity of the balls and their compliance with the desired dimensions are ensured. Thus, our products offer the best performance without compromising on quality.

At Aday Döküm, we apply a meticulous process to maximize the quality of our balls.

## Reliable Testing with Special Design: Ball Drop Test

The ball drop test is a special design by Aday Döküm and plays a crucial role in verifying the compliance of our products with high-quality standards. Balls undergo the drop test at specified intervals before being shipped to customers.

This allows us to meticulously control the quality of our products. The test determines the number of drops it takes for the ball to break, and this result is compared against our standards.

## Special Crushing Mill

The balls exiting the quenching tambour are directed to a specially designed crushing mill. This mill is carefully designed to facilitate the separation of the balls from each other. The balls are crushed and separated from each other through the special mechanisms in the tambour.

## Second Stage Separation Technology

Balls with a diameter of 50 mm and below are separated from each other with a second separation system. This system ensures complete separation of the small balls from their junction points. This leads to the production of balls with the desired size and properties.

## Full Visual Inspections

After separation, the balls undergo thorough visual inspections by our quality control experts. During these inspections, the surface quality, shape, size, and other characteristics of the balls are carefully examined. Additionally, the raw hardness and micro-structures of the balls are meticulously checked. This step is essential for ensuring that our products meet the required quality standards.

## Heat Treatment Preparation

Balls that have successfully passed visual inspections progress to the preparation stage for heat treatment. In this stage, appropriate temperature and time parameters are determined to optimize the properties of the balls and achieve the desired micro-structure. This step is crucial for the durability and performance of the balls.

# Quality Control

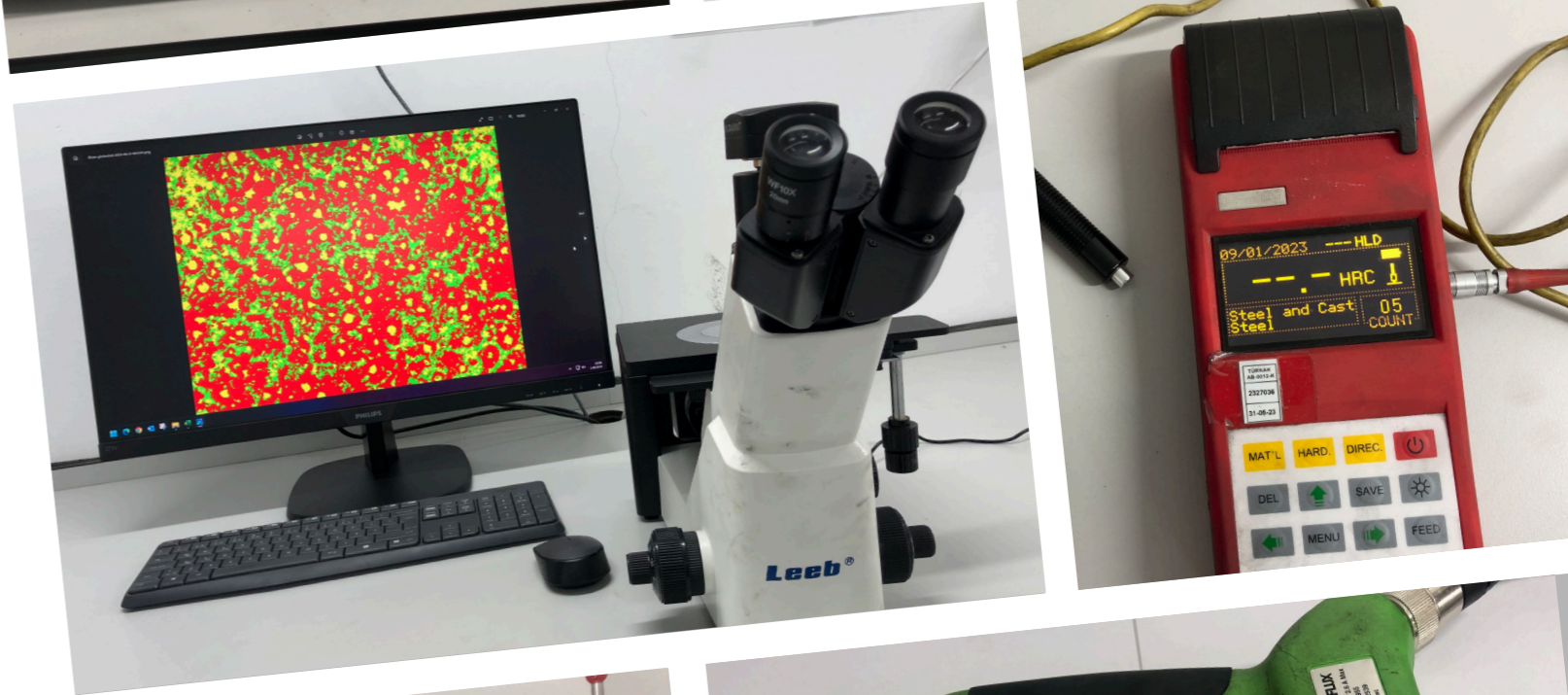
Aday Döküm has specific heat treatment standards prepared for ball size, chemical composition, and raw material type.

- Chemical composition control,
- Hardness,
- Mismatch control,
- Micro-structure control,
- Drop and strength test,
- Dimensional control,
- Furnace zone temperature control,
- The balls produced are subjected to a breakage test by colliding with each other in mills with a diameter of 2.500 mm,
- 100% visual inspection is performed,
- Ultrasonic detector,
- Inverted metallurgical microscope,
- Sample cutting device,
- Emission spectrometer,
- Grinding and polishing device,
- Magnetic test control.

AD22-16 A06	AD22-16 H13	AD27-20 A13	AD31-11 B01
AD22-16 A08	AD22-16 H40	AD27-20 A72	AD31-11 B09
AD22-16 A13	AD22-16 H72	AD30-18 A13	AD31-11 B22
AD22-16 A40	AD27-12 H01	AD31-11 A01	AD31-11 H01
AD22-16 A72	AD27-12 H09	AD31-11 A09	AD31-11 H09
AD22-16 H06	AD27-12 I01	AD31-11 A19	AD31-11 H22
AD22-16 H08	AD27-12 I09	AD31-11 A22	AD31-16 A13

These standards;

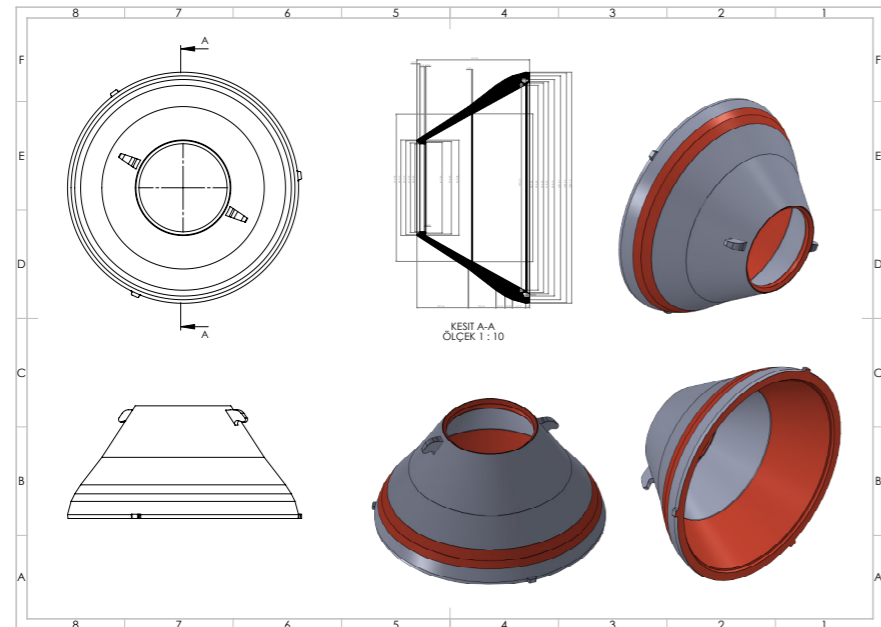
- Are special standards developed based on data collected from ball mills worldwide over more than 60 years.
- Have been developed based on effective data such as mill type, ball diameters, and ground raw materials.
- Were first implemented by Aday Casting in Türkiye and are continuously improved by the R&D team.



# Mill Lining Plates

- 46 years of casting experience,
- Dual heat treatment application to extend the working life of lining plates,
- Specifically developed 28 different process standards,
- Oil, water, and air quenching with a fully automated heat treatment furnace with an 8-ton capacity.

Mining Sector	Cement Sector	Energy & Recycle Sector
Mill Lining Plates	Heat-Resistant Steel Castings	Coal Crusher Impact Hammer Head
Crusher Mill Plates	Cooling Plates	Coal Crusher Main Body Protective Armor
Rotary Mill Parts	Rotary Kiln Segments	Coal Crusher Bearing Bed
Vertical Mill Parts	Crusher Discs	Crusher Protective Armor
Conical Crusher Parts	Throttles	Ash Dispatch Pump Tip Helix
Roller Crusher Parts	Wear-Impact Resistant Steel Castings	Ash Dispatch Pump Tip Helix Sleeve
Hammer Crusher Parts	Mud Pump Parts	Ash Dispatch Pump Coupling Half
Jaw Crusher Parts	Cell Divider Diaphragm Plates	Scrap Grinder Parts



# Our Quality Certificates



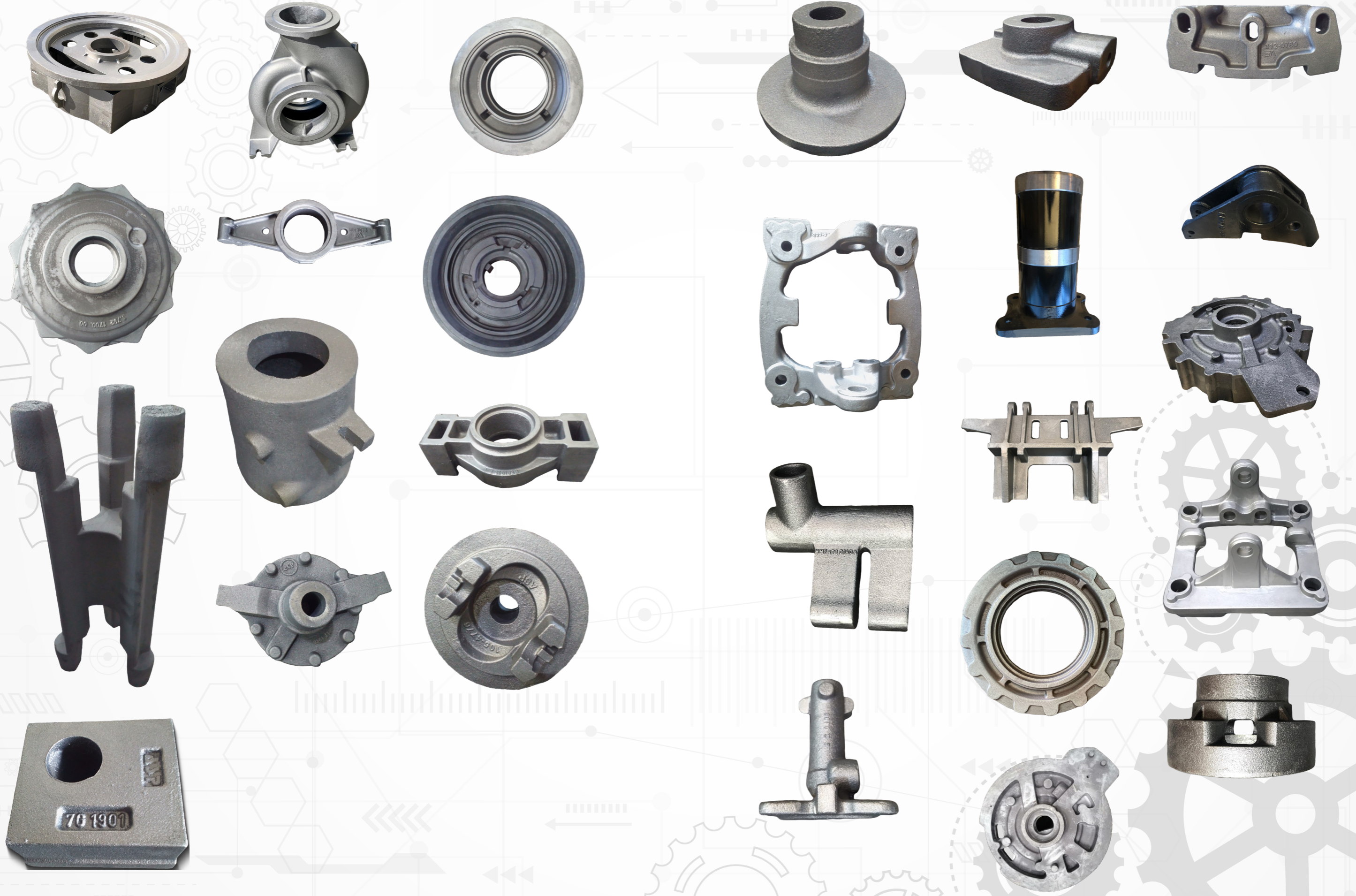
## We Are Here To Assist You!

As Aday Döküm, we always prioritize customer satisfaction. Providing solutions tailored to your needs and supporting your success is our goal. We identify the most suitable products for you by offering pre-sales and after-sales technical support. By working with us, you can benefit from our experience and quality to the fullest extent.

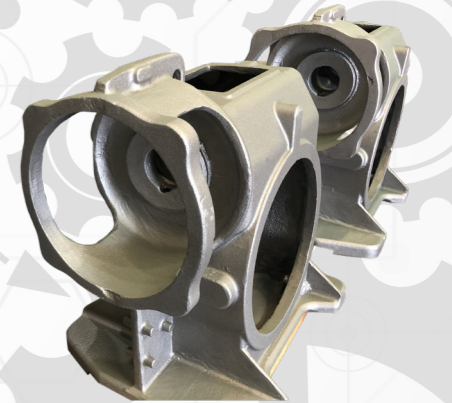
- 0 (312) 267 08 34
- www.adaydokum.com
- Maliköy Dökümcüler İhtisas OSB 1. Cadde No: 6  
Sincan / ANKARA / TÜRKİYE

# Casting Samples













# Our Customers





## NOTES


A series of horizontal dashed lines for taking notes.



 **aday**  
iron & steel casting

 Malıköy Dökümcüler İhtisas OSB  
1.Cadde No:6 Sincan / ANKARA

 +90 (312) 267 08 34  
info@adaydokum.com

 [www.adaydokum.com](http://www.adaydokum.com)