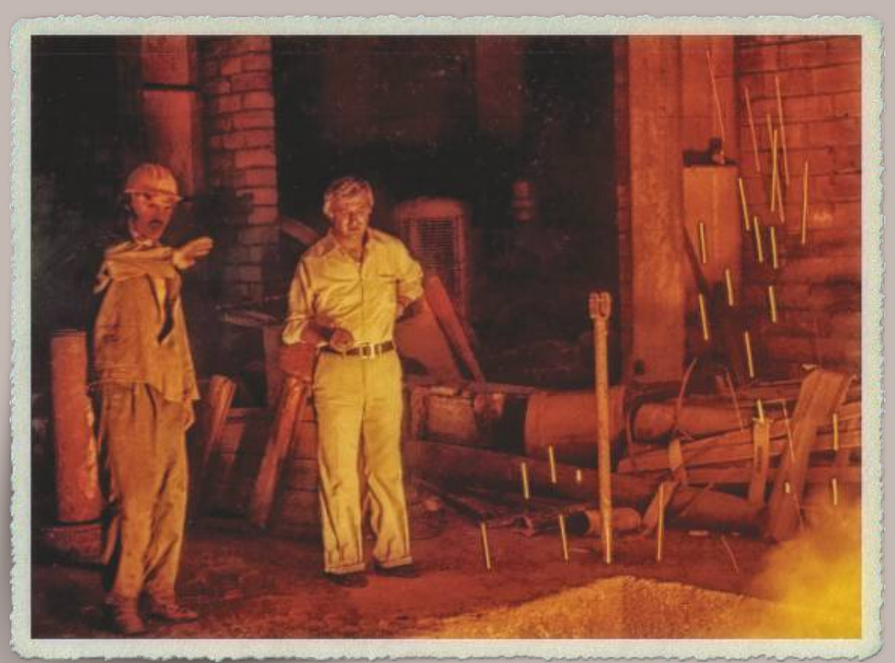
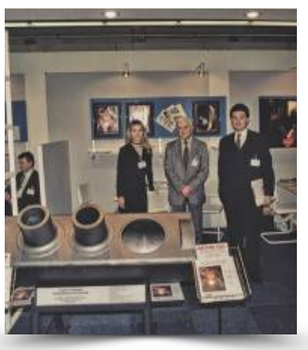

AKMETAL
Metallurgical Industries Corporation

contents

04 milestones of *50+ Years*



We would like to offer our gratitudes to all who contributed to Akmetal reaching its 50+ years, particularly our founder Haluk Akbaşoğlu (right).



60's

1963 established as **fifth steel foundry in Turkey**

1967 the foundry moved to the 10.000m^2 area and started use **first EAF 500 kg capacity in Turkey**

70's

1973 designed and produced a modern **Arc Furnace,** 6MT capacity

90's

1994 started to use **Induction Furnace,** 3MT capacity

1995 made its **first export to Netherlands**

1998 moved to its **new plant in Tuzla** (34.000m^2)

00's

2002 started to use **NovaCast Simulation Program**

2006 put into use **Induction Holding Furnace,** 8MT capacity

2007 put into use **first Open Die Forging facility in Turkey**

2009 put into use **first AOD Converter in Turkey**

10's

2010 extended the lenght of building and changed layout

2011 put into use of **Semi-Automatic Moulding Line,** 9 moulds/hrs capacity

2012 decided to implement **Lean Management** and commissioned American Lean Management Society

2013 started to use **MagmaSoft Simulation Program**

2014 **ISO 14001:2004** and **OHSAS 18001:2007 certified**

put into use **Induction Furnace**, 8MT capacity

06 cores

Our Vision

Aiming best steel foundry in Europe, in the eye of customers, shareholders, employees and suppliers.

Our Mission

To provide excellent service to our customers who are leading in their field, and to establish long term mutually confidence by our speed, flexibility and ingenuity which are the qualities that successful businesses rely on today.

Our Values

- Business ethics, integrity and honesty
- Our employees
- Our customers

rules and system

Certificate

Standard **ISO 9001:2008**

Certificate Registr. No. 01 100 052869

Certificate Holder: **AKMETAL METALURJİ ENDUSTRISI A.Ş.**

Tepeören Mah. Eski Ankara Asfaltı Caddesi No: 86/A
34959 Tuzla- İstanbul / TURKEY

Scope: Production of Forgings and Castings in Ferous Alloys

Proof has been furnished by means of an audit that the requirements of ISO 9001:2008 are met.

The due date for all future audits is 28-05 (dd.mm).

Validity: The certificate is valid from 2014-06-06 until 2017-06-05.
First certification 2005

2014-05-23

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

DAkkS
Deutsche Akkreditierungsstelle
D-ZM-16031-04-00

www.tuv.com

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Precisely Right.

08 rules and system

Certificate

Standard ISO 14001:2004

Certificate Registr. No. 01 104 1418255

Certificate Holder:

AKMETAL METALÜRJİ ENDÜSTRİSİ A.Ş.
Tepeören Mah. Eski Ankara Asfaltı Cad. No:236
Tuzla – İstanbul / TURKEY

Scope: Production of Forgings and Castings in Ferrous Alloys

Proof has been furnished by means of an audit that the requirements of ISO 14001:2004 are met.

The due date for all future audits is 31-05 (dd.mm).

Validity: The certificate is valid from 2014-06-10 until 2017-06-09.
First certification 2014

2014-06-10

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

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Certificate

Standard **BS OHSAS 18001:2007**

Certificate Registr. No. 01 113 1418255

Certificate Holder:

AKMETAL METALÜRJİ ENDÜSTRİSİ A.Ş.
Tepeören Mah. Eski Ankara Asfaltı Cad. No:236
Tuzla – İstanbul / TURKEY

Scope: Production of Forgings and Castings in Ferrous Alloys

Proof has been furnished by means of an audit that the requirements of BS OHSAS 18001:2007 are met.

The due date for all future audits is 31-05 (dd.mm).

Validity: The certificate is valid from 2014-06-10 until 2017-06-09.
First certification 2014

2014-06-10

TÜV Rheinland Cert GmbH
Am Grauen Stein | 51105 Köln

DAkkS Deutsche Akkreditierungsstelle D-ZM-16031-04-00

www.tuv.com

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Precisely Right.

10 management *approach*

Responsibility & Transparency

Upholding AKMETAL Culture and our core values, being responsible and managing in line with the corporate rules.

Participation

Promoting participation and creating “One Single Mind” in the company for decision making.

Strategy

Fullfilling the requirement of excellence and shaping the future according to long term benefits of the company.

Conducting Integrated Environment and Occupational Health and Safety Policy is the main priority of General Manager.

1| To fullfill all the obligations required by ISO 14001 and OHSAS 18001,

2| To obey all the laws, rules and requlations related with Environment and Health and Safety,

3| To train all our employees about consciousness of Environment and Occupational Health and Safety,

4| To detect all root causes which may lead injuries and/or illnesses and to avoid,

5| To determine key performance indicators related with Integrated Environment and Occupational Health and Safety Policy and to follow the improvements and to encourage implementation of the policy inside the organization,

6| To direct the investments or being capable of fullfilling of obligations of Enviromental and Health and Safety laws and regulations,

7| To ensure the participation of whole organization.

code of conduct

A. Integrity

Business Ethics and Honesty are our core values in all our business interactions.

B. Confidentiality

We give utmost importance to protecting the privacy of our customers. Private and confidential information includes information, trade secrets, financial and other information that has not been publicly disclosed, and information within the framework of "confidentiality agreements" are protected.

C. Conflict of Interest

As Akmetal employees, we take responsibility to avoid situations and relationships that involve conflict of interest. We do not use our present position to obtain any benefits personally or through our families and relatives, from people and companies with whom we have business relations.

D. Our Responsibilities

In addition to our legal responsibilities, we give utmost importance to fullfill the following responsibilities vis-a-vis our customers, employees, stakeholders, suppliers and business partners, and to the name of Akmetal.

1| Our Legal Responsibilities

We conduct all of our domestic and international activities within the framework of the laws of the Republic of Turkey and international laws; and we submit all required information to regulatory authorities and institutions in a correct, complete, clear and timely manner.

2| Our Responsibilities Towards Our Customers

We aim to deliver our services on time and under the promised conditions. We approach our customers with respect, honour, fairness, equality, and courtesy.

3| Our Responsibilities Towards Our Employees

We approach employees with honesty and fairness; and ensure a non-discriminatory, safe, and healthy working environment.
Human resources policies and practices guarantee that all employment practices including recruitment, compensation, social benefits, etc. are fair.
Any discrimination among employees within the organization based on language, race, color, gender, political opinion, creed, religion, sect, age, physical challenge and similar causes are not tolerated.
A positive and harmonious work environment is established within the Company.
All privacies of employees, physical, sexual, and emotional privacies are also protected.
A healthy and safe physical working environment and conditions shall be established for all employees.

4| Our Responsibilities Towards Our Shareholders

We act with financial discipline and accountability, and manage our company's resources, assets and our professional work time with a sense of efficiency and sustainable profitability.

5| Our Responsibilities Towards Our Suppliers

We ensure to fullfill our liabilities on time and fair.

6| Our Responsibilities Concerning the Name "Akmetal"

Our customers, and shareholders trust us due to our professional competence and integrity.
We offer services in areas where we believe we are or will be professionally competent; and we seek to work with customers and employees demonstrate integrity and legitimacy.

Lean Thinking/Philosophy and Lean Applications in Akmetal

In 2012 Akmetal has the idea of the change and transformation for better. With the support of the Lean Institute, Akmetal has taken the first steps for the purpose of be internalized and implementation of Lean Thinking/Philosophy because Lean's goal is simply eliminating waste, improving manufacturing and management processes (indirect and direct processes) as well as protecting the environment, securing human being at work and reducing energy consumption. Beside Lean Thinking/Philosophy has to instill awareness all of these above for all employees from the top down and from the bottom up. The revolution began.

Trainings

During the year 2013, Akmetal blue collar and white collar employees, including even the top management were given continuous training of Lean Thinking/Philosophy and its Practices (Before/After Kaizen Logic, Kobetsu Kaizen Systematics, 5S Dynamics, 7 Basic Wastes and 7 Basic Problem Solving Techniques…) have been enthusiastically adopted by many employees and newcomers till the end of 2013. After the completion of trainings a qualified coordination and follow-up team has been built.

Lean Tools such as Pareto Diagrams, Histogram Graphs, Scree Plots and 5 Why Questions were used so as to identify and determine the current situation. After that, necessary adjustments and standardizations have been made across the factory respectively.

5S Methodology

Using red tags, a useful technic of 5S, the Lean Team was determined all unnecessary equipment and tools. After that unsuitable cases and situations for work have been identified then action plans have been implemented.

5S participation in the plant, was almost ensured but at the same time Lean Office Manager and Lean Institute Consultants put a different approach into practice (first, up-front selected areas were labeled in each section in order to apply 5S criteria; second, 5S techniques were applied in the field; third, best practices was applied, followed by 5S trainings and released 5S booklets). Meanwhile, 5S has expanded throughout the factory and eventually lead to success beyond expectations.

Kaizens

At the same time to eliminate waste in production some suggestions have been made by employees. After approval by Top Managers several kaizens (solving communication problems in the company, increasing furnace efficiencies for heat treatment, etc...) was launched. Via these kaizens AKMETAL pays no more extra costs for energy and the strengthening of communication among employees has been observed.

Suggestion System

Appreciation and Recognition System as we call Suggestion System at Akmetal have been implemented at the beginning of the year 2014. Thanks to the suggestion system, working areas and processes have been improved, wastes are prevented or eliminated. Circa 30 Kobetsu Kaizens made production easier, more efficient and more cost effective.

Highlights;

- Updating procurement workflow, processes and instructions,
- Improvements in supply chain management,
- Implementation of Excel and Visual Basic-based Production Optimization and Planning Program,
- Standard Job and Standard Times,
- Implementation of Value Stream Mapping,
- OEE (Overall Equipment Effectiveness) studies

According to promising gains in terms of time and material, the factory's business practices and processes and even lay-out are fully or partially modified.

Hoshin Kanri-Policy Deployment

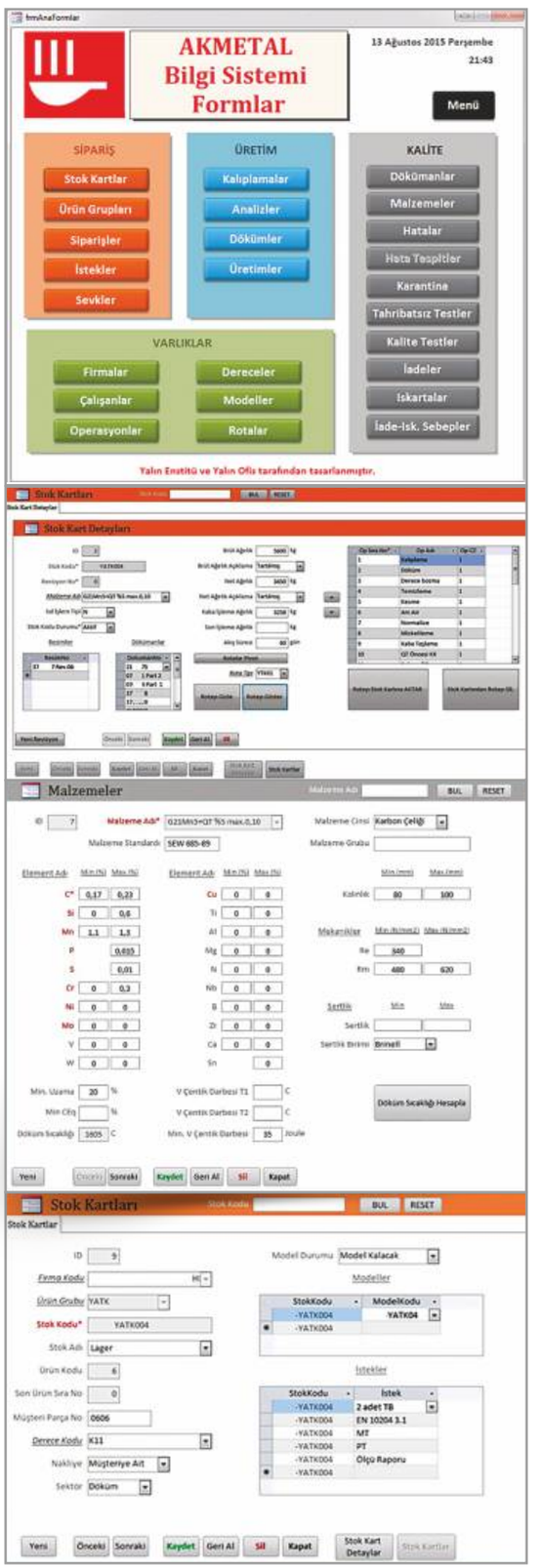
Another objective of Lean Thinking/Philosophy is determining shared goals to focus everyone in same direction, same goal and same target. Therefore Hoshin Kanri Policy Deployment (Strategical Management Methodology in which all employees participate, from the top down and from the bottom up) has been implemented. This methodology uses KPI's (Key Performance Indicators) and puts quantitative targets towards the major goals of the company for short-run and long-run. Accompanied by analysis of the current situation of the factory, QCDMS (Quality, Cost, Delivery, Morale, Safety) based KPI's were selected in order to improve gradually the targets.

Akmetal Information System (AIS)

Lean Institute Executives and Akmetal's Managers designed and developed the Akmetal Information System in order to make sure correct and fast External (Customer) and Internal (Personnel) communication. Another main objective of the system is to reach highest quality standards.

Through the system, following issues are standardized and made them understandable and monitored.

- Understanding the order, specification, technical drawing and other related documents without giving room in question
- To share the correct data internally
- On-time monitoring the work-load of each process
- Traceability
- To empower and follow perfections of employees for polivalans matrix requirements
- To design, to implement and to inform MIPs and/or ITPs of each identified parts.
- To follow process tack times of each single part.
- To record all past experiences (Corrective Actions needed, types of problems faced during production, reasons of Internal/External scraps)
- To issue 3.1 and 3.2 certificates once without creating excessive work load to responsible quality personnel.
- To monitor and evaluate Key Performance Indicators.



akmetal

planning system

Akmetal Planning System (APS)

The main objective of APS is to increase On-Time-Delivery performance of Akmetal which is one of the top Key Performance Indicator. Lean Institute Executives and Akmetal's Managers computerized the idea of Lean Management and OTD expectations and they put them into the field.

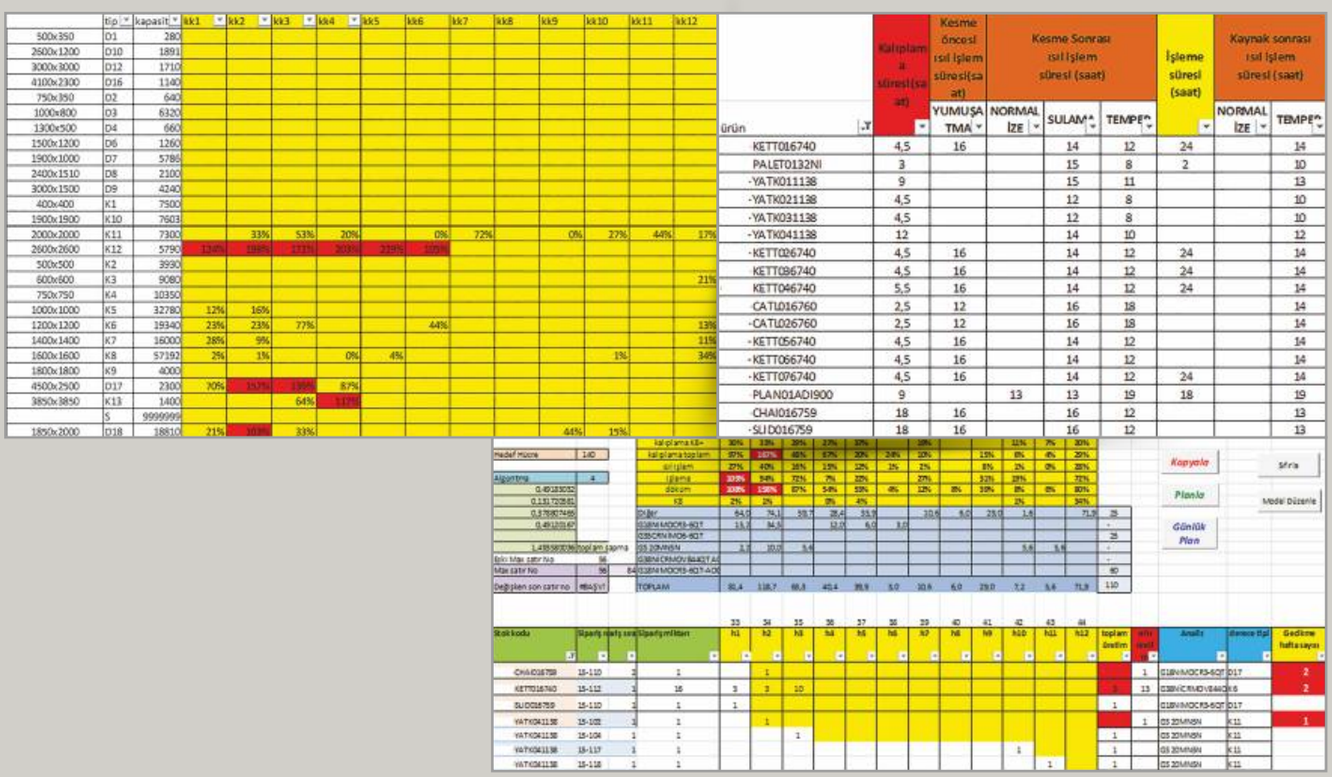
APS aim to find latest possible moulding date to meet delivery time with respect to tack time of each process.

APS also provides reliable information to Top Management to foresee possible bottlenecks may occur and give sufficient time (1-12 month) for a feasibility study of investments.

In APS, followings are taken into account;

- Availability of moulding frames on a specified moulding date
- Availability of the employees (absenteeism), available melting capacity, number of working days (holidays), available heat treatment furnaces (their work-load)
- Process tack times of each single part in order book
- Current order book

Through the APS, Sales and Planning Department can create daily and weekly production plan, to make sure maximising capacity utilization, minimising waste of time and effort and balancing production not to create bottleneck or excessive work in process.



foundry

Melt Shop

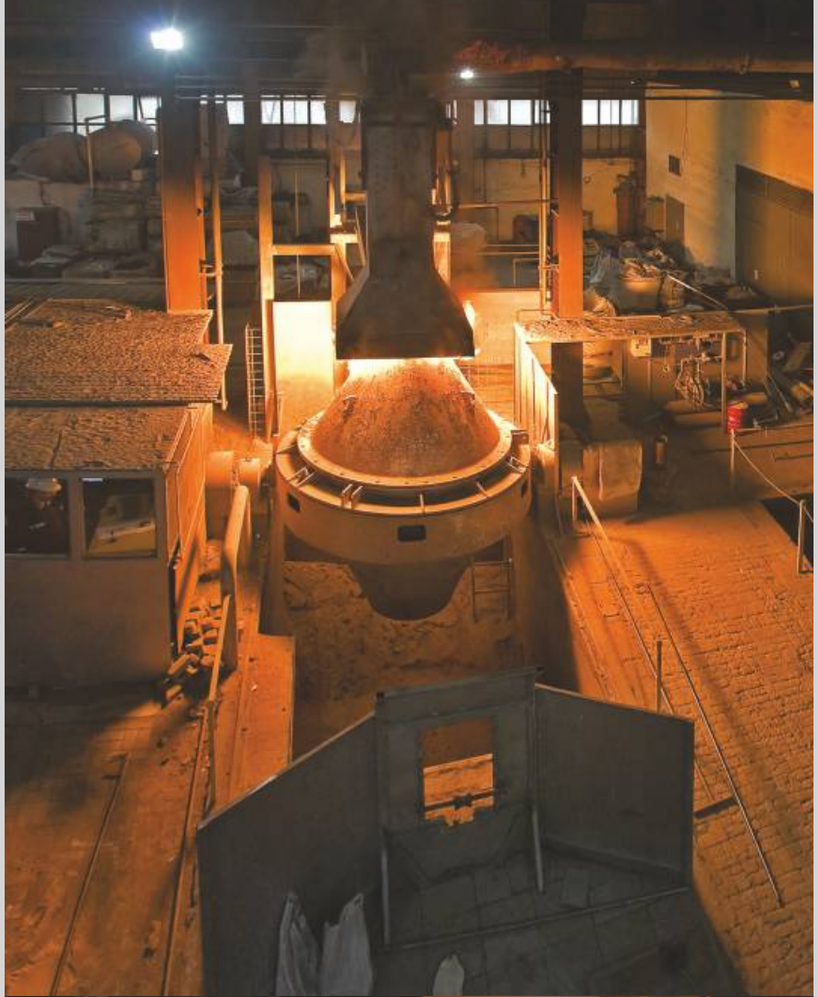
- 9MT electric arc furnace
  EAF to perform all desired metallurgical reactions such as oxygen blowing carbon injection
- 8MT induction furnace
- 3MT induction furnace
- 9MT induction holding furnace

12MT AOD Converter

Computerized injection of oxygen combined with argon and nitrogen decarburizes (carbon removal) molten metal from Electric Arc Furnace.

Deoxidation (oxygen removal), desulfurization (sulphur removal) and dephosphorization (phosphor removal) are carried out in AOD Converter to produce cleanest and uniform steel.

AOD secures low carbon (<0,010), low sulphur (<0,003), low phosphorus (<0,008) and low hydrogen (<2 ppm) for specialty alloy castings used in high-demanding applications such as offshore, energy, defence, heavy-lifting and mining.



Engineering

Magmasoft and Novacast computer simulations are applied to all castings. When optimum result is achieved, the pattern is ordered either for a conventional or CAD-CNC assisted production.

Sand Preparation and Moulding

- Only an Alkali Phenoline resin bonded sand for moulding.
- Best performance in steel castings in superior surface finish and minimizing surface defects.
- Casting in a range of 10kg to 14 ton.

- Omega 35MT/hrs High Speed Continous Mixer
- Omega 15MT/hrs High Speed Continous Mixer
- Omega 8MT/hrs High Speed Continous Mixer
- Omega 3MT/hrs High Speed Continous Mixer
- Omega 3MT/hrs High Speed Continous Mixer
- Omega Semi-Automated Molding Line 1600x1200x475 9 moulds/hrs
- Floor Moulding Line

Heat Treatment

Soft Annealing - Normalizing - Liquid Quenching- Tempering - Stress Relieving

- NG Fired Furnaces:
  - 6200 x 2400 x 1500mm
  - 6200 x 2400 x 1500mm
  - 4200 x 2400 x 1500mm
  - 8500 x 2800 x 1700mm
  - 6700 x 2800 x 2300mm
  - 3400 x 3200 x 1800mm
  - 2400 x 3900 x 1800mm
  - 2000 x 3000 x 1750mm
  - 6200 x 2400 x 1500mm
- Electric Resistance Furnaces:
  - 3600 x 3200 x 1600mm
  - 3000 x 6000 x 2000mm
- Oil-Polymer & Water Quenching up to 10 tons/pcs
  - 72 tons oil-polymer quench tank
  - 45 tons oil-polymer quench tank
  - 72 tons water quench tank
  - 45 tons water quench tank

production-*foundry*

Fettling

- Shaking Out
- Grinding
- Arc Welding and Cleaning
- Pickling & Passivation

- Clasman Dynamics Heavy-Duty Canon
- Shot Blast Cabin 10MT
- Shot Blast Cabin 3MT
- Shot Blast Cabin 5MT

Machining

Machining in House

All castings are premachined before delivery.

- Vertical Lathe Ø1800x1400 mm
- Vertical Lathe Ø2250x1500 mm
- Vertical Lathe Ø1300x1000 mm
- Vertical Lathe Ø900x760 mm
- Vertical Lathe Ø1400x800 mm
- Universal Lathe Ø2000x2000 mm
- Horizontal Milling Machine Ø80; 1000x1420x900 mm
- Horizontal Milling Machine Ø160; 5000x2600x1600 mm

Machining in Outsource

- Finish Machining

production- *open die forging*

Ingots

- Akmetal casts ingots:
  - 2500 kg
  - 4300 kg
  - 7200 kg

Manipulator and Press

Forging department has 1000 MT two column pulldown oil hydraulic open die forging press and 6 MT railbound manipulator. All components controlled by a computer system.

Bars

Maximum Length: 7000mm
Diameter: Ø140 - 475mm
Maximum Weight: 6 ton

Squares

Maximum Length: 3500mm
Distance: ⍁ 140 - 475mm
Maximum Weight: 6 ton

Rings

Maximum External Diameter: Ø1500mm
Maximum Internal Diameter: Ø1300mm
Maximum Weight: 2500kg

Discs

Maximum Diameter: Ø1150mm
Maximum Height: 350mm
Maximum Weight: 2500kg

Rectengulars

Maximum Length: 3500mm
Width: 140 - 550mm
Maximum Weight: 6 ton

Punched Discs

Maximum External Diameter: Ø1250mm
Maximum Internal Diameter: Ø400mm
Maximum Height: 350mm
Maximum Weight: 2500kg

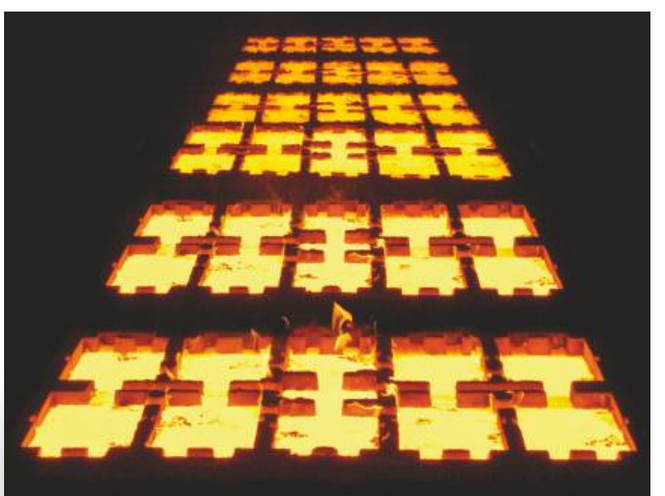
Re-Melting Blocks ALERIT

Increasing demand of austenitic, super austenitic and duplex stainless steels; the foundries are looking for an economic supply of high quality raw materials.

Akmetal provides metal refining service to the foundries through AOD Converter in three different ways:

- Foundries can purchase already manufactured refined materials.
- Foundries can deliver their returns (runners, risers, cut-offs etc.) to Akmetal. The returns are melted and then refined in our AOD Converter. Foundries will have specified composition, clean and easy to handle material.
- Alternatively Akmetal can make required alloy additions while processing in the AOD vessel to reach specified composition. This brings much benefit in re-melting in the induction furnace.

Re-Melting Blocks are available in 40 kg to 100 kg weights depending on customer needs. Re-Melting Blocks provides ultra-low carbon levels (C<0,0030) and Sulphur levels (S<0,002).




MİSKET
KABİNİ
KAYNAK SAHASI
WELDING AREA
DİKKAT
ELEKTRİK
TEHLİKESİ


MİSKET
KABİNİ
DİKKAT
ELEKTRİK
TEHLİKESİ
MİSKET
KABİNİ

facility and process *approvals*

Our Quality Policy

In order to ensure highest quality standarts, AKMETAL focus on main principles.

1| Focus on Occupational Health and Safety

2| Focus on Environment

3| Focus on customer satisfaction and customer needs

4| Leadership

5| Participation of all employees

6| Focus on processes

7| Continuous improvement

8| Rational decision-making

AKMETAL certified by

- American Bureau of Shipping
- Bureau Veritas
- DNVGL
- Lloyds Register of Shipping
- PED 97/23/EC

DET NORSKE VERITAS
APPROVAL OF MANUFACTURER
CERTIFICATE

CERTIFICATE NO. AMM-6375

This is to certify that

AKMETAL Metalurji Endustrisi A.S.
Istanbul, Turkey

is an approved manufacturer of

Steel Forgings

in accordance with
Det Norske Veritas' Rules for Classification Pt. 2
Offshore Standard DNV-OS-B101

and the following particulars:

Steel types	Carbon and Carbon-manganese, Alloy
Max. weight	7 000 kg

Place and date
Høvik, 2013-08-28
for DET NORSKE VERITAS AS

Hanne Anita Hjerpetjønn
Head of Section

Local Office
DNV Istanbul

This Certificate is valid until
2017-06-30

Dechun Lou
Surveyor

ABS

CERTIFICATE NO:
12-MMPS-CF&PAC-307

EFFECTIVE DATE:
26 MAY 2011

CERTIFICATE OF
CASTING FACILITY AND PROCESS APPROVAL

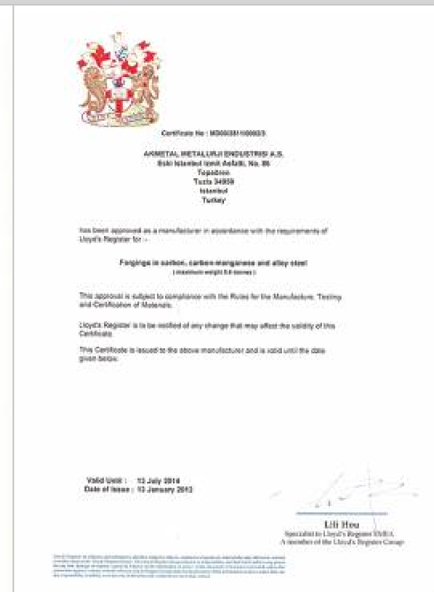
BASED ON ENGINEERING REVIEW AND A PLANT SURVEY OF THE FACILITY, IT IS HEREBY CERTIFIED THAT

AKMETAL METALURJI ENDUSTRISI A.S., TUZLA, ISTANBUL, TURKEY

IS APPROVED TO PRODUCE STEEL CASTINGS FOR USE IN MARINE APPLICATIONS AS OUTLINED IN ABS ISTANBUL PORT OFFICE SURVEY REPORT NO: IS1994994 DATED 25 MAY 2011 AND APPROVAL LETTER ISSUED.

THIS APPROVAL IS VALID FOR FIVE YEARS FROM THE EFFECTIVE DATE ON THIS CERTIFICATE. THE RELEVANT ABS RULES ARE TO BE ADHERED TO IN ALL RESPECTS, AND PRODUCTION, INSPECTION, AND TESTING OF THE CASTINGS ARE TO BE TO THE SATISFACTION OF THE ATTENDING ABS SURVEYOR.

Gopal Magadi
Manager
ABS Materials, Houston



Certificate No : MD00/3811000023

AKMETAL METALURJI ENDUSTRISI A.S.
Eski Istanbul Izmit Asfalti, No. 86
Tepeören
Tuzla 34959
Istanbul
Turkey

has been approved as a manufacturer in accordance with the requirements of Lloyd's Register for :-

Forgings in carbon, carbon-manganese and alloy steel
(maximum weight 5.6 tonnes)

This approval is subject to compliance with the Rules for the Manufacture, Testing and Certification of Materials.

Lloyd's Register is to be notified of any change that may affect the validity of this Certificate.

This Certificate is issued to the above manufacturer and is valid until the date given below.

Valid Until : 13 July 2014
Date of Issue : 13 January 2012

Lili Hou
Specialist to Lloyd's Register EMEA
A member of the Lloyd's Register Group

Certificate

Quality Management System for Material Manufacturer
ac. to European Directive 97/23/EC

Certificate No.	01 202 411/W-14 4029
Company Name and Address	**AKMETAL METALURJİ ENDÜSTRİSİ A.Ş.** **Tepeören Mahallesi Eski Ankara Asfaltı No: 236** **34959 Tuzla / İstanbul** **TURKEY** The material manufacturer has established and applies a Quality Management System. The system was audited according to the European Directive 97/23/EC, Annex I, Par. 4.3, with regard to the materials as listed in the scope of approval.
Certified in accordance with European Directive 97/23/EC:	**QM-System according to EN 764-5, Par. 4.2 and AD 2000-Merkblatt W 0**
Audit Report No.	01 202 411/W-14 4029
Range of materials	**Production of forgings and castings in carbon and alloy steel, see Annex**
Approved Manufacturing Site	AKMETAL METALURJİ ENDÜSTRİSİ A.Ş. Tepeören Mahallesi Eski Ankara Asfaltı No. 236 34959 Tuzla / İstanbul TURKEY
The certificate is valid until	**April 30, 2018**

Berlin, November 24, 2015

Dipl.-Ing. Ines Kruger-Fuhr

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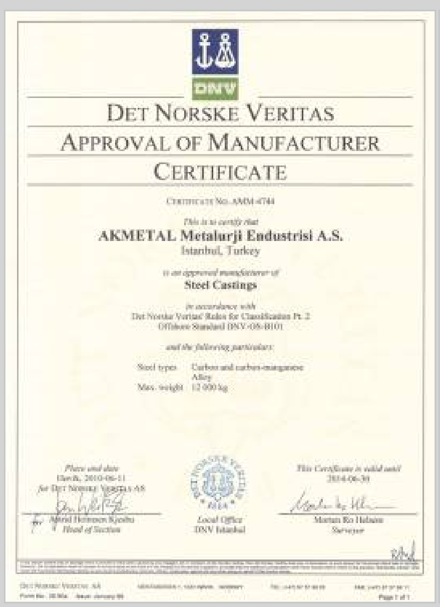

DET NORSKE VERITAS
APPROVAL OF MANUFACTURER
CERTIFICATE

CERTIFICATE NO. AMM-4744

This is to certify that

AKMETAL Metalurji Endustrisi A.S.
Istanbul, Turkey

is an approved manufacturer of

Steel Castings

in accordance with
Det Norske Veritas' Rules for Classification Pt. 2
Offshore Standard DNV-OS-B101

and the following particulars:

Steel types	Carbon and carbon-manganese, Alloy
Max. weight	12 000 kg

Place and date
Høvik, 2010-06-11
for DET NORSKE VERITAS AS

Astrid Heinesen Kjosbu
Head of Section

Local Office
DNV Istanbul

This Certificate is valid until
2014-06-30

Morten Ro Halsnes
Surveyor

DET NORSKE VERITAS AS
Page 1 of 1

ABS

CERTIFICATE NUMBER
14-MMPS-FF&PAC-543

PORT OFFICE
ABS MATERIALS HOUSTON

CERTIFICATE OF
FORGING FACILITY AND
PROCESS APPROVAL

This is to certify that a representative of ABS did, at the request of

Akmetal Metalurji Endustrisi A.S.,
Tuzla- Istanbul, Turkey

attended its facilities as indicated in the ABS Istanbul port office survey report number IS3025043 dated 10 July 2013, in order to carry out a survey of the facilities and associated quality procedures. The facility is considered capable of manufacturing

Steel Forgings for Marine Applications

in accordance with the ABS Approval letter, ABS Rules, designated standards and ABS approved drawings. The approval is valid subject to adherence to relevant ABS Rules and survey requirements and annual facility endorsement by an ABS representative.

ISSUE DATE	10 Jul 13	EXPIRATION DATE	09 Jul 18

SIGNATURE

V BALASUBRAMANIAM
PRINCIPAL ENGINEER
ABS MATERIALS, HOUSTON

FIRST ANNUAL ENDORSEMENT
SECOND ANNUAL ENDORSEMENT
THIRD ANNUAL ENDORSEMENT
FOURTH ANNUAL ENDORSEMENT

Page 1 of 1

Certificate No : MD00/3803/0000/2

AKMETAL METALURJI ENDUSTRISI A.S.
Eski Ankara Asfalti cad.
Tepeören Mah, No. 236
34959 Tuzla
Istanbul
Turkey

has been approved as a manufacturer in accordance with the requirements of Lloyd's Register for :-

Castings in carbon and carbon-manganese steel
(maximum weight 6 tonnes)

This approval is subject to compliance with the Rules for the Manufacture, Testing and Certification of Materials.

Lloyd's Register is to be notified of any change that may affect the validity of this Certificate.

This Certificate is issued to the above manufacturer and is valid until the date given below.

Valid Until : 30 June 2016
Date of Issue : 17 October 2013

Lili Hou
Metallurgical Specialist to Lloyd's Register EMEA
A subsidiary of the Lloyd's Register Group Limited

Lloyd's Register

quality

Melt Shop Laboratory Facilities

- OBFL 18 Channels Spectrometer
- Oxford Instr. 35 Channels Spectrometer
- Leco Nitrogen Oxygen Analyser
- HYDRIS (Hydrogen Measurement)
- POROUS PLUG Argon Bubbling
- Universal Strength Machine for moulding sand

Destructive Facilities

- 40 ton Tensile Tester
- Charpy Impact Tester (down to -70ºC)
- Buehler Hardness Tester (Rockwell, Brinell, Vickers)
- Olympus Optic Microscope
- Grinding and polishing for sample preparation
- Buehler Abrasive Cutter

Non-Destructive Facilities

- Ultrasonic Inspection
- Magnetic Particule Inspection
- Liquid Penetrant Inspection
- X-Ray Examination are also performed externally
- 12 Quality Personnel
  - 1 of them has Level 3 UT certificate
  - 3 of them have Level 2 UT certificate
  - 6 of them have Level 2 MT certificate
  - 1 of them has Level 2 VT certificate
  - 2 of them have Level 2 PT certificate


FOUNDRY-MASTER PRO


ALŞA
İÇMEK
YASAKTIR

sectors

Oil and Gas

- Offshore Platforms
- Cast Satellite Holders
- Forged Pinions
- Quenched and Tempered High Strength Low Alloy Steel

Massive Lifting Equipment

- Cranes
- Cast Hooks, Pulleys, Traverse Studeyes and Sockets
- Forged Nuts
- Quenched and Tempered High Strength Low Alloy AOD Steel

Mining Industry

- Hydraulic Excavators
- Cast Bearings and Track Shoes
- Quenched & Tempered, Alloy Steels

Energy

- Power Generation
- Steam Turbine Pressure Release Valve Cast Body, Columns
- Forged Shafts and Rings
- Elevated Temperature
- AOD Steel
- Hydro Power Generation
- Cast Guide Vanes
- Martensitic Stainless AOD Steel

Pressure Equipment

- Pumps, Compressors and Valves
- Cast Housings
- Forged Crankshafts
- Austenitic Stainless and Low Alloy Carbon Steels

Defence

- Navy
- Forged Ruddershafts
- High Strength Low Alloy Carbon Steels

Dredging

- Vibratory Piling Machines and parts for bridges
- Cutterbearing Houses
- High Strength Low Alloyed Carbon Steels

Paper and Pulp Industry

- Bearings
- Cast Continuous Feeder Screw
- Duplex Stainless Steels

we are a *family*

This work can't be done
without passion…

AKMETAL
Metallurgical Industries Corporation

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