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TURKISH FOUNDRY ASSOCIATION (TÜDÖKSAD) TUDOKSAD.ORG.TR

GIFA-NEWCAST-METEC-THERMPROCESS ■ SPECIAL ISSUE ■ JUNE 2023





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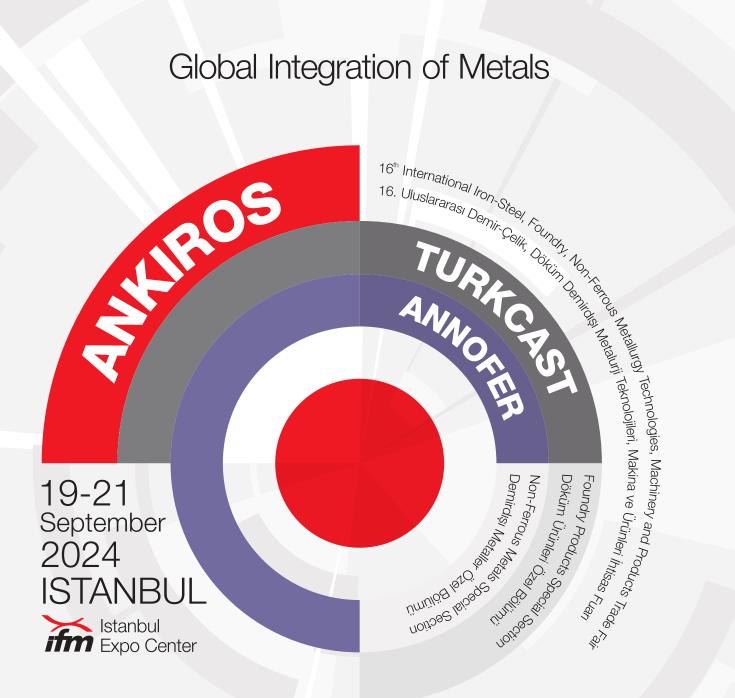








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KADİR EFE
TURKISH FOUNDRY ASSOCIATION
(TÜDÖKSAD)
Chairman



Dear Colleagues,

As the only umbrella organization representing the metal casting sector in Turkey, we have published our Sectoral Status Preliminary Evaluation Report, which includes statistics for the year 2022.

Turkish metal casting industry continued its growth trend in 2022, by expanding by 4.9% and exceeding 3 million tons of production, setting a new record. Despite the Russia-Ukraine tension that broke out in 2022, our industry, which showed significant resilience and strength during the past two years under the influence of the Covid-19 pandemic, has been able to maintain its growth and achieved remarkable success. Additionally, our sector continued its innovative approach and investment in new technologies to improve productivity and efficiency. With exports accounting for two-thirds of production, Turkish metal casting industry has created significant value with an export figure of 6.4 billion Euros in 2022.

Contrary to the worldwide industrial trends, the Turkish metal casting industry continues to grow and develop its markets, and it is seen that the high demand especially from the European region is fulfilled by our foundries, which have reached a very high level of product quality and quality management concept, and work with affordable prices and service performance. Turkish metal casting industry is to continue taking the highest shares from all markets by complying with both capacity, technology, quality systems and, most importantly, green regulations.

After a long break of face-to-face meetings during the pandemic, our industry showcased its growth and strength with all stakeholders at the Ankiros-Turkcast fairs at the end of 2022. Now, we are getting together again at the Gifa, Metec, Thermprocess and Newcast "Trade Fair Quartet" in Düsseldorf, which takes place in every four years and is referred as one of the biggest events regarding the industry. We are proud to see our members strongly represented at these fairs, in which our country plays a significant role. TÜDÖKSAD, which has taken on the mission of promoting and representing our members and sector in national and international areas, will continue to carry out this important task at the Gifa, Metec, Thermprocess, and Newcast fairs. I wish all our members and the industry attending and visiting this fair quartet a successful event.

Kind regards



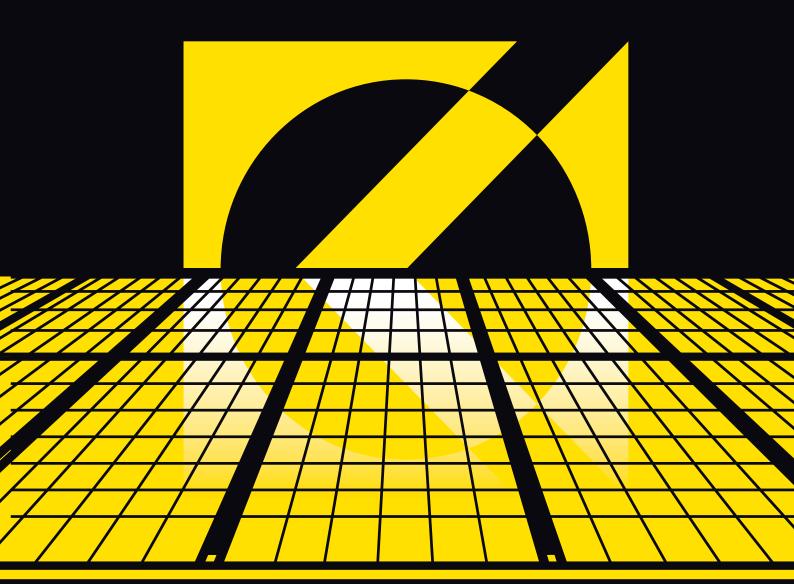
WE PLAN TO CONTINUE OUR WORK FOR ANOTHER 5 BILLION YEARS.*

With our renewable energy investment, we meet 90% of the energy that we use in production directly from the Sun.

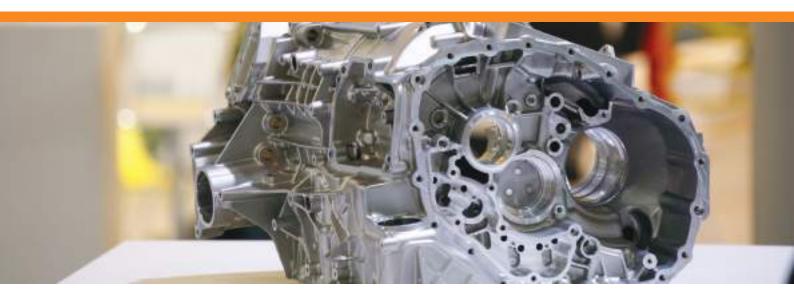
We know that a future in which investments in solar energy increase with the vision of "green casting" will benefit us all. We are proud to be a pioneer in spreading this awareness in the casting industry.

*Research shows that the Sun will live for another 5 billion years. On the other hand, the time for the use of fossil energy fuels is gradually decreasing and the environmental problems that develop accordingly are becoming more evident day by day.

kutes.com



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WE ADD VALUE TO METALS!

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Kumlama Shot Blasting

Bilyalı Dövme **Shot Peening**



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Türkdöküm/Türkcast Dergisi Türkiye Döküm Sanayicileri Derneği Gifa-Metec-Thermprocess- Newcast Fuarları Üye Tanıtım Eki

İmtiyaz Sahibi: Türkiye Döküm Sanayicileri Derneği adına Yönetim Kurulu Üyesi Emin Uğur Yavuz

Sorumlu Yazı İşleri Müdürü: Mehmet Atik (YK Üyesi

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 - Ferromolybdenum Nickel Metallic Chromium Cobalt Tin Chromite Sand

General Distributor in Turkey





We Add Value to Metals!

Turkish Metal Casting Industry

Turkish metal casting industry experienced a significant production increase in 2022, with a growth rate of 4.9%, with total production reaching 3.1 million tons, a new record.

2022 was a year in which investments and production accelerated despite recessionary pricing and the negative impact of the cross currency, along with global developments, and Turkey's record exports of metal castings continued. Exports from the metal casting industry increased by 9 percent year-on-year to €6.4 billion, with export volumes reaching 2.2 million tons.

Total value of production increased by 41% year-on-year to EUR 8.5 billion. All statistics can be viewed on the TÜDÖKSAD website: https://www.tudoksad.org.tr/.

Turkish Foundry Industry has the ability to meet all demands in a short time and in every sense, through the

deep industrial background. There are nearly 1000 foundries operating in the country that covering various business models such as high-volume production foundries with state-of-the-art automatic molding lines, big part manufacturing up to maximum tonnages in single part with available flask sizes and jobbing foundries serving different industries precisely with ready-to-assembly component production.





Advanced Technical Capabilities

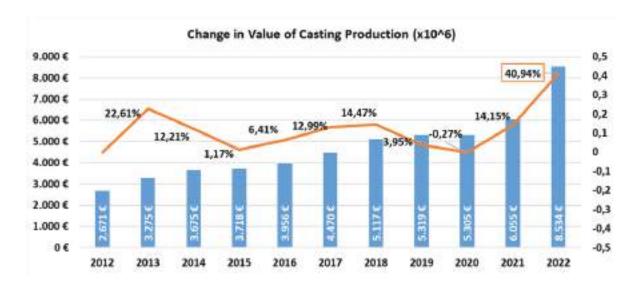
Turkish foundries make use of latest design, simulation and ERP softwares to achieve highest productivity, process reliability and control over the all processes. All the fingerprints of processes are stored to ensure traceability, to be used in certification procedures and process development and correspondingly most of the foundries implement lean production principles.

The versatility of the Turkish Metal Casting Business could be demonstrated by the number of casting and molding processes available that match with every specific expectation such as high surface quality and dimensional accuracy, different pattern types/corebox equipments, machining facilities and secondary processes.

In the current period, that efforts for adaptation to climate change, sustainable production, protection of natural resources and reduction of carbon footprint are on the top of the agenda, the consumers and the manufacturers become more environmentally responsible as the demand grows for green initiatives. Metal casting foundries are increasingly implementing eco-friendly manufacturing processes and sustainable product

options towards EU Green Deal and in their Sustainable Production Strategic Road Maps.

Also, more than 30 foundries have got R&D Center Certificate by the Ministry of Science, Industry and Technology so far under the new regulation, which aims to improve University-Industrial Research Collaboration and offers the opportunity of realizing funded research studies and taking part in EU Horizon projects and other programmes as well. The focus is on innovations and technologies that contribute to the environment as well as energy efficiency and efficiency of resources.



Turkish Metal Casting Industry continues to grow with new investments

The capacity utilization rate of the Turkish metal casting industry in 2022 was 72%, down 2% year-onyear. This decline was attributed to the orders for over 30 new production lines on the ferrous casting side and over 100 new production cells on the non-ferrous casting side in Turkey in the last two years, and the high capacity increases experienced as these lines started to be commissioned. For the last 3 years, the Turkish foundries have been making significant machinery investments in order to meet the increasing demand for castings from abroad and orders for finished components/spare parts, and to comply with the new quality criterias.

As a result of the transition to electric and hybrid vehicles, the

goal of producing vehicle bodies with fewer components using highpressure aluminum die-casting techniques and ultimately producing them as a monolith, instead of producing them piece by piece and joining them together with rivets, welding or other methods, offers a radical solution that will provide significant savings to the world's manufacturing industries. While these activities create an extraordinary growth potential for the field of aluminum metal casting, high-capacity die casting cell investments are increasing day by day.

Die Casting Business in Turkey

Die Casting is indeed a popular manufacturing method in Turkey, with a growing demand for aluminum castings from both local and EU customers. It is known for its speed, reliability, and cost-effectiveness in producing net-shaped components with high dimensional stability and tolerance.

It is noteworthy that more than 35 die caster members of TÜDÖK-SAD produce more than 50% of all Turkish output, which indicates the significant contribution of its members to the country's economy.

Moreover, Turkish foundries have been expanding their business towards abroad, mainly European OEMs, since 2000. This indicates the competitiveness of Turkish die casters in the global market and their ability to meet the demand of international customers.

The sector leaders and new enterprises are also investing in modern green field plants to meet the growing demand for die casting components in a sustainable way. This reflects their commitment towards sustainable production targets and the importance they give to environmental and social

Turkish Total Light & Ultralight Castings Production





High Level Reclamation **Plant**

High Level Reklamasyon

Low Level Reclamation Plant



Articulated Belt Mixer

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Navigating The Change: Strategies for Success

Turkish foundries are updating their business models to stay competitive by adopting the latest innovations and technological breakthroughs while adhering to environmental regulations and Sustainable Production Strategic Road Maps. This approach not only enables them to develop customized solutions for their customers but also ensures that they are contributing to sustainable production practices.

Turkish foundries are also offering other services such as rapid prototyping, additive manufacturing, in-house pattern making services, and faster NPI mechanisms. This allows them to cater to a wider range of customers and offer them more comprehensive solutions.

Furthermore, Turkish foundries are prioritizing favorable pricing, simultaneous engineering, just-in-time delivery, prompt reaction to design changes, and flexibility to ensure their growth in the global market. These priorities are

crucial for sustaining competitiveness and ensuring customer satisfaction, which are both key drivers of growth in the foundry industry.

Overall, the commitment of Turkish foundries towards sustainable production, innovative solutions, and customer satisfaction bodes well for their continued success in the global market in the coming decades.

Continuous Production & International Trade

Turkey boasts a diverse and extensive mineral resource base, including lead, mercury, silver, tin, other precious metals, and coal. Moreover, rich iron reserves provide our foundries with continuous access to raw materials.

In addition to being a member of the EU Customs Union, Turkey has established 22 Free Trade Agreements (FTAs) with various countries, including EFTA, Israel, Macedonia, Bosnia-Herzegovina, Palestine, Tunisia, Morocco, Egypt, Albania, Georgia, Montenegro, Serbia,

Chile, Mauritius, South Korea, Malaysia, Moldova, Faroe Islands, Singapore, Kosovo, Venezuela, and the United Kingdom. Furthermore, FTAs with Lebanon, Qatar, and Sudan are currently undergoing the ratification process.

Turkey's location is a significant advantage. It borders Armenia, Azerbaijan, Georgia, Iran, Iraq, Syria, Bulgaria, and Greece by land and Egypt, Cyprus, Romania, Russia, and Ukraine by sea. The country is within a four-hour flight distance of 1.5 billion people from Scandinavia to the Middle East, Africa to the Urals. International airports in Ankara, Izmir, Istanbul, Konya, Trabzon, and Adana facilitate travel to and from Turkey.

Additionally, multiple airlines operate domestic flights between these airports, making travel between major Turkish cities easy. Turkish Airlines and Pegasus agencies provide information on fares, price reductions, and timetables. Buses are also available for travelling between cities and airports.

Tunç Döküm: Stronger with New Investments

Tunç Döküm is preparing to serve every industry according to their demands and preferences with its new investment in low-pressure die casting machines.

Operating in the aluminum casting industry in Ankara since 2003, Tunç Döküm provides semi-finished and finished products to automotive, security, medical, energy systems, and lighting sectors in domestic and international markets.

As the only gravity die casting company in Ankara since 2020, Tunç Döküm stands out with its dynamic team, innovative and entrepreneurial structure. It has 3D design, aluminumwood-steel pattern production, aluminum sand-die-alfaset resin casting, CNC processing and turning, labora-

tory, electrostatic powder coating line, and assembly units.

With new investments, Tunç Döküm is strengthening its power, and as of February 2023, it is preparing to provide services to every industry according to customer demands and preferences by incorporating the low-pressure die casting method. Tunç Döküm aims to increase its annual casting capacity from 800 tons to 1,500 tons with low-pressure die casting.

Veysel Tunçyüz, Chairman of the Board of Tunç Döküm, shared information about the company's new investments



and goals, stating, "We are delighted to be among the leading companies that shape the sector. This success motivates us to strive for continuous improvement." Tunçyüz went on to highlight the company's next objective, which is to produce castings using sustainable energy sources through investments in solar panels. He expressed confidence that with the support of their families, colleagues, customers, and stakeholders, they would achieve this goal in the near future.

www.tuncdokum.com.tr



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■ YETKINLİKLERİMİZ / OUR COMPETENCIES



Kokil Döküm Permanent Casting

Kum Döküm Sand Casting

> Alfa Set Fast Loop Kalıplama Hattı (1600 x1200 x 500 mm)

Alphased Fast Loop Molding Line (1600 x1200 x 500 mm)

| Yarı Otomatik Kalıplama Hattı (600 x 500 x 30 mm / Saatte 60 Kalip)

Semi-Automatic Molding Line (600 x500 x 30 mm / 60 Molds Per Hour)

Tam Otomatik Kalıplama Hattı (800 x 600 x 50 mm / Saatte 45 Kalip)

Fully Automatic Molding Line (800 x 600 x 50 mm / 45 Molds Per Hour)

T-6 İsil işlem Firini T6 Heat Treatment Furnace

> Son Teknoloji Laboratuvar State of the Art Laboratory



3 Adet Tam Otomatik Maça Makinesi 3 Fully Automatic Core Machine

Maça Sistemini Besleyen Kum Mikseri (Saatte 10 Ton)

> Sand Mixer Feeding Core System (10 Tons per Hour)

Contirius Mikser Contirius Mixer (Saatte 20 Ton)

(20 Tons per Hour)





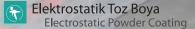
Kumlama Sandblasting





















TUNÇ DÖKÜM

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Aveks A.Ş.

Since 1995 AVEKS AS has been a supplier of raw materials for the industrial production and steel.

With this experience in conjunction with our broad spectrum of suppliers AVEKS offers a wide range of products including; pig irons, ferro alloys, noble alloys, coke and recarburizers, metals and minerals, a variety of cored wires, abrasives, refractory products and chemicals for iron, steel, nonferrous industries.

Thanks to our well-established position in the market and our advantageous relationship with producers around the world, we are continually developing new products and expanding our customer base. We try to create close relati-

onships with customers to ensure their happiness and satisfaction by offering our products at competitive prices. Both our cost-effective and creative solutions within this market have enabled us to accommodate ourselves to the needs of the even larger growing world market.

We take pride not only in the reliability and quality of our products, but also in the speed in which transactions are made. We have successfully undertaken numerous obstacles to minimize or diminish customer hassles by utilizing our organized professional services. Our offices (Istanbul, Beijing, Kolkata, Dammam, Dubai, Cairo, Geneva, Nikolaev) around the world, our warehouses in different locations and skilled personnel try to optimize the quality of goods by protecting imported goods against damage, loss and inefficient utilization.

Over the years we have elevated ourselves to become one of the most trusted suppliers of all kind of metallurgical raw materials. We continue to develop and renew ourselves continuously, in line with our primary goal of providing better service.



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Kutes Looks Forward to Display "The New Iron Age" at GIFA"

Kutes Chief Executive Officer Mr. Ali Esat Kutmangil casts light on Kutes history, investments and future plans.

Can you tell us about the important milestones of Kutes, which has a deep-rooted history of 30 years in the casting industry?

Kutes was founded in 1986 by Mr. Mehmet Bekir Kutmangil to carry out subcontracted mining activities under the roof of Istanbul Coal Enterprises. In 1990, he started investments for metal casting and in 1992, he made his first casting in the newly commissioned horizontal GF automatic molding line at Kutes Döküm. In 2016, we decided to invest in the machining side. In 2017, we removed the first chip in Kutes Makine facility, and decided to invest in a new molding line. With the completion of new investments in 2019, we made our first casting in the HWS automatic molding line. Initiating the future by our

"New Iron Age" concept starting from 2022, we published our first sustainability report in line with the GRI standard according to 2021 datas. At the same time, we started our operational excellence program and awarded with Zero Waste Certification. We had the pride of being declared as the 32nd Industrial Zone of Turkey in 2023. As Kutes Energy, we started our Solar Power Plant investments of 26 Mw in total in Kırklareli and Edirne provinces, and we set our target for "Zero Carbon Emission" until 2033. Today, we continue production with a casting capacity of 50.000 tons and machining capacity of 100.000 hours with 14 CNC machines. We produce 1.100 different parts with 10 quality certificates for the automotive, hydraulic, agriculture, machinery, railway, pump and valve industries as the main supplier, with our 350 employees, in our Special Industry Zone of 207.000 sgm and 30.000 sgm of closed area. We provide services as "Solution Partner" and delivering castings to 9 sectors in total, 7 sectors with machined products, and 2 sectors with assembled products. We are an organization that has the technical infrastructure and quality standards that can meet the casting, machining and assembly needs of every sector as long as the criterias are dimensionally suitable with our machine park. As Kutes, we export to 12 countries in 3 continents. 50 percent of our sales consist of direct exports. With indirect exports, this rate reaches up to 90 percent. We are working hard for breaking into new sectors in order to

contribute to our country by increasing our export revenues.

Kutes makes significant investments for a sustainable environment. What steps are you taking for your Zero Carbon Emission Policy?

As Kutes, we are doing our best to minimize the environmental impacts of all our activities with the responsibility we carry towards both future generations and the planet. We aim to be carbon neutral by 2033. By integrating sustainability into all our activities through a holistic approach, we develop activities that will set an example for the sector not only on environmental issues but also on social issues. In this direction, we have implemented our "Sustainability Management System", which will ensure that our sustainability works are carried out in a coordinated manner. As our primary goals, we determined the "gender equality", "decent work and economic growth", "responsible consumption and production" and "climate action" among the Sustainable Development Goals of the United Nations and started our projects. As a company that aware of its duties and responsibilities to protect the natural resources, we have reduced our flue gas emissions to 5 ppm by investing 630,000 m3 of dust extraction systems in our Kutes Döküm factory. We have completed the 240 kWh roof Solar Panel Plant (SPP) investment on the roof of our Kutes Makine factory. We will soon commission the 26 MW land SPP investments, which we started to invest in Edirne and Kırklareli. Thus, we will provide 90 percent of the energy we consume from renewable sources. At the same time, with these investments we have made. we are making a contribution equal to the contribution of 57.498 trees, with an annual reduction of up to 23.500 tons in carbon emissions. With our runner breaker investment, we increased the bulk density of runners in furnace charges and achieved 4 percent efficiency in our



melting costs. With the newly commissioned full automatic molten metal transfer systems, we shortened our metal holding time in the furnaces and achieved 5 percent efficiency in our melting costs. In addition, we monitor energy consumption in all production processes with the help of energy analyzers and carry out activities to reduce it. LED lights, replacement of existing forklifts with electric forklifts, compressed air distribution and air purification upgrades, compressed air adaptive control systems, cooling tower variable frequency speed (VFD) controls (fans and pumps), energy monitoring system and engineered compressed air nozzles are some of the energy consumption reduction activities. We are also working on the heat recovery from the melting furnaces and using it for heating the administrative building. In the next 5 years, we plan to gradually replace our company's vehicles with electric vehicles.

At the beginning of this year, we had the ISO 50001 Energy Management System certificate, which provides companies with both environmental and economic benefits, less greenhouse gas emissions, energy savings, and completed the infrastructure for ISO 14064. Another target we plan to achieve in 2023 is to increase the rate of recycling materials in our final product and to reduce indirect emissions along the value chain. At the same time, we aim to be carbon negative by planting one million saplings by 2033. We aim to openly and transparently share all of our efforts on combating the climate crisis and reducing carbon footprint on the Carbon Disclosure Project (CDP) platform in 2024.

We also carry activities that will take our company one step further in the are

as of "gender equality" and "decent work and economic growth", which we have committed among the Sustainable Development Goals of the United Nations. In order to do so in a more professional way in 2022, we prepared a recruitment interview guide sensitive to gender equality. In line with our guide, we provided training to employees on vertical separation and glass ceiling syndrome, and implemented practices that facilitate return to work after childbirth. Thanks to all these efforts, we were entitled to receive the "Gender Equality Program Certificate".

We provided approximately 550 hours of training to our 332 employees in 2022 for their professional and personal development. We provided 4560 hours of occupational health and safety training to our 285 employees. This year, we continue our training without slowing down.

We also care about equality of opportunity in the field of education, and in cooperation with the Turkish Education Foundation, we give scholarships to university students, primarily our young people studying in our own sector. In order to support the vocational training of our young people in Corlu, we signed the "Vocational and Technical Education Cooperation Protocol" with Tekirdağ Provincial Directorate of National Education, which is of great importance for the future of our country, our youth, and our industry. Under the leadership of our Provincial Directorate of National Education, we will support the education, professional development and employment of our high school youth.

Companies are making important breakthroughs especially in digitalization in the recent period also with the pandemic. What kind of investments has Kutes made in the recent past, especially in this manner? Can you tell us about your investment targets for the next period? We started our digital transformation, industry 4.0 and automation investment processes by examining in detail the companies in the sectors we want to take an active role in. We have determined a roadmap that will take us to where we want to be. In this direction, we first commissioned our investment in the second quarter of 2019, which will enable us to have Turkey's first fully integrated automatic horizontal molding line. In 2021, the most important transformation on our agenda was to make the production phase processes trackable with the barcode system. We became the first company in our industry to do this from A to Z. In 2022, we focused on TPM, Operational Sustainability, Innovation, Industry 4.0 and Digital Transformation activities under the umbrella of our Operational Excellence Program. We have commissioned our quality assurance and autonomous maintenance monitoring modules. We created the first virtual fairground for the casting industry and shared this environment with our visitors. We backed up our physical archive digitally. In order to further increase our product quality and maximize energy efficiency, we measured the energy consumption in our production area with energy analyzers and analyzed this data to increase our quality and reflected the necessary measures in our production. This year, as a requirement of continuity in production, we have commissioned our core robot, full automatic metal transfer system, magnesium wire treatment and foundry process center in our molding line in line with our goal of production with industry 4.0 and automation. We are planning to increase efficiency with robot investments for our existing and new machines for our machining facility. In line with our digital transformation goal, we measured our digital maturity level with the MEXT Technology Center and determined our 5-year transformation strategy. We also continue our efforts to switch to the new version of our FRP

program, to create Big Data by increasing the diversity of data with IoT, and to carry out more precise productivity studies with AI technology. In this way, we aim to make all our data traceable step by step in a single center in digital environment. We have completed the necessary infrastructure investments for all these works and for the transition to cloud technologies, which are the basis of digital transformation. By completing the foundations we laid for end-to-end integration in 2022 this year, we aim to become a completely technological production site.

After the virtual exhibition area, we will take our efficiency activities a few steps further by 3D scanning all our facilities, creating a digital twin of our facilities, and analyzing possible risk scenarios by multiplying the types of simulations. We aim to maximize the efficiency of production equipment with continuous improvement activities and to improve the operational and problem-solving skills of our employees.

How do you evaluate the year 2023 from the industry perspective?

We started the year 2023 very quickly in line with our transformation goals. We have been declared as a Special Industrial Zone, we have started our renewable energy investments and we are building the future of Kutes with our ongoing operational excellence efforts at our facilities.

You are participating in the exhibition quartet GIFA, which is organized every four years in the metallurgy sector, what will your visitors encounter at the Kutes stand?

We are looking forward to welcoming our visitors in our "New Iron Age" booth at the GIFA, which has become a strategic meeting point to follow the latest technologies and trends in the casting industry.



KOTAR

Commitment to Excellence

- ✓ Project-oriented Solutions
- ✓ Fast and Effective Blasting
- ✓ Customer Satisfaction
- ✓ Effective and Continuous Technical Support
- ✓ Low Carbon Emission

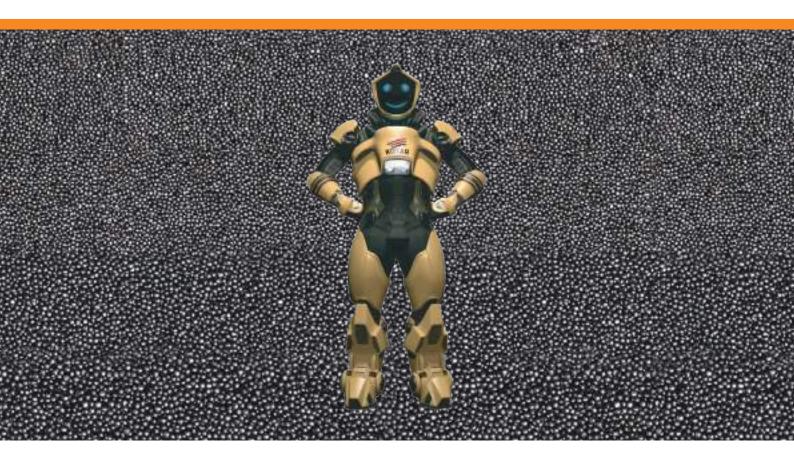


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KOTAR Steel Shots

The priority of KOTAR, a Tosçelik Granül brand, is to minimize its carbon footprint in nature with its sustainable feature. In today's world, where the need for energy has increased significantly, increasing greenhouse gas emissions with the use of fossil resources cause irreversible negative effects on the climate. As Tosçelik Granül, we set out with the goal of "Zero Carbon Footprint" and in addition to our processes, we have restructured our product chemical content with the awareness of this responsibility. We produce our final product, the steel shot, using the least possible energy with special scraps that many production facilities consider as waste. With the goal of minimizing our carbon footprint during use, we enable users to do as much work as possible with less steel shot.

Toscelik Granül uses special quality scraps from Tosyalı Holding Group companies with the principle of recycling. We started our R&D activities on KOTAR product with a great enthusiasm in 2014 – 2015. While aiming to bring dynamism to the industry and the use of the product in line with the needs we observed in the sandblasting industry, where we have been serving as a product

supplier for many years, we aimed to provide value to our customers, the environment and the society. We looked for ways to make the existing standards more beneficial by taking into account the 2030 sustainability targets at the carbon footprint level, without going beyond the industrially accepted SAE standards.

Our primary goal in R&D activiti-

es was to eliminate the argument of high-carbon steel shot producers, that low-carbon steel shot has lower hardness, therefore it is less effective in energy transfer and has higher shotblasting times than high-carbon steel shot. In line with this goal, we created the KOTAR product through the special production technology and special alloying we applied that has similar service



life and hardness compared with high-carbon steel shot. Thanks to the minimum carbon content (0.10%) provided by the chemical structure of our **KOTAR** products, the fact that our products emit minimum carbon both during the usage phase and during the evaluation process as waste after use is an indicator of our responsibility towards the environment and nature.

While the standard low-carbon steel shot has a hardness value of 39-41 HRC before use, our **KOTAR** product starts the shotblasting operation with 43-44 HRC hardness value and reaches 49-50 HRC hardness value in a very short time in operation conditions thanks to its special chemical content. This makes **KOTAR** products more durable, strong and effective.

Another aim of our **KOTAR** product was to make the sieve distribution, which is generally concentrated on a single sieve size, more homogeneous in the sieve distribution specified in the SAE standard. In this way, we aimed to present a product

distribution similar to the product mix used in the machine, ready to use, to the customer. When adding new products to the machine, the fact that the product used in the machine and the newly added product have a similar sieve structure ensures that a standard is achieved on the surfaces obtained. In addition, the homogeneity of the product distribution instead of concentrating on a single sieve size facilitates the shotblasting of the parts with complex geometry to the desired extent. While eliminating the need for second shotblasting, this homogeneity of KOTAR distribution meets some of our customer needs by making markings and product codes more visible.

It is known that high-carbon steel shot break down quickly and disproportionately due to their brittle structure, thus can damage machinery and spare parts. Disproportionate and angular fragmentation adversely affects the surfaces inside the machine, apart from the sur-

face of the blasted part. Having to renew the internal parts of the shot blasting machine and turbine spare parts more often means extra costs, and irregular stops may arise.

As **KOTAR** shot hit the surface of the part during the blasting process, they shrink in thin layers like onions for 80% of their life, keeping their spherical shape. This feature makes our KOTAR products more prominent than other competitors in the market. The fact that it shrinks without breaking like a high-carbon steel shot prolongs the life of the machine and its spare parts.

KOTAR, proudly presented to the whole world by Tosçelik Granül, shows excellent performance in rust, oxide and sand removal processes, burr removal and surface preparation processes with its long service life and high hardness. Ideal for use in foundries, steel mills, forging and rolling mills, machine building, steel industry, automotive, shipbuilding, aircraft and structural steel industries.



57 Years of Experience With Superior Engineering

Gedik Casting provides qualified and cost-effective solutions to many sectors, ranging from automotive to energy, defense industry to shipbuilding, in its integrated casting facility, which is one of the largest in Turkey. Outstanding with its superior engineering and 54 years of experience, Gedik Döküm is on target for strong growth both in Turkey and the global market in the new era.

Gedik Casting has been studiously carrying out the sand casting and sensitive casting activities for 54 years as a participation of Gedik Holding, one of the essential established holdings in the Turkish

Industry together with Gedik Termo Valve Company in a closed area of 25,000 m2 in Hendek/Sakarya, where all casting and valve production processes are carried out. Gedik Casting, which can perform casting from 40 grams to 40 kilograms in a sensitive casting facility, and from 1 to 35 kilograms on Sinto-FBO automatic wet sand casting lines, has a single-piece casting capacity ranging from 5 kilograms



lograms to 2,500 kilograms on the FTL automatic sand casting line with resin. On these lines are used carbon stainless and duplex stainless steels. In addition to parts made of high-chromium, nodular cast iron and gray cast iron materials, part production is also carried out from bronze alloys.

Focused on the production of many parts in compliance with the DIN10293 standard at the production facility, which is certified with ISO-9001, IATF-16949, AD 2000-W0, Turkish Lloyd, DNV-GL, RINA certificates, Gedik Casting also provides support to its customers such

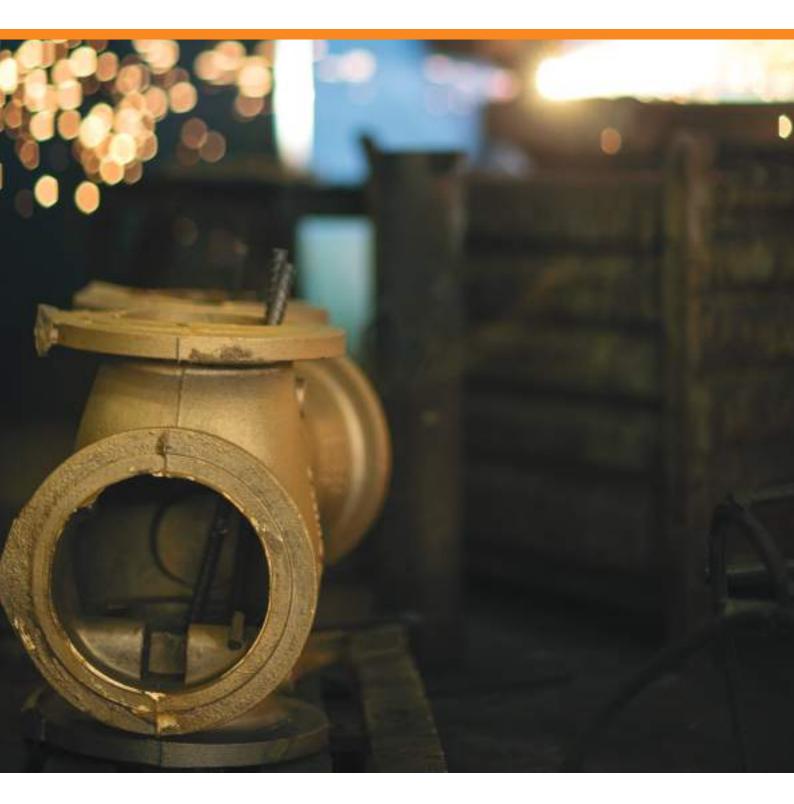
as Research and Development and project adaptation with its equipped with advanced engineering skills, In addition to ready to use casting products.

Gedik Casting, which has a wide range of ready to use products including special processes such as machining, painting, casting also offers Research and Development support and project adaptation support with advanced technology quality control equipment and knowledge transfer to its customers. Starting from the part design phase, it analyzes every request of its business partners and works together with approved supp-

liers to offer competitive services by providing high-control, qualified and economical solutions through 3D drawing and casting simulation, analysis, 3D printing, 3D scanning, and CMM.

Global Competition with Local Production

Gedik Casting, which has been improving its local production skills with the support of institutions such as KOSGEB and TÜBİTAK in recent years, has also caught important growth momentum in exports. Gedik Döküm has increased its power in the global market and targets to be



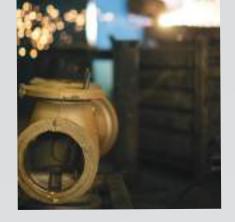
come a world brand in the casting of duplex and stainless steels, with its speciality in difficult and large parts.

Gedik Casting, has a equipped workforce with NDT and similar training, which has the possibility to check the parts it casts. Gedik sends the parts it produces abroad safely by getting the support of Gedik Testing Center. Gedik Döküm, which sends parts to various count-

ries from the US to New Zealand in the pump, separator systems, and agriculture sectors, stands out with Europe, Canada, and the US in its export market. Casting technologies are developing very rapidly worldwide.

Gedik Casting determines its new period plans and goals in line with the developments in the global market. Ufuk Doğan, General Manager of Gedik Casting says: "Turkey is a casting country. It is one of the sought-after countries about casting in Europe. It comes after Germany, Italy, and France. If Turkey makes the necessary investment in this sector and catches up with the speed of the times, it has a chance to compete with India and China in the world. We see this potential and work accordingly as Gedik Casting."





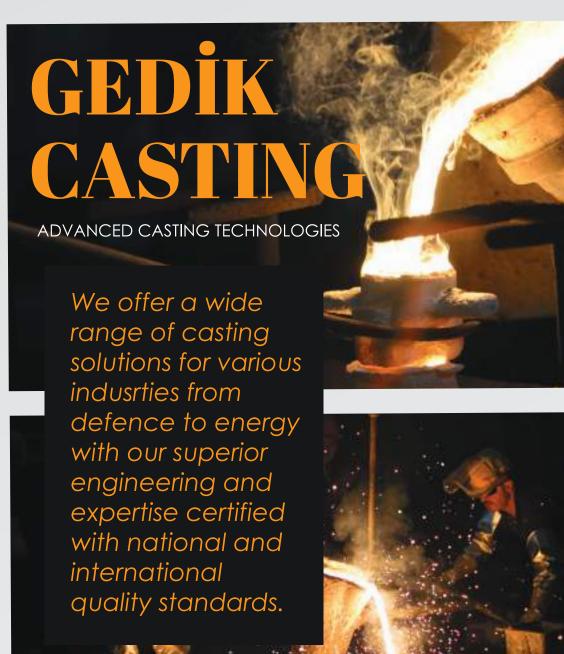


54 YEARS OF EXPERIENCE IN THE CASTING INDUSTRY









Maximise Your Potential In Your Ductile Iron Production Process

Elkem has always been at the side of its customers by focussing on all aspects of cast iron production. The last 10 years we have seen the formulation of new grades of iron, which has resulted in a new set of technical challenges. These range from the procurement of raw materials, general market conditions and increased technical demands that modern iron castings must operate in.

Alberto GIACOMONI

Elkem Technical Customer Service Global Manager



Elkem has an integrated system in place to be able to understand the modern needs of customers producing cast iron and to generate customer-based production solutions:

 The capacity for research and innovation & development of new products and solutions.

Dedicated R&D facilities with a team of experts who can carry out both fundamental and customer specific research. This acquired knowledge is used in Elkem's production process and products to provide solutions to customers for the challenges they face

• The production of preconditioning, nodularising, conditioning and inoculants alloys.

The ability to produce a complete range of foundry technical alloys that meets the modern day demands of cast iron production

• Technical assistance to customers

Using the knowledge from Elkem's R&D and production teams, the TCS team (Technical Customer Service) of metallurgists work directly with customers around the globe, in every region and in every country

The modern cast iron production challenge

The latest challenges to produce cast iron are focused on two fronts, whilst maintaining and increasing the quality requirements of the metal:

- consumption of raw materials, given the difficulty in finding them and consequently their costs in many areas of the world.
- energy consumption and the exponential cost increase.

These challenges are not new, but they have intensified significantly and are difficult to compare with the past.

To meet these challenges, Elkem has formulated a range of products over the years to target specific grades of iron, to allow foundries to produce iron castings that will spend their working life meeting the challenges that modern day iron castings must operate in.

This product portfolio encompasses different types of nodulariser alloys, such as LAMET $^{\text{M}}$, ELMAG $^{\text{M}}$, COMPACTMAG $^{\text{M}}$ and conditioners such as the TOPSEED $^{\text{M}}$ fa-

mily of products and finally, a wide range of inoculants.

We can support our customers with 'market-based know-how', innovation, development, products and technical assistance, capable of achieving high efficiencies in the nodularisation treatment process.

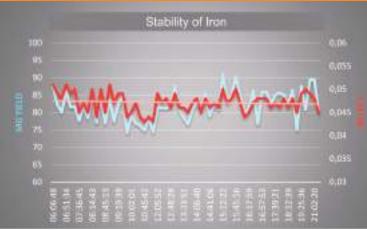
This translates into a Mg yield of 80% and above, far superior to many current practices.

80% Mg Yield

High yields in Mg does not simply mean a reduced consumption of FeSiMg and the consequent cost saving due to the lower additions. A 'non-overtreated' iron will preserve its nucleation level which results in a lower addition rate of inoculant.

The iron will therefore be stable and exhibit enhanced mechanical characteristics and be significantly less sensitive to a range of metallurgical defects, such as shrinkage, graphite shape degeneration or carbides. This allows pattern designers a solid platform to engineer patterns for improved perfor-





mance in pouring, gating, and feeding systems.

With our large portfolio of products and the support of our TCS Team available to Elkem customers, it is therefore possible to increase the effectiveness of the nodularisation treatment and the quality of the cast iron to new and higher standards.

Increased effectiveness and ef-

ficiency of the nodularisation treatment for the foundry will result into:

- Better metallurgy, in terms of castings' soundness, microstructure and mechanical properties.
- High reproducibility and stability of results, allowing efficiencies in the design of feeding systems.
- Reduction of energy consumption per unit of iron cast into sellable iron castings.
- Greater efficiency of production equipment, melting furnaces, autopours, treatment, transport and pouring ladles.
- Greater productivity, both in terms of tons per hour, pattern yields and casting scrap rate.

This all results to lower production cost, lower consumption of raw materials and a more efficient, capable production process.



Elkem has always been at the side of its customers as a partner.

If your Mg yields are lower than 80% it is reasonable to think there is room for improvement. Let Elkem help you maximise your potential in your production process by working with you.

Ask your representative how we can work together and achieve a significant improvement in the performance and quality of your metallurgical processes and castings.



Discover The Potential of Turkish Aluminium Industry With Aluexpo

ALUEXPO "8th International Aluminium Technology, Machinery and Products Trade Fair" will be organized by Hannover-Messe Ankiros Fairs between 12-14 October 2023

The 8th edition of Aluexpo Trade Fair will take place between 12-14 October 2023; in Istanbul Expo Center, halls 1, 2 and 3, with a new additional hall. This year is the year of breakthrough and new records for Aluexpo; Our journey, which we started in halls 9 and 10 in 2009 at the same venue, was crowned this year with new halls, new layout, and a record stand area. The net stand area, which was 11,025 m² in 2022, grew almost to 15,000 m² in 2023.

There is still a high demand from the national and international companies who want to attend therefore the fair is already sold out. We are already feeling this momentum and we are preparing for new records in the future. Through these stands, from 30 different countries, over 350 exhibitors will showcase their newest, state of the art products to the world of aluminum.

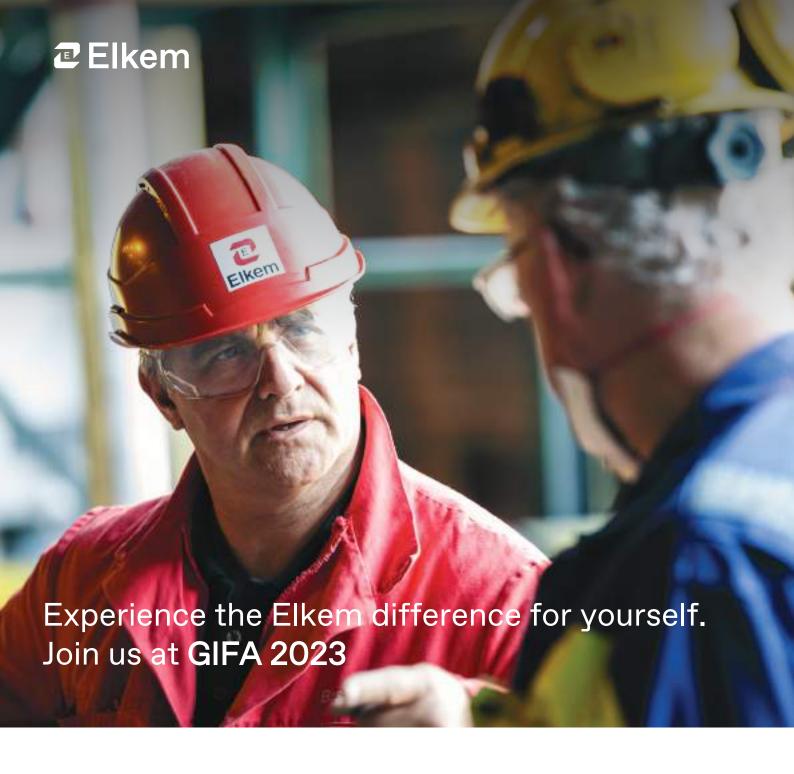
Since the first edition, ALUEXPO showed a great development in time and grew together with the industry and became one of the 3 most important aluminium fairs in the world.

The registrations for the ALUEXPO reached a high level and it is expected to become the biggest show ever. Local and International stakeholders, exhibiting companies, participants, supporters are waiting for ALUEXPO to reflect the current growing situation and positive business atmosphere that will be on stage more effective, efficiently, and comprehensively on these dates.

It will be a great opportunity for the companies who want to be informed about the developments in the industry and want to discover the business world of aluminium where the area of usage is increasing day by day with the effect of new technologies that creates a significant trade potential. Most being aluminium producers and suppliers there will be also visitors from construction, automotive, white goods, defense, machinery production, transportation, railway systems, packaging, energy, kitchen utensils, conductors, and wiring industries.

ALUEXPO is supported by TAL-SAD - Turkish Aluminium Industrialists' Association which is the preeminent association of the aluminium industry. Aluminium products like sections, plates, foils, ingots, bars, castings, forgings, finished and semifinished aluminium products with aluminium door, window and facade systems and aluminium products for different industries will take place along with Turkish aluminium producers. Aluminium production technologies will also be introduced to the leaders of international suppliers of global metallurgy industry. Technologies ranging from primary aluminium to finished products, exhibited by the leading producers of local & international companies to any kind of materials, machines, equipment, raw materials and consumable materials produced by the latest technologies that are used in this industry, will meet with industry in ALUEXPO.

Mark your calendar and visit Eurasia's largest and Turkey's unique aluminum platform.



Elkem provides our customers with the highest level of technical expertise and innovative solutions to help them succeed.

Discover Elkem's commitment to partnership, reliability and sustainability at **GIFA 2023.**



12-16 June Hall 12, booth E01



The Global Meeting of Metallurgy Industry; Ankiros Fairs

Eurasia's largest Metallurgy Platform, ANKIROS, will be organized in a new fairground and will take place together with TURKCAST-Casting Products Special Section, ANNOFER-Non-Ferrous Metallurgy Technologies Special Section and Steel Special Section at Istanbul Expo Center on 19-21 September 2024. In line with the demand from the industry, ANKIROS moved to new fairground and halls to expand to desired target.

Supported by TÜDÖKSAD -Turkish Foundry Association, TÇÜD-Turkish Steel Producers Association and UCTEA Chamber of Metallurgical and Material Engineers, ANKIROS 2024, which is the only meeting place in Turkey for companies seeking high quality in the metallurgy industry, aims to bring new markets, new customers, and international relations to its exhibitors. It is a unique platform to introduce the Turkish Metallurgy World to international companies that want to develop, promote their products to target audiences in our country as well as in the neighboring geography, protect and strengthen their current sales and business connections, create competitive conditions, and invest in the Turkish market!

TURKCAST Special Section

TURKCAST, being the meeting point of the Turkish Casting Industry, has reached to an important point in the world, offers its visitors the opportunity to gather with reliable Turkish foundries.

STEEL Special Section

In addition to the international suppliers of the steel industry, the leading producers of the iron and steel industry and steel service centers will have the opportunity to exhibit their developing technologies, services and products in the special iron and steel hall.

ANNOFER Special Section

In the Non-Ferrous Metals section, ex-

hibitors will showcase the latest machinery, equipment, products, raw materials, and consumables in the field of non-ferrous metals.

CONCURRENT CONGRESSES

"22nd International Metallurgy and Materials Congress" organized by METEM – UCTEA Chamber of Metallurgical Engineers Training Center

"11th International Casting Congress" organized by TÜDÖKSAD – Turkish Foundry Association

STAND NO IN GIFA: 12E14

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Great 2022, Inductotherm Group Türkiye Increased Exports

we interviewed Mr.Sabahattin Özen, Deputy General Manager of Inductotherm, which served in the production part of the Turkish foundry industry and later manufactured various projects for the casting, forging and heat treatment sector in this issue. Mr. Sabahattin, can you tell us about yourself?

First of all, I wish that the largest exhibition of the our sector will bring success to the whole sector. When I talk about myself, I'm a metallurgical engineer. I graduated from the Department of Metallurgical Engineering of Istanbul Technical University (ITÜ) in 1995. I started to work as Istanbul Branch Manager at Chamber of Metallurgical Engineers (TMMOB MMO) for two years. I was influenced by the conversations between colleagues, and worked as a production engineer at Sarkuysan A.Ş from 1997 to 2000. In 2000, I stepped into the

induction sector where I am currently involved. I worked as a sales engineer at Teknik Döküm A.Ş until 2003 and Sales Manager of Induction Heating Systems in Inductotherm Group Türkiye after 2003. From February of 2023, I work as a Deputy General Manager.

As Inductotherm Türkiye, can you tell us about your company and your product and service diversity? Inductotherm Turkey is a leading manufacturer of induction melting and heating systems connected to the

Inductotherm group in the USA. The Inductotherm Group is a group of global companies that have 42 companies, with more than 5,000 employees and spread over 20 countries. Inductotherm exactly 70 years ago, by our founder Henry Rowan, like the beginning of the classical American company, the first induction manufactured in the garage of his house, starting with the induction melting furnace and currently working around the World with more than 50.000 induction systems that holds more than 50 % of this market has come.



Group companies can be collected in 4 areas in general: melting, heating, vacuum, and pipe welding; The melting department manufactures under the name of Inductotherm, Heating Department as Inductoheat, Vacuum Department as Consarc, and welding section as Thermatool.

Inductotherm Group Turkey was established in 1990 in Gebze/Kocaeli facilities where it is currently located. In the first period, our company, which provides service to induction melting furnaces, started to manufacture Melting Furnace in 1994. Until 2002, Inductotherm Group Turkey, which works mainly on its melting systems, has started to provide sales and service of Inductoheat products this year. During this period, when competition conditions became angry due to the 2001 crisis, it started to manufacture the power units and heating systems it has previously brought from sister companies by increasing the domestic manufacturing in order to withdraw

costs. For about 20 years, our systems have been manufactured in our facility with an average of 70-80 % locality ratio. We have 70-80 system production capacity annually for both melting and heating systems. In addition, from the beginning of this year, we have started service and spare parts sales services of Thermatool products, one of the group companies.

Depending on the growth rates of the manufacturing industry in Turkey, our production capacity tends to increase continuously. In particular, the production increases in the last year after the pandemic have led to the growth of our company and increased the manufacture of our company. Our exports to the neighboring countries also have positively affected our turnover. With a total of 110 personnel, we serve as the leader of the sector as a company in Middle East and Balkans.

Can you tell us about your invest-

ments as Inductotherm Türkiye? Do you have a new project?

At the beginning of 2020, with the CO-VİD-19 virus, which has influenced the whole World, there have been many changes in both our individual lives, and the operation of companies. Remote meetings, and development of home office entered our lives, we passed an incredible year of 2022 with demand explosion starting 2021 after down turn of investment markets, and slowing economies during the pandemic that lasted for about 2 years. It was a period in which our company, reached the highest turnover and the number of employees since its foundation of 1990. In addition to increased exports in comparison to the previous year, customers' demands doubled, so we could not fit into our Gebze factory.

For these reasons, we bought new land: We will increase our existing 4,500 m2 closed area to 15,000 m2. We will perform this investment with

our own resources. In 2024, we will move to our new factory in Gebze.

What are the features that distinguish your company from your competitors in the sector?

Our most important feature is "our technology" that distinguishes us from all our competitors. With the "Serial Circuit Inverter" which was developed by our founder Henry Rowan, we manufacture the most efficient systems in the World to our customers in both melting, heating and other fields. This raises us to the "leader" of the market. Energy efficiency have become much more important due to the increasing cost of energy nowadays. As you know, alternative energy sources are investigated due to the decrease in the life of fossil fuel stocks, and with "green energy" and "zero carbon" strategies, hybrid and electric vehicles are on the roads, and measures are taken to reduce energy losses we utilize in our homes. For the future of our World, our company manufactures products that use the energy manufactured in the most efficient way with the responsibility falling on its own. We think that our competitors like us will pay attention to this issue. In addition, we are the first foreign company to invest in the metallurgy machinery sector in Turkey. For this, we have a very special role in the industry. As a leading company, we work for Turkey that does not stop, and manufactures continuously with our high quality, fast service, and spare parts stock

What are the standards of your company? Could you tell us about your work in product supply?

Our company has been manufacturing in accordance with ISO-9000 quality standard by TSE for many years, and we are in compliance with CE regulations.

50-100 %increases in the costs of the materials, and subcomponents we utilize when manufacturing our systems. Sometimes the delivery times of the subcomponents is very long. For these reasons, finding materials from the market became a problem. Therefore, we started to increase our stocks and fulfilled our promise to our customers. In the coming years, we will continue to manufacture in our new factory and with our increased capacity, our quality, and technological advantages.

Where do you think the place of the Turkish Induction Systems sector should be in the international arena?

Before the pandemic, we usually come together as group companies every year. In these meetings, all the companies that draw our attention while explaining the conditions in their markets is that our country is one of the countries with the highest competition conditions after China and India. This shows that our local competitors are very successful. Even companies established 4-5 years ago sell to the World today. The increase of our local competitors in European exhibitions from year to year also shows that they are in a market in the World.

Mr.Sabahattin, as a person who have been working in TMMOB Chamber of Metallurgical Engineers for many years, can you evaluate the Metallurgical sector?

The basis of my 28-year professional life is the knowledge, experience, and social circle gained at the Chamber. I say this everywhere. For this reason, I have always given importance to the work of the Chamber. I have tried to contribute as much as I can and will continue to do so. Recently, I took part in the International Bosporus Heat Treatment Symposium Executive Board which was held last year. We have experienced the acceleration of the metallurgy industry from the 90s to these days. Our metallurgical engineer colleagues have brought the in-

dustry, which started with 4 faculties and continues to graduate with more than 70 faculties, to these levels, but our industry continues to produce with cheap labor without developing its technology very much. In recent years, we are moving towards becoming the China of Europe. We need to manufacture and sell expensive products instead of bulky products with cheap labor. We cannot develop by employing foreign immigrants as cheap labor. We have to manufacture higher technology products. We should develop by producing cement, and rebars, pouring concrete, but by producing machinery, materials, software, etc. technology.

You have duties in a nongovernmental organization such as MISAD, can you give us an assessment on this issue?

Yes. I have been on the MISAD Board of Directors for the last 3 period, representing my company. I have been serving as Vice President and General Secretary for last 2 period. At the end of this period, I plan to hand over the task to new comers. I have been following the activities of industrial associations for many years. I tried to support all the activities of the associations, especially Tüdöksad. I started as a substitute Board member at the Misad General Assembly held about 6 years ago, and after that I actively participated in the work of the Board of Directors. In this process, abroad trips, educational studies, etc. After taking part in the activities, we thought that Misad and Chamber should work in cooperation for the symposium, and we achieved this successfully. With this cooperation, the BHTS 2022 International Bosporus Heat Treatment symposium was organized last year, and was found very successful in the industry. I believe that this symposium will continue to grow in the coming years.





Metal Is What You Make Of It

Metal is a necessity. It's everywhere. It makes our world. In little ways and very big ways, it upholds our society.

You play an important role in changing metal from one form to another. We do too, it's a responsibility we take seriously. Something we're determined to do well.

That's why, today, when the world looks to melt, forge, heat treat, weld, braze or solder metal, it turns to the 40 worldwide manufacturing companies - and the 10 global brands of Inductotherm Group.

Talk to us about what you're doing with metal Let's work together. Because, whether you need to increase production, extend automation, Improve control or enhance quality, we have answers.

INDUCTOTHERM INDÜKSIYON SISTEMLERI SAN. A.Ş.

Barış Mah. 1803/2 Sk. No:10 Gebze-Kocaeli / TÜRKİYE Tel: +90 262 646 34 24 (pbx) Tel: +90 444 4 173 Fax: +90 262 646 29 62

inducto@inductotherm.com.tr www.inductotherm.com.tr



12-16 June 2023 Meet with us at GIFA 2023 Hall: 10 Stand: B42 Dusseldorf



Important: Appropriate Personal Protective Equipment (PPE) must be worn by anyone in proximity to molten metal.



Emission-Reduction Solutions Foundry Chemicals Help Reduce VOCs and BTX

In times of climate change, the reduction of harmful emissions is of growing relevance, not only in public discussions, but most importantly in industry. The requirements, standards and regulations that apply in various countries of the European Union and worldwide are aimed to ensure proper and safe operations, and to reduce negative effects on people and the environment.

Foundry chemicals have a significant influence on the emission load in the foundry. In general, it is necessary to distinguish between VOCs (volatile components) and BTX (decomposition products).

To comply with emission limits and maintain production permits, foundries must find effective ways to reduce emissions throughout their operations.

One strategy is to use 100% zeroemission inorganic binders such as INOTEC technology. This strategy has proven to be particularly effective in low-pressure and gravity diecast aluminum applications such as the manufacture of cylinder heads and crankcases.

In the area of cold box binders, ASK Chemicals follows a holistic approach to reduce emissions: It takes into account not only the solvents, but also the actual resin components of the cold box formulation. R&D studies show that the resin components have a significantly greater influence on emissions in operations than the solvents. The result of this approach is a highly efficient binder technology that increases productivity and achieves significant emission reductions by lowering binder and amine levels while maintaining the same applicati-

on properties.

The latest development in the field of highly efficient cold box binders is ECOCURE BLUE PRO. The newly developed PUR cold box system optimizes casting properties and at the same time reduces binder and amine consumption. With this additional increase in efficiency, it helps foundries to further improve their emissions and environmental performance, notably reducing BTX emissions and VOCs.

At GIFA, ASK Chemicals will present solutions to achieve targeted VOC and BTX emissions reduction throughout the production process.

In Germany, for example, the TRGS regulates the area of workplace pollution with OELs (occupational exposure limits levels), while the TA Luft (Technische Anleitung zur Reinhaltung der Luft = Technical Instructions on Air Quality Control) defines emission threshold of exhaust air into the environment "at the stack". Similar regulations can be found in Europe and worldwide.



Leveraging your success.

Energy and resource efficiency, sustainable transformation, additive manufacturing, lightweight construction, and e-mobility – these are the hot topics in our industry. Stay one step ahead and tackle them together with your reliable partner, ASK Chemicals. Our experts are at your side to find solutions that ensure your success.

MEET US AT GIFA 23! Hall 12, Booth A22





66 Years Of Experience: Silvan Rolls

World-renowned SILVAN ROLLS produces heat and abrasion resistant ductile iron, graphitic steel and adamite rolling mills and rings by means of 66 years of experience, knowledge and technology that has developed over the years within the integrated production facility of 18.000 sqm total area (8.000 sqm closed).

Silvan Rolls was established in 1957 in Gebze, Kocaeli as the first roll manufacturer of Turkey. It produces heat and abrasion resistant ductile iron, graphitic steel and adamite rolling mills and rings by means of 66 years of experience, knowledge and technology that has developed over the years within the integrated production facility of 18.000 sqm total area (8.000 sqm closed). SILVAN ROLLS facility was acquired by VERGILI GROUP as of 2019, together with the know how and technology accumulation, production policy and technical

and sales staff. With 66 years of experience and quality, it continues its production activities as usual.

Cast rolls, rings and straightening rollers produced by static casting method from raw material to final product at SILVAN ROLLS facilities are supplied to hot, round, light and medium profile iron and steel rolling mills producing long products. Especially in terms of the casting process, the capacity and diversity of the machining workshop, and its attention in quality control, the rolls stand out in terms of quality. Our qualified and

talented technical personnel use the most modern and contemporary technology and have brought SILVAN ROLLS to an important position in developing high standards and quality steel production in Turkey and abroad, with its research and development programs in ductile iron and steel roll casting technology.

"Our R&D activities for the production of double-layered roll and HSS (High Speed Steel) ring with the Centrifugal Casting method, which will be a first in our country in the coming years, have been



completed and our investment will begin soon.

In addition, our approach to the environment with the "green foundry" mentality has encouraged us to turn to sustainable energy systems as a necessity of the age. In this respect, as Silvan Rolls, we have started our investments to meet the electricity needs of our facility by utilizing solar energy. Again, as of 2023, we have obtained an I-REC certificate to certify our Renewable Energy Use, and documented that our electricity energy supplier provides us with electrical energy by renewable energy sources."

SILVAN ROLLS PRODUCT RANGE and SERVICES

As Turkey's first roll producer, Silvan Rolls offers a wide range of quality options to the rolling mills operating in the iron and steel industry. Silvan Rolls, which strives to continuously improve the products and services it offers to the rolling mills, is in constant dialogue with the rolling mills and becomes a solution partner in reducing the production costs of the rolling mills as a result of the use of its rollers with the knowledge and experience it has accumulated over the years. 10.000 tons of annual production can be made in its facility, which has a 22 tons of liquid metal melting capacity. "Our integrated facility can respond to the industry with the production of 1200 mm diameter and 5000 mm length one-piece ductile iron and steel rolling rolls up to 13 tons."

The rolls and rings produced are subjected to heat treatment in order to obtain the desired physical and mechanical properties and metallographic structure. Maximum piece length is 6 meters in 4 different size heat treatment furnaces, each

with precise power and temperature control.

"Before the shipment, 100% measurement dimension control, ultrasonic control and surface roughness control are performed, and at the end of the marking process, Control Forms are arranged for the products, recorded and followed up."

90 PERCENT OF PRODUCTION IS EXPORTED

Silvan Rolls exports 90% of its products to Europe, the Middle East, North Africa, South Asia, North America and other countries. As of 2022, there are companies from 32 different countries in its customer portfolio. "The positive dialogue we have established with our domestic rolling mills continues uninterruptedly with the rolling mills operating abroad as well, and we become their solution partner before and after sales in any problems of the rolling mills.





BDM Bilginoglu Foundry Materials is attending to the GIFA Fair For The Second Time

BDM Bilginoglu Foundry Materials is attending GIFA International Foundry Trade Fair for the second time, that Europe's largest and where the heart of the foundry industry beats.

At GIFA, which features the worldrenowned actors of the foundry industry, BDM Bilginoglu Foundry Materials will share the same floor with the giants of the industry for the second time.

Serving the Turkish industry for 50 years, BDM Bilginoglu Foundry Materials, a Bilginoglu Group company that specializes in the foundry industry, provides high quality and affordable consumables and additives to ferrous and non-ferrous foundries and steel mills.

Following the developments across the industry closely and prioritizing customer satisfaction since its early days of establishment, BDM Bilginoglu Foundry Materials will be awaiting its visitors at GIFA which it will participate in for the second time after the recent pandemic process.

During the trade fair which will be held in Dusseldorf, Germany between 12-16 June, BDM Bilginoglu Foundry Materials will share many of its products, such as Noncontact Temperature Measurement Systems, inoculants, nodularizers, cored wire, and master alloys, with the visitors.

We will be welcoming all visitors at booth B39 in Hall 13.



The right solutions in the sector with cooperation with world famous brands and half a century of experience

















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- Zirconia Foam Filters
- Alumina Foam Filters
- Tabular Alumina Balls

ALUMINUM MASTER ALLOYS & MASTER TABLETS

- Aluminum Master Alloys
- Master Tablets

- INOCULANTS
- NODULARIZERS
- CORED WIRES FOR FOUNDRIES AND STEEL MILLS



We are at the 15th International **Foundry Trade Fair**

12.06 - 16.06 Düsseldorf/Germany

www.bdmbilginogludokum.com.tr info@bdmbilginogludokum.com.tr







GIFA, METEC, THERMPROCESS and NEWCAST 2023 as A Strong Platform For The Energy-Intensive Metallurgical Industry

Düsseldorf trade fair quartet focuses on hot topics ecoMetals, decarbonisation and circular economy

From 12 to 16 June 2023 Düsseldorf will become the centre for the international casting and metallurgical industries: the world's leading trade fairs GIFA, METEC, THERMPROCESS and NEWCAST, which are held every four years and together cover the complete spectrum of foundry technology, castings, metallurgy and thermo process technology, are particularly in demand in the energy-in-

tensive sectors this year as current challenges fuel digitalisation in the metal technology sector and its search for sustainable and forwardlooking solutions.

More than 2,000 exhibitors from over 50 countries will pick up global trends and showcase the complete spectrum of current technologies and products in twelve exhibition halls. The Hot Topics of the Bright World of Metals read:

decarbonisation of the metallurgical industry, ecoMetals, circular economy, digitalisation, additive manufacturing processes as well as e-mobility and lightweight automotive construction.

"In view of the current industry environment we are in for forwardlooking GIFA, METEC, THERM-PROCESS and NEWCAST editions. The EU's Climate Protection Plan 2050 will test the "mettle" of the

metallurgical industry so it needs a strong communication platform for worldwide exchange more than ever. The exhibitors' feedback shows that the get-together in June at the four technology trade fairs will prove an absolute highlight. Next to topnotch brands such as Heinrich Wagner Sinto, Oskar Frech, Vesuvius for GIFA, Dihag Holding, Primemetals, SMS group (METEC), Heunisch, Kutes Metal, Thoni Alutec (NEWCAST), or Aichelin, Electrotherm and WS Wärmeprozesstechnik (THERMPRO-CESS) virtually all well-known companies will be represented in Düsseldorf to tackle the big transformation with ground-breaking innovations and ideas," explains Malte Seifert, Director of GIFA, METEC, THERMPROCESS and NEWCAST at Messe Düsseldorf GmbH, and adds: "The relaxation of travel restrictions in Asian regions has provided an additional boost to exhibitor registrations. So, trade visitors can again look forward to the accustomed, broad international attendance at the four trade fairs this year."

The Bright World of Metals lives up to its prestigious name not only in terms of exhibitors but also in view of its visitor structure: experience shows that more than half the trade fair guests come from overseas and throughout Europe.

Clear hall segmentation

To improve orientation the halls are segmented by trade fairs and focal ranges, thereby providing a comprehensive and optimum market overview:

- GIFA Hall 10 11: Pressure die casting and periphery
- GIFA Hall 12: Gating and riser technology, foundry chemistry
- GIFA Hall 13: Additive manufacturing, Special Show "Technik in Guss", GIFA-Treff, GIFA-Forum
- GIFA Halls 15 17: Pattern, die and core making, casting machines and equipment

- GIFA Hall 16: Robotics
- METEC Hall 1: Forging technology
- METEC Halls 1 + 4 + 5: Plant engineering
- METEC Hall 5: Components and raw material suppliers
- THERMPROCESS Hall 9: THERM-PROCESS and ecoMetals Forum
- THERMPROCESS Hall 9: FOGI Special Show
- NEWCAST: Halls 13 14 with NEW-CAST-Forum (Hall 13)

ecoMetals – the path into the future

Forming an integral part of the Bright World of Metals since 2011, Messe Düsseldorf's ecoMetals Campaign will be a special highlight of the trade fair quartet. As an initiative promoting sustainability, it refers to the ecological path of the casting and metallurgical industries and promotes exhibiting companies that invest in innovative, sustainable and economically competitive technologies. Trade visitors can identify the ecoconscious innovations by the eco-Metals logo displayed at exhibition stands and on the online portal. At GIFA, METEC, THERMPROCESS and NEWCAST visitors will be directed to the selected exhibitors by complimentary daily guided tours - the ecoMetals Trails.

With new technologies, new processes for reducing and avoiding CO2, with the increased use of renewable energies and hydrogen instead of coal, The Bright World of Metals is on a green path to a climate-neutral future. At the ecoMetals Forum in Hall 9 the key transformation themes in the metal industry will be addressed on 15 and 16 June 2023.

Trade fair and side events as if "cast in one mould"

The success of the trade fairs is also owed to the line-up of techni-

cal events, the Special Shows and industry get-togethers. Of note here are:

- GIFA Forums, 12 13 June 2023 (Hall 13, Stand D07)
- Gießer-Treff (Foundrymen's Meeting Point), 12 16 June 2023 (Hall 13, Stand C39)
- Young Talents' Programme with Show Foundry, 12 – 16 June 2023 (Hall 13, Stand E50 + F52)
- Young talents' initiative Metals-4you, 12 – 16 June 2023 (Hall 16)
- Instituteschau (Institutes' Show), 12
 16 June 2023 (Hall 13, Stand C17)
- ESTAD (European Steel Technology and Application Days), 12 16
- EMC (European Metallurgical Conference), 11 14 June (CCD Süd)

June 2023 (CCD Süd)

- FOGI Special Show, 12 16 June 2023 (Hall 9, Stand C42)
- Themed Day Energy Transition, 12
 June 2023 (Hall 9, Stand D74)
- THERMPROCESS FORUM, 13 14
 June 2023 (Hall 9, Stand D74)
- VDMA TechTALK, 15 June 2023 (Hall 9, Stand D74)
- ecoMetals Forum, 15 16 June 2023 (Hall 9, Stand D74)
- DGFS Meeting, 12 June 2023 (Room X)
- NEWCAST FORUM, 14 June 2023 (Hall 13, Stand D07)
- NEWCAST Award, Award Ceremony on 14 June 2023 (Hall 13, Stand D07)
- CAEF Forum, 15 June 2023 (Hall 13, Stand C49)
- Presentation of the Innovation Award of the German Foundry Industry, 15 June 2023 (Hall 13, Stand D07)
- WFO Forum, 15 June 2023 (Hall 13, Stand D07)
- Foundry History Colloquium, 16
 June 2023 (Hall 13, Stand D07)
- Technik in Guss (Technology in Casting), 12 – 16 June 2023 (Hall 13, Stand C27)
- BDG/FVG/VDG General Assemblies, 15 June 2023

TÜDÖKSAD MEMBERS PARTICIPATION TO GIFA-NEWCAST-METEC-THERMPROCESS TRADE FAIR QUARTET

NEWCAST

AKDAŞ DÖKÜM SANAYİ VE TİCARET A.Ş.	HALL 14 / B26-4
AS ÇELİK DÖKÜM İŞLEME SAN. VE TİC. A.Ş	HALL 14 / A34
ASLAR PRES DÖKÜM SAN. VE TİC. A.Ş	HALL 14 / B26-3
AYHAN METAL PRES DÖKÜM SANAYI VE TİCARET A.Ş.	HALL 14 / B42-2
BORAN ÇELİK DÖKÜM SANAYİ A.Ş.	HALL 14 / D35
BURDÖKSAN DÖKÜM MAD. NAK. TİC. SAN. LTD. ŞTİ.	HALL 14 / C26-3
ÇEMAŞ DÖKÜM LTD.ŞTİ.	HALL 14 / A40
DEMİSAŞ DÖKÜM EMAYE MAM. SAN. A.Ş	HALL 14 / B42-1
DENİZCİLER DÖKÜMCÜLÜK SAN. TİC. A.Ş.	HALL 14 / B27-1
DİRİNLER DÖKÜM SAN. TUR. LİMAN İŞL. TİC. A.Ş.	HALL 14 / E06
DOKTİM DÖKÜM METAL MAK. İNŞ. LTD. ŞTİ	HALL 14 / A22-3
ERKUNT SANAYİ A.Ş.	HALL 14 / D36
ERTUĞ METAL DÖKÜM MAKİNA SAN TİC. A.Ş.	HALL 14 / B26-1
GEDİK İLERİ DÖKÜM TEKNOLOJİLERİ A.Ş.	HALL 14 / D55
İGREK MAKİNA SANAYİ VE TİC. A.Ş.	HALL 14 / C36
İSTANBUL DÖKÜM SANAYİ VE TİCARET A.Ş.	HALL 14 / C24-2
İSTİKAMET DÖKÜM AŞ	HALL 14 / C26-1
KARDÖKMAK A.Ş.	HALL 14 / A22-5
KAYDÖKSAN KAYSERİ DÖKÜM SANAYİ VE TİCARET T A.Ş.	HALL 14 / C24-1
KÖRFEZ DÖKÜM SANAYİİ VE TİCARET A.Ş.	HALL 14 / F23
KUTES METAL SAN. VE TİC. A.Ş.	HALL 14 / F35
MES ELEKTROMEKANİK DÖKÜM SAN VE TİC A.Ş.	HALL 14 / B27-3
PINAR DÖKÜM SAN TİC. A.Ş.	HALL 14 / A30
ŞENKAYA ÇELİK DÖKÜM SAN. VE TİC. A.Ş.	HALL 14 / B33
SÜMER ÇELİK DÖKÜM SAN. TİC. A.Ş.	HALL 14 / B26-2
TRAKYA DÖKÜM SANAYİ VE TİCARET A.Ş.	HALL 14 / B34
TÜDÖKSAD	HALL 14 / A22-4
YAZKAN DÖKÜM SAN. VE TİC. LTD.ŞTİ.	HALL 14 / D21

GIFA

AVEKS A.Ş.	HALL 13 / B79
BDM BİLGİNOĞLU DÖKÜM MALZ. SAN VE TİC. LTD. ŞTİ.	HALL 13 / B39
ÇUKUROVA KİMYA ENDÜSTRİSİ A.Ş.	HALL 12 / A54 - A56
DOĞUŞ DÖKÜM MALZEMELERİ A.Ş.	HALL 10 / H64
EKSTRAMETAL DÖKÜM İZABE VE MAK. SAN. İHR. TİC. LTD. ŞTİ.	HALL 13 / B05
FETAŞ İÇ VE DIŞ TİCARET SANAYİ A.Ş.	HALL 16 / B17
HANNOVER MESSE ANKİROS FUARCILIK A.Ş.	HALL 12 / E14
İNDEMAK İNDÜKSİYON DÖKÜM MAKİNALARI VE İNŞ. SAN. TİC. LTD. ŞTİ.	HALL 10 / C31
TES-SAN TESISAT PROJE SAN. TİC. LTD. ŞTİ.	HALL 16 / B09
TOSÇELİK PROFİL VE SAC ENDÜSTRİSİ A.Ş.	HALL 16 / A11
TÜDÖKSAD	HALL 12 / E14

METEC

DMS DENIZLI DÖKÜM MAKİNA SAN. VE TİC A.Ş.HALL 5 / A09SİLVAN MERDANE DÖKÜM SAN. VE. TİK. LTD. ŞTİHALL 5 / L19

THERMPROCESS

AKM METALURJİ SAN. TEMSİLCİLİK VE DIŞ TİC. LTD. ŞTİ.

HALL 9 / E42

48







Otomatik Taşlama Uzmanları Automatic Grinding Experts







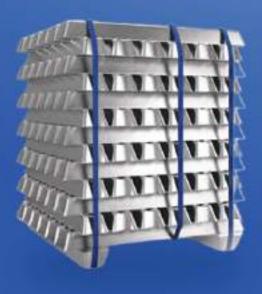


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 Aluminium
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TÜDÖKSAD Turkish Foundry Association in Brief

Turkish Foundry Association (TÜDÖKSAD) is founded in 1976 by leading foundry industrialists and companies with the aim of providing support to enhance the economic progress of the metal casting industry and assisting its member companies to effectively manage all production operations and profitably market their products and services.

TÜDÖKSAD is a non-governmental organization with voluntary membership, which represents the leading firms, industrialists and managers of the foundry business. Our Association, covering all of the largest foundries and most of the SMEs as our members, have 137 member foundries and 52 associate members.

Turkish foundry sector is actively represented by TÜDÖKSAD in national and international platforms. TÜDÖKSAD promotes the interests

of the metal casting industry in front of the related executive branches of the government. TÜDOKSAD members are actively participating to sectional committees and decision making bodies in national chambers of commerce and industry, hence contributing to the shaping of the national policies and priorities a"ecting the foundry industry.

TÜDÖKSAD is a member of the World Foundry Organization (WFO) since 1989 and became a member of The European Foundry Association (CAEF), the organization union of the European foundry industry, in 2007. TÜDOKSAD supports the biannual Ankiros, Annofer, TurkCast and Aluexpo fairs.

137 Member Foundries & 52 Associate Supplier Members

Iron Foundries / 71 Steel Foundries / 45 Non Ferrous Foundries / 22 HPDC Foundries / 36 Investment Casting Foundries / 8 Associate Supplier Members / 52





TÜDÖKSAD Academy Vocational Training Activities

As TÜDÖKSAD, to bring the young and dynamic labor force potential to the industry, we have focused on vocational training activities in the recent period. Since 2015, under the name of Tüdöksad Academy, we have been organizing monthly training activities and annual foundry congresses (National & International) which aims to improve the knowledge of foundrymen and attract young people.

Due to the Covid-19 pandemic that emerged at the beginning of 2020 and the ongoing process, we have been carrying out our vocational training activities through online platforms since March 2020 and face to face events in the recent period depending on the conditions.

TÜDÖKSAD International & National Foundry Congresses

3rd National Foundry Congress "Shaping the Castings and the Leadership"

We are looking forward to welcome foundrymen in the 3rd National Foundry Congress, to be held between 3 - 4 November 2023, in Sheraton Hotel and Convention Center, Ankara. Congress Programme is going to be announced in the following days through the social media channels and web page.

The National Foundry Congress is a country wide and prestigious technical event that constitutes a perfect occasion for exchanging knowledge and experiences, the newest achievements and innovations.

As Turkish Foundry Association, our

aim is to provide a platform that casting producers, researchers, R&D centers, students, customers and suppliers would be in communication on an national scale.

Additionally, we are looking forward to welcome foundrymen from all over the world in the next edition of TUDOKSAD 12th International Foundry Congress, to be held between 19 - 21 September 2024, concurrently with Ankiros / Turkcast fairs.

The online education platform Dökümhane Academy (https://dokumhane.net/), which we have been directing the content production and promotional activities since the beginning of 2019, offers free educational materials and short interviews with young metal casters that presents the foundry industry to the students interested in casting.

TÜDÖKSAD also offers training programs and internship opportunities for professional development. As the new generation is looking for opportunities to learn and develop new skills, TÜDÖKSAD concentrates all its efforts on this field and changing the perception of our industry.

TEKNOMETALURJI





- CNC ve Robotik Taşlama Makinalarında Kullanılan Elmas Taşlama ve Kesme Taşları
- El Aletlerinde Kullanılabilen Farklı Form ve Ölçülerde Elmas Taşlama ve Kesme Taşları





- Askılı ve Askılı Kontinü Tip Kumlama Makinaları
- Çelik Tel Bantlı Kumlama Makinaları
- Kauçuk veya Çelik Bantlı Tamburlu Tip Kumlama Makinaları









- Dökümhane Makinaları
- Maça Makinaları ve Ekipmanları





CHROMAFOR Circular Human Resources E-Learning Platform is Open to Access!

CHROMAFOR E-Learning Platform, that both individually and collectively applicable, provides an opportunity for the implementation of a new Human Resources Management Model aimed to improve the current skills and competencies of foundry employees in line with the circular principles.

The CHROMAFOR is a European Project aims at supporting the transition of European foundries, from a lineal and traditional human resources management model to a Circular Human Resources management model. A model that will improve the regeneration of skills and competencies in the working place and favours a circular and sustainable economy of both for the company and the workers, and their organizational models.

In addition to the defined activities of the project, in which TÜ-DÖKSAD from Turkey and Istanbul Technical University are among the partners, together with Spain, Italy and the Netherlands, quality ma-

nagement was also carried out by TÜDÖKSAD.

Within the scope of the project, needs analyzes were carried out with professionals from the field of vocational education, as well as the Human Resources units of metal foundries in order to develop a new human resource management model within the circular economy concept and E-Learning Platform for it.

All outputs of the project, including the website and training modules, are open to Access in four languages: English, Italian, Spanish and Turkish on https://chromafor.eu/website.

CHROMAFOR E-Learning Plat-

form that both individually and collectively applicable the implementation of a new Human Resources Management Model is aimed to improve the current skills and competencies of sector employees in line with the circular principles.

The model takes a holistic view of the organization and its employees and recognizes that employees are not just resources to be managed but individuals with unique needs, skills, and aspirations.

It emphasizes self-management and self-organization, continuously learn and develop skills, flexibility and agility in the workplace, sustainable and responsible business practices.

DEGASSING and SLAGGING OFF MACHINE



ADVANTAGES

- Mechanical and physical recovery
- · Less waste; cleaner environment
- . Shortening of processing time
- · Reduction in aluminum losses
- Homogeneous microstructure
- · Process products savings
- . Energy and labor savings
- Acceptable porosity



SiC Grafit Rotor-Shaft



TYPES OF CIRCULATION PUMP

- Increased metal circulation, better mixing, longer eliminates hot spots for refractory life
- · High melting point, low energy consumption
- · Quick and easy alloying, homogenization of the plum
- · Non-clogging design
- · High efficiency







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MELTING / HOLDING FURNACE TYPES



SIC CRUCIBLE						
NO	H (mm)	D (mm)	d (mm)	L (mm)		
TPX-587	900	780	435	200		
TPX-800	1000	880	350	200		
TPX-800 H	1250	880	350	200		

VACUUM DENSITY AND **SOLIDITY ANALYSIS TESTER**

ADVANTAGES

- Aluminum solidification curve is obtained thanks to its thermal analysis feature.
- . Temperature and time limitations can be specified on the solidification curve.
- · Data can be exported and analyzed over the curve.
- Data prescriptions can be created according to the relevant standards.



- . More with lower RPMs high flow
- · Low melting losses, more less slag
- · Less distortion long life

VACUUM DENSITY TESTING DEVICES





ADVANTAGES

- · Define password for each user for index account and see transaction history
- · Calculation of porosity by calculating the density index
- · Color, touchscreen 5.7" TFT screen and membrane keypad
- . Determination of the accuracy of degassing and slag removal process
- . End of casting wastage caused by porosity
- · Measurement of molten metal quality before
- · Programmable infrared proximity sensors
- · High quality casting, big savings
- · Automatic index calculation • Index determination in the field
- Detachable screen

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ALUMINUM LIQUID TRANSFER PUMP

ADVANTAGES

ingot mold

· Ceramic lined discharge pipes that can be added to 2 m standard discharge

· Long life graphite riser, rotorshaft and ceramic lined discharge pipes

. Max. 300 Kg/min liquid aluminum transfer rate · Portable, easy assembly and application

· Ladle-to-ladle, stove-tofast metal transfer to the ladle. from the furnace to the

· Quick and easy cleaning

"Just imagine, We make it happen"

- Aluminum-Metal-Powder-Sawdust-Briquetting Machine
- Hydrogen Meter in Aluminum Single or Double Tank Flux Feeding Machine
- Degassing Machines for Aluminum Continuous Casting
- Melting Furnace Rotary Flux Feeding Machine
- Fully Automatic Alloy Feeding Machines
- Degassing and Slag Removal Machines
- Vacuum Density Testing Equipment
- Transport and Processing Crucibles
- Mold Thermoregulators
- Flux Disposal Machine
- Ladle Heating Unit



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Tüdöksad Akademi 3. Ulusal Döküm Kongresi / 3" National Foundry Congress by Tudoksad Academy

3RD NATIONAL FOUNDRY CONGRESS

3-4 NOVEMBER 2023 SHERATON HOTEL ANKARA

GETTING TOGETHER WITH 4 MAIN THEMES AFTER 4 YEARS

- CARBON BORDER ADJUSTMENT MECHANISM
- LABOR SHORTAGE & POSSIBLE SOLUTIONS
- NEW TRENDS IN THE FOUNDRY INDUSTRY
- COMPETITIVENESS & ENDENIZATION,

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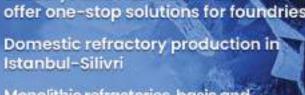


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Monolithic refractories, basic and aluminate based refractory bricks

Custom bentonite and coal dust solutions for molding sand



TUDOKSAD Members Iron Foundries & Production Areas

Automotive		Automotive Pumps & Valves	
AIC BUILT	20000		AL
Alfa Döküm	DISAMATIC	Akon Hidrolik	Akdaş Döküm
Atik Metal	Foundries	Alfa Döküm	Cer Döküm
Ardöksan	Alfa Döküm	Atik Metal	Dirinler Döküm
Ay Döküm	AYD Otomotiv	Ayzer Döküm	Ekstra Metal
Ayzer Döküm	Burdöksan	Denizciler Dökümcülük	İğrek Makina
Döktaş Dökümcülük	Döktaş Dökümcülük	Duyar Vana	Karaman Döküm
Eku Fren Döküm	Çemaş Döküm	Faf Döküm	Kardökmak
Entil Endüstri	Demisaş Döküm	Gedik Döküm	Lotus Döküm
Erkunt Sanayi	Ferro Döküm	İstanbul Döküm	Mes Döküm
Ertuğ Metal	Kaydöksan	Karaman Döküm	Yazkan Döküm
Ferro Döküm	Trakya Döküm	Kaymakçılar Döküm	Yılkar Döküm
Haytaş Döküm	Tümosan Döküm	Samsun Makina (+pipe)	
Hekimoğlu Döküm		Yakacık Valf	
Hema Otomotiv		Yılkar Döküm	
Koçak Metalurji			
Kutes Metal			
Mes Döküm			
Mesa Makina			
Motus Otomotiv			
Odöksan (Elba)			
Özgüven Döküm			
Tümosan Döküm			

Urbanization & Infrastructure	General Machinery (agricultural, chemistry, earth moving, electric, food, hydraulic, marine, railway, rolls)					
Erkon Döküm	Akdaş Döküm	Bilge Döküm	Doğru Döküm	Hekimoğlu Döküm	Mes Döküm	Sümer Çelik
İstikamet Döküm	Akpınar Döküm	Canbilenler Döküm	Döktaş Dökümcülük	İğrek Makina	Mesa Makina	SYC Demir Döküm
Kondöksan Döküm	Alfa Döküm	Cer Döküm	Dökümaş Döküm	İstanbul Döküm	Motus Otomotiv	Şahin Döküm
Mert Döküm	Altan Makina	Çemaş Döküm	Ekstra Metal	Karaman Döküm	Odöksan (Elba)	Trakya Döküm
Odöksan (Elba)	Aral Döküm	Daloğlu Döküm	Emin Yaldız Metalurji	Kardökmak	Önmetal	Tümosan Döküm
Payza Döküm	Ardemir Döküm	Deniz Döküm	Entil Endüstri	Kaydöksan	Özgümüş Döküm	Ünsal Makine
Samsun Makina	Atik Metal	Denizciler Dökümcülük	Ertuğ Metal	Kaymakçılar Döküm	Özgür Döküm	Yazkan Döküm
Sefer Döküm	Ay Döküm	Dirinler Döküm	Gedik Döküm	Koçak Metalurji	Özgüven Döküm	Yılkar Döküm
Trakya Döküm	Ayzer Döküm	DMS Denizli Döküm	Haytaş Döküm	Kutes Metal	Rolmak Döküm	



TUDOKSAD Members Steel Foundries & Production Areas

Cement & Earth Moving & Heat Treatment & Construction & Incineration & Railway & Pump & Valve Industries		arth Moving & Heat Treatment tion & Incineration & Railway Imp & Valve Industries (Mining & Energy & Off-Shore & Marine & Iron-Steel)	
Akdas Döküm	Kardökmak	Akdas Döküm (+VOD)	Bünsa Döküm
Akmetal	Körfez Döküm	Akmetal (+AOD & EAF)	Çelik Granül
Altan Makina	Motus Otomotiv	Anadolu Döküm	Toscelik Granül
Anadolu Döküm	Pınar Döküm	As Celik	100 \$0.00
Artı Döküm	Silvan Merdane	Cer Döküm	
As Çelik	Silvan Sanayi	İğrek Makina	
Aslankaya Döküm	Sümer Çelik	Kardökmak	
Boran Çelik	Şenkaya Çelik Döküm	Silvan Sanayi	
Cer Döküm	Tan Çelik	·	
Çukurova İnşÇimsataş	Yılkar Döküm		
Deniz Döküm			
Dökümaş Döküm	Bimetal Castings		
Duduoğlu Döküm	Anadolu Döküm		
Gedik Döküm	Duduoğlu Döküm		
Gürsetaş Döküm	Hekimoğlu Döküm		
Hekimoğlu Döküm	Körfez Döküm		
Hisar Çelik			
şık Çelik			
ğrek Makina			
İstanbul Döküm			

Centrifugal Castings	Forging Facilities	Shot Blasting Machine Parts
Anadolu Döküm	Akmetal - Open Die	Ümit Döküm
Körfez Boru	Çukurova İnşÇimsataş - Closed Die	

TUDOKSAD Members Associate Supplier Members

Coal Dust	Kadıoğlu Madencilik
Bentonite	Amcol Mineral, Clariant, Ortadoğu Mineral, S&B End Haznedar Durer Refrakter
Foundry Sand	Çeliktaş, Kumsan, Siltaş
Melting Equipments	Doğuş Döküm, Inductotherm, İndemak
Simulation Softwares	ASK Chemicals TR, Magma Bilişim, Valans Mühendislik
Machining Equipments	Mega Elektronik, Tekno Metalurji, Tezmaksan
Trade Fair Services & Consulting	Hannover Messe Ankiros
Analysis & Measurement	BDM Bilginoğlu, Carl Zeiss, Heraeus Electro-Nite
Feeder & Resins & Coating & Filters	Altınkum Döküm, ASK Chemicals TR, Çukurova Kimya, Doğuş Döküm, Foseco TR, Metko Hüttenes Albertus, Unikon Metalurji, Zenmet
Raw Materials (Pig Iron)	Acarer Metal, Altınkum Döküm, Aveks, Marmara Metal
Consumables (ferro alloys, inoculants, abrasives,	Acarer Metal, AKM Metalurji, Altınkum Döküm, ASK Chemicals TR, Aveks, BDM Bilginoğlu, Cango Endüstriyel, Doğuş Döküm, Ekspert
additives)	Mümessillik, Fetaş Metalurji, Katsimtaş, Korkmaz Çelik, Kromaş Metal, Marmara Metal, Zenmet
Foundry Machinery (moulding, core shooting,	Erdem Makina, Ekspert Mümessillik, Kromaş Metal, Metal Pres, Meta-Mak Metalurji, Ortadoğu Mineral, Özen Makina, Tekno Metalurji,
sand preparation, pouring, fettling)	Tes-San Tesisat, Velacast, Wöhr Makine
Recycling	Er Metal
ERP Software	Bilişim, Doğuş Döküm
Industrial Process Fluids	Houghton Kimya
Aluminum Raw Material	Heneken Metal, Yükseller Metal
High Pressure Die Casting Equipments	Bühler AG, Doğuş Döküm, Erdem Makine, Metal Pres, Velacast
Refractory	AKM Metalurji, Daussan Refrakter, EGT Refrakter, Haznedar Durer Refrakter, Katsimtaş, Zenmet
Foundry Dust Collection and Filtration Systems	Meta-Mak, Nederman

TUDOKSAD Members Non Ferrous Foundries & Production Areas

Sand & Gravity Foundries (Cu Alloys)	Sand & Gravity Foundries (Al Alloys)	Aluminum Alloy Wheel Producers
Deniz Döküm	Altun Döküm	Cevher Jant
Duyar Vana	Döktaş Dökümcülük	Döktaş Dökümcülük
Gedik Döküm	Deniz Döküm	Kormetal
İğrek Makina	Er Döküm	
İstanbul Döküm	İstanbul Döküm	
Kardökmak	Kağan Döküm	
Mes Döküm	Kardökmak	
	Mesa Makina	
·	Nemak İzmir Döküm	
	Önmetal	
	Parsat Piston	
	Tunç Model Döküm	
	Uyar Döküm	

TUDOKSAD Members Non Ferrous HPDC Fouandries & Production Areas

Automotive	White Goods	General Machinery (Defense, Energy, Building, Lighting, Other
Adöksan Döküm	Ayhan Metal	Alcast Metal
Alcast Metal	Beyza Metal	Altun Döküm
Alümina Endüstri	Döktim Döküm	Ayhan Metal
Arpek Arkan	Endosa Kalıp	Beyza Metal
Ayhan Metal	Kalkancı Pres	Can Metal
Beyza Metal	Mita Kalıp	Döksan Basınçlı Döküm
Can Metal	Normsan	Döktim Döküm
Çelikel Alüminyum	Pek Teknik	Endosa Kalıp
Döksan Basınçlı Döküm	Prometal	Gürmanüç Metal
Döktaş Dökümcülük	Ruba Pres Döküm	Güven Pres
Döktim Döküm	Tuğçelik Alüminyum	Kağan Döküm
Endosa Kalip	Tümser Ev Aletleri	Kalkancı Pres
Gürmanüç Metal	Uğur Metal	Mita Kalıp
Güven Pres		NormsanPek Teknik
Hema Otomotiv		Ruba Pres Döküm
Kağan Döküm		Şirvanlı Alüminyum
Kalkancı Pres		Tümser Ev Aletleri
Kırpart Otomotiv		Uğur Metal
Kormetal		Uyar Döküm
Mita Kalıp		· ·
Nemak İzmir Döküm		
Normsan		
Pek Teknik		
Prometal		
Ruba Pres Döküm		
Süperpar Otomotiv		
Sahin Metal		
Teknopres Döküm		
Tuğçelik Alüminyum		
Tümser Ev Aletleri		
Uğur Metal		
Uyar Döküm		

TUDOKSAD Members Investment Casting Foundries

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Gedik Döküm
Gür Metal
Kondöksan Döküm
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Orta Anadolu Yüzey Tek. Mak.
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