

Your innovative aluminium partner

In gravity die casting



Watch an interview with CEO Kenn Christensen

Established in 1945, JAI is a renowned Danish company with a global presence. We are your specialist in complex stationary and tilt gravity die-casted aluminium parts weighing between 2kg to +125kg, with an annual production volume of approx. 1000 to 50,000 units. Being based in Denmark, we maintain a high level of commitment to environmental, social, and governance areas.

At JAI, we serve as your comprehensive solutions provider, offering a spectrum of services tailored to meet your specific needs. From casting concept development and design to project management and prototypes and serial production, we are your trusted **one-stop-shop partner**.

With development, project management, production,

and administration all housed in our 33,000 m² facility, we guarantee our customers quick and direct communication, saving you time and resources while maintaining the requested quality.

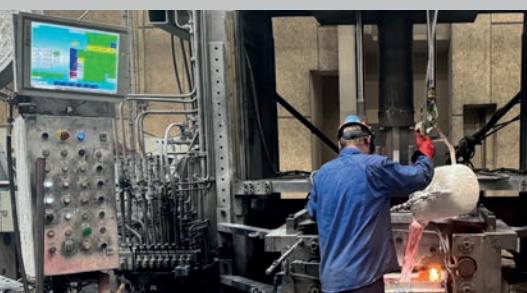
As a **system supplier** our capabilities include sand core manufacturing (up to 150 kg), casting, fettling, automatic heat treatment, machining (milling and turning), robotic welding, tightness testing (helium, air, air under water), assembly and surface treatment.

Ensuring the highest standards of quality, our extensive quality assurance measures includes documentation of all production processes, casting simulation, spectral analysis, X-ray systems, 3D measuring machines, leak testing, a triplescanner, and a penetrant testing facility, etc.



High supplier ratings

Our expert know-how extends beyond product quality. At JAI, we prioritize customer satisfaction, consistently delivering the right quality products on time, every time. Our high level of service and flexibility ensures that your needs are met with precision and care. And this is not just something we say; it is supported by the high supplier ratings we receive from our reputable international customers.



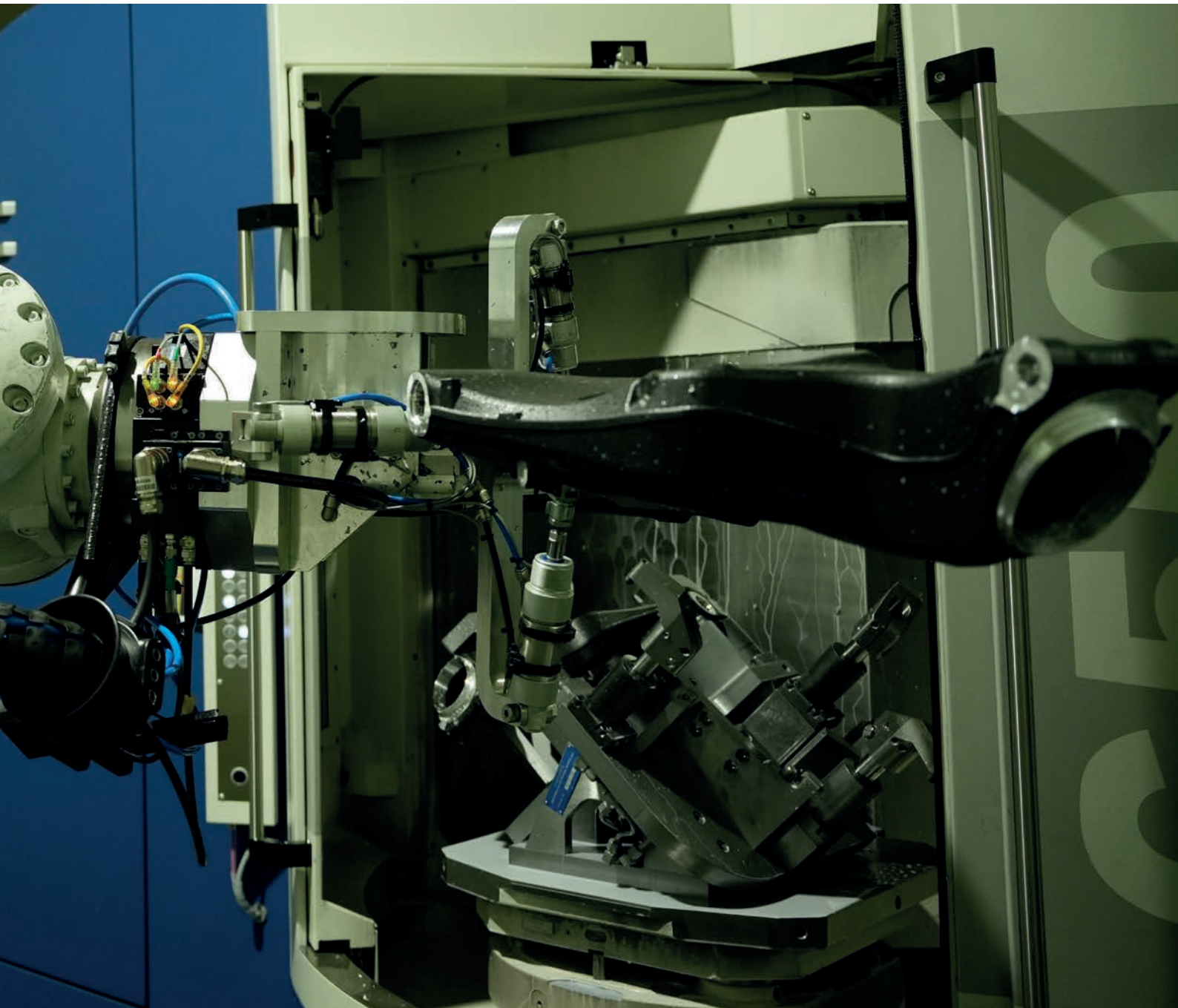


The DNA of JAI

We believe in constantly challenging not only ourselves but also our customers to ensure the critical aluminium castings are fully optimized to our customers' spoken and unspoken needs.

For leading European companies that need aluminum castings of critical components our solutions are at the forefront of what is possible both from a technical and environmental perspective. Combined with a holistic mind-set this helps ensure both maximum performance of our customers' products and production processes. Finally it also helps them to obtain favorable ESG ratings of their products.

The above is not just words, but are continuously proven by the high supplier ratings we are receiving by renowned companies like BMW Motorrad, Volvo Penta, Siemens Energy, Bosch Rexroth and Dürr.



Uncompromising quality

At JAI, quality is at the forefront of everything we do. From the development phase to production, we uphold the highest standards through rigorous quality assurance measures. Our unwavering commitment to excellence ensures that every product meets or exceeds your expectations. We consistently achieve high supplier ratings, thanks to our ability to deliver the required quality on time, combined with our flexibility, exceptional service, openness, and dedication to sustainability.

Meticulous documentation

Our quality assurance process is reinforced by a sophisticated registration system integrated with our quality management system. This meticulous approach allows us to document each process down to batch level, providing unparalleled traceability and accountability throughout the production journey.

Certifications

ISO 9001, ISO 14001, IATF 16949, AD 2000–Merkblatt W0, SVTI, SAQ 5.0, EcoVadis and CDP.

Quality assurance

Quality is a must for our customers and JAI. Next to data logging of all processes per batch, this is secured by using the following equipment:

Magmasoft Casting simulation tool (securing and optimizing the flow, cooling and solidification, porosities, cracks, mechanical properties etc.), spectral analysis tool, argon degassing installations, tensile test machine, 3–D measuring machines, X-ray equipment, penetrant testing facility, triplescanner and leak testing equipment.

Motorcycles

At JAI, we specialize in providing tailored solutions for the motorcycles industry, offering advanced lightweight components that elevate durability and aesthetics. With our expertise in aluminium casting, we have assisted customers worldwide in developing essential parts, as for example rear suspensions for motorcycles.

Our comprehensive services cover the entire process, from prototyping to serial production, ensuring seamless delivery of chassis parts with high requirements to surface finish. Committed to meeting the high requirements of the automotive industry, we employ advanced processes, such as Magmasoft casting simulation, use of complicated sand cores, X-ray safety scan, and T6 or T64 heat treatment.

We are proud of being a system supplier of aluminium parts to companies like BMW Motorrad and KTM.

Energy

At JAI, we specialize in delivering bespoke aluminum-casting solutions for the energy sector. Our precision-engineered components are crucial for high-voltage applications worldwide, meeting the rigorous demands of the industry.

As we understand the critical importance of safety in the energy sector, JAI offers complex modular designs. Our advanced manufacturing processes, including heat treatment, robotic welding, assembly, and 100% leak detection, ensure the reliability and performance of our products. Even minor flaws can have serious consequences when transporting electricity, which is why we maintain stringent quality control throughout production.

Our expertise covers a range of high-voltage components, including gas-insulated lines, gas-insulated switchgears, and instrument transformers.

World-renowned companies like Siemens Energy and Maschinenfabrik Reinhausen trust JAI as their partner for high-quality aluminum casting solutions.



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surface treatment · jai-o.dk

Marine

At JAI, we offer bespoke solutions tailored to the marine sector, delivering components with high corrosion resistance for marine motors worldwide. Our expertise in aluminium casting enables us to produce complex parts for drives and engines, essential for marine applications.

With a focus on optimal functional and mechanical properties, we provide heat treatment, surface treatment and leak detection services to ensure the durability and reliability of our products. Committed to meeting the harsh environment from the sea we offer surface treatment like Chrom3, anodizing, powder coating, and painting solutions that enhance both performance and appearance.

It is a pleasure for us to have Volvo Penta as one of our partners in this segment.

E-mobility

As e-mobility pioneers, JAI is dedicated to providing cutting-edge solutions for electric vehicles (EVs) and hybrid cars. Leveraging our advanced aluminium casting capabilities, we have developed battery housings for hybrid/electric cars up to 100 kg, ensuring durability and safety.

Aluminum's lightweight, strong, and mechanical properties make it an ideal material for EV battery housings. By reducing overall vehicle weight, aluminum contributes to increased range and efficiency, allowing drivers to travel further on a single charge. JAI's expertise in aluminum casting ensures that these battery housings are not only lightweight, but also robust and corrosion resistant, making them suitable for daily use.

In Germany, most people know the electrified post van from Deutsche Post. Due to the many thousands produced, it is very visible in Germany. In addition, JAI provides battery housings for a premium European car brand.

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Pump solutions

JAI has decades of experience as a system supplier and development partner to the pump industry, delivering gravity die-cast aluminium housings with advanced designs. We ensure compliance with stringent finish and coating solutions, maintaining flexibility and adaptability to demand fluctuations.

Our high-volume production includes complex parts from approximately 3 to 60 kg processed in highly automated cells, offering multiple machining versions. Additionally, we ensure high mechanical values through automated heat treatment for optimal pump performance and longevity.

We are happy with the decades long partnerships with among others Bosch Rexroth, Parker Hannifin and Xylem.

Robotics

JAI has strategically entered the high-growth robotics industry, offering aluminium parts tailored to exacting tolerances crucial for functionality. Leveraging advanced manufacturing, including gravity die casting and CNC machining, we deliver both small, medium, and large parts – all with high machining precision and consistency in focus.

Our heat-treatment services ensure optimal mechanical integrity, meeting stringent industry standards. With a focus on innovation and quality, JAI is your reliable partner in the dynamic robotics market.

Dürr Systems is one of the leading companies within painting cabins for the automotive industry. As such we are happy that they consider JAI as one of their partners.

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Trucks and coolers

JAI is your go-to partner for specialized solutions catering to the trucking and cooling industries. From manufacturing robust engine parts and chassis components to optimizing cooling systems for various applications, we ensure optimal performance, durability, and efficiency.

Our precision-engineered products, including air pipes for trucks and casted parts for welding on intercoolers, meet the rigorous demands of transportation and cooling applications worldwide. With over two decades of experience and a commitment to quality, JAI delivers tailor-made solutions that drive success in these critical sectors.

Examples of our customers in this segment are SwePart, DEUTZ and Scania.

**If you did not find your industry,
please contact us at: jai@jai-alu.dk**

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Maximizing the use of recycled materials and green energy



A key aspect of our strategy is prioritizing the use of recycled materials. Currently, approximately 90% of the aluminum we use is sourced from recycled materials, significantly reducing the demand for primary aluminum and its associated environmental impact.

To put this into perspective, average emissions from primary aluminum production in Europe are around 7 tons of CO₂ per tons of aluminum. In contrast, the recycled aluminum JAI uses has an average emission of only 0.63 tons of CO₂ per tons, with silicon accounting for about 40% of those emissions.

We are constantly exploring new ways to further increase our recycling rate and minimize waste. For example, as we utilize a significant amount of sand for core making, we ensure that 95% of it is recycled and reused.

To bring down the CO₂ footprint from manufacturing, we offer to use:

- Biogas certified by Energinet (owned by the Danish state)
- Electricity delivered via "green power certificates"

Environmental and social responsibility

Beyond environmental responsibility, we also prioritize social responsibility. We strive to create a diverse and inclusive workplace, offering flexible job opportunities to promote work-life balance and support individuals from all backgrounds. This is important as we understand that our operations extend beyond the factory walls, impacting the lives of individuals and families in our community.

We believe that our commitment to sustainability and social responsibility benefits not only the environment and our community but also contributes to the long-term success of our business.

To summarize, being based in Denmark, JAI's culture naturally prioritizes environmental, social, and governance factors. In other words, JAI has a high ESG rating.

Over 30 years of experience

Please contact us for advice on disturbing noise in:

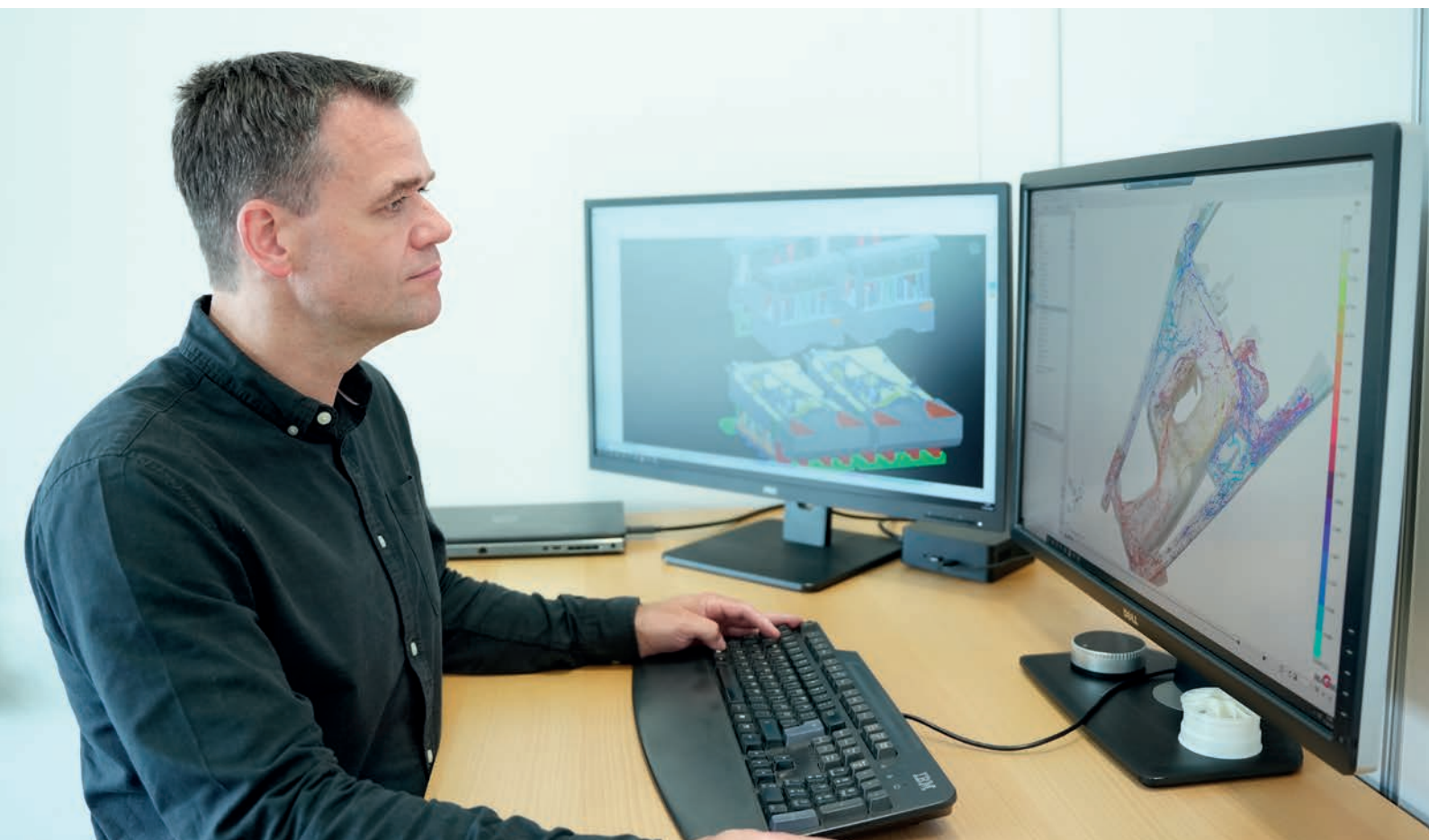
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Efficient energy utilization and green energy

As part of our efforts to optimize energy usage and minimize waste, we have implemented measures to capture and utilize excess heat generated during our production processes. This excess heat, which would otherwise be lost, is repurposed as a valuable heat source for various applications within our facilities.

By maximizing the efficiency of our energy use and reducing our reliance on external energy sources, we are not only reducing our environmental footprint but also improving our operational sustainability. While we are proud of the progress we have made in integrating sustainable practices into our operations, we understand that sustainability is a journey, not a destination. We remain committed, through our "energy team" of selected employees, to continue improvements and innovations in this area, seeking out new opportunities to minimize our environmental impact, enhance social responsibility, and contribute to a more sustainable future for all.



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Totalleverandør af ildfaste løsninger

Zampell installerer og servicerer ildfaste foringer i alle typer ovne, kedler og procesanlæg og indgår gerne i dialog om design af den rette løsning.

Vi tilbyder alle typer materialer til varmelagring, ildfaste konstruktioner og højtemperatur-isolering.

Vi designer og støber tætte ildfaste emner, der leveres udtørret og klar til drift. En fleksibel og yderst holdbar løsning, der kan designes efter ønske.

Til områder, hvor der kræves høj isolering, og hvor der kun er lettere mekanisk slid, kan vi producere moduler af komprimeret keramisk fiber.



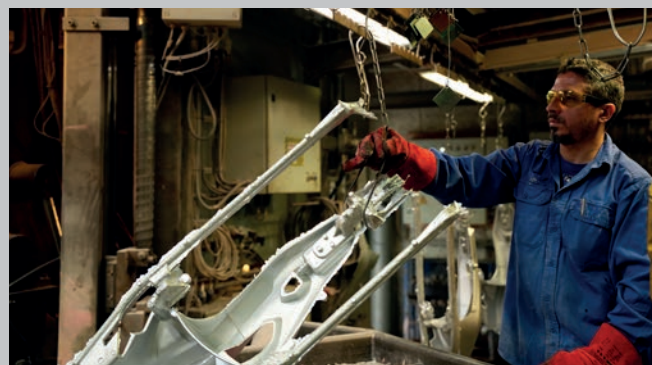
Watch an interview with welder Christian here

Work with us

At JAI, we prioritize creating an engaging and motivating workplace where employees feel valued and empowered to make a difference. We emphasize diversity, inclusion, and continuous improvement, fostering a culture where every individual can thrive.

Joining our team offers a range of benefits, including competitive salaries, opportunities for career advancement, and a supportive work environment. We value work-life balance and prioritize employee well-being, offering social activities and a range of employee perks.

We are committed to investing in our employees' growth and development. Our comprehensive onboarding program ensures a smooth transition for new hires, while ongoing training opportunities and external education options allow employees to enhance their skills and stay up-to-date with industry trends.



Cost-Effective Energy Optimization Solutions with Lemvigh-Müller

At Lemvigh-Müller, we specialize in tailored strategies designed to minimize costs while maximizing efficiency through energy optimization services. Beyond financial benefits, our solutions prioritize enhanced health, well-being and environmental sustainability.

Our proven four-step energy optimization process begins with a comprehensive evaluation of your building's current installations, executed by our certified partners.

For further details and to take the first step towards optimized energy management, visit our website where you will find the contact form, information on our partners' core capacities, and the benefits of sustainable energy. Our dedicated team is looking forward to hearing from you.



Why choose aluminium?

Efficient energy utilization

Aluminium is lightweight, making it ideal for applications where weight reduction is essential, such as the automotive, aerospace, and transportation industries. Its low density allows for improved fuel efficiency and increased payload capacity.

Strength-to-weight ratio

Despite its lightweight nature, aluminium boasts an impressive strength-to-weight ratio, providing structural integrity and durability. This makes it suitable for demanding applications where strength and reliability are paramount.

Corrosion resistance

Aluminium naturally forms a protective oxide layer, which enhances its resistance to corrosion. This property makes it an excellent choice for outdoor and marine applications, as well as in harsh environments where exposure to moisture and chemicals is prevalent.

Malleability and formability

Aluminium is highly malleable and formable, allowing for easy shaping and fabrication into complex shapes and designs. This versatility makes it a preferred material for various manufacturing processes, including casting, extrusion, and machining.

Aesthetics

Aluminium offers aesthetic appeal with its sleek and modern appearance. It can be easily finished through anodizing, painting, or powder coating to enhance its visual appeal and provide additional protection against wear and corrosion.

Recyclability

Aluminum is recyclable without losing its properties, making it a sustainable choice for environmentally conscious industries. Recycling aluminum requires significantly less energy compared to primary production, resulting in reduced greenhouse gas emissions and energy consumption.

Why choose gravity die casting?

- The use of sand cores offers a high level of design flexibility
- Parts where heat treatment is required
- Parts where high mechanical properties are required
- Components with only few pores and porosities allowed

Offered alloys by JAI:

AlSi7Mg En AC-42100, AlSi10Mg EN AC-43000, AlSi12 EN AC-44100



Your *innovative* aluminium partner

Jydske Aluminium Industri

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