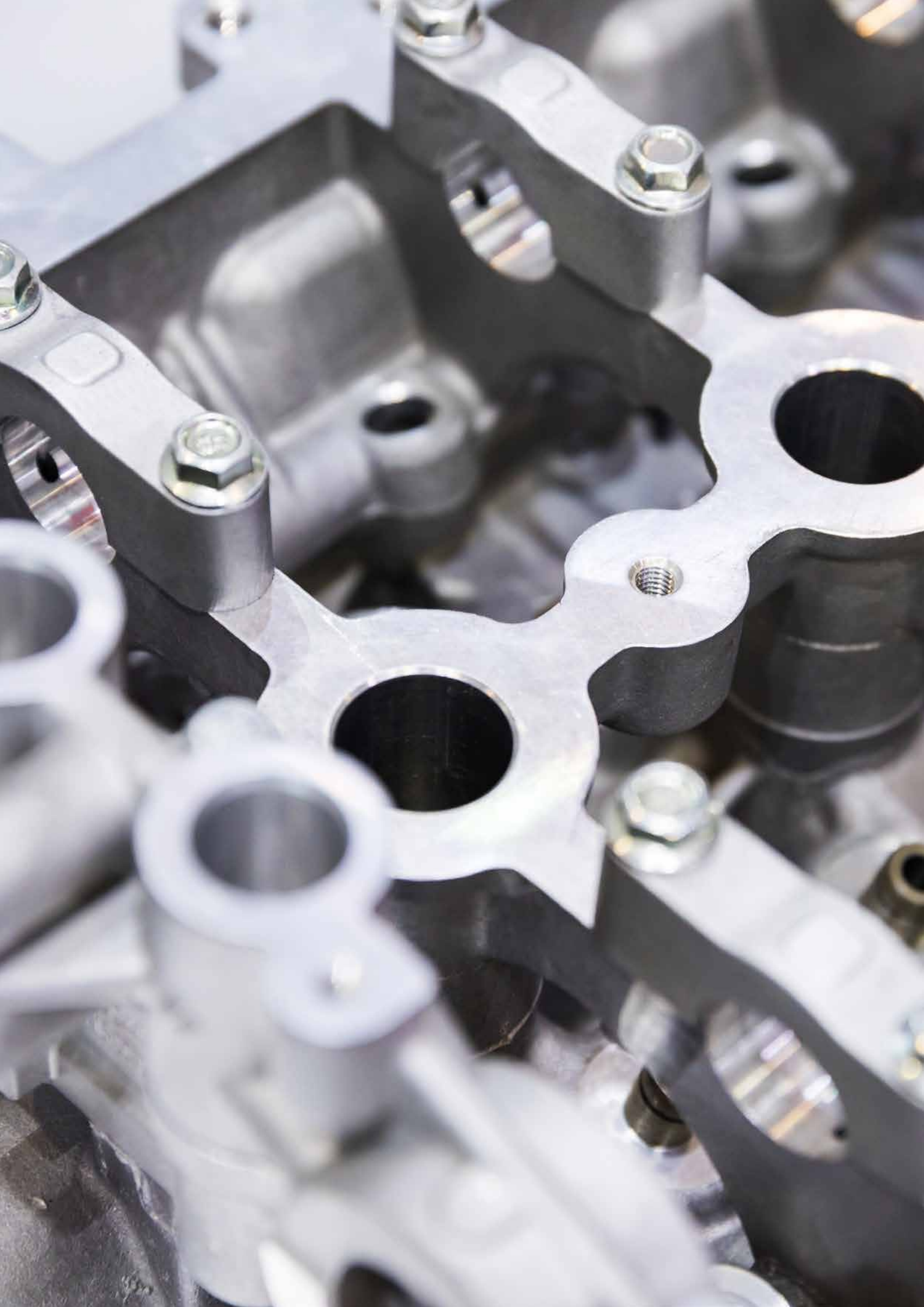




Foundry Alloys

Combining high-quality products, smart solutions
and great service for your long-term success





Building progressive Partnerships

For more than a century, Hydro's history has been rooted in innovation and sustainable technological development. As a global player with local expertise we combine high-quality products, smart solutions and great service to enable our customers to reach their goals. In close collaboration with our customers we develop advanced products and solutions to meet their specific needs, always aiming to exceed expectations. We help to satisfy our customers' needs by supplying the resources, services and high-quality input materials they require to deliver on their promises and meet challenging market developments. Progressive partnerships and long term relationships with our customers create optimum products, which help to improve performance and ultimately our customers' business.

Closer to the customer

We continuously increase the efficiency of our production systems and improve our range of services to meet our customers' individual requirements. Our regional market teams are close at hand to provide fast and professional customer service:

- Technical support
- Access to R&D resources
- Commercial services
- Market information and risk management
- Logistic solutions and supply chain management

Our advanced technological expertise combined with modern production equipment ensure a high and consistent product quality. Our agile and responsive logistic team is a warrant for on-time deliveries on your terms.

Many of our services are accessible 24/7 via our on-line customer service portal. This easy-to use facility gives customers added flexibility and helps to simplify their daily working routines. Customers can get an overview of their contract details, material certificates and up-to-date transport information, place new orders, carry out pricing and take advantage of our broad range of customized services. These optimized solutions add further value and help build and reinforce customer relationships.



Products

Our foundry alloy production is based on primary aluminium. Consistent high metal quality is ensured by using top-grade raw materials, standardized production processes and continuous quality control.

We tailor our foundry alloys to meet individual customer specifications, but we also offer customized variants of the main alloy groups found in the aluminium foundry industry. Our alloys meet specifications in accordance with ISO, EN and JIS standards. Hydro's R&D work focuses on the

continuous improvement of conventional alloys as well as the development of new generation alloys which meet the ever-increasing demands of customers for improved material properties.

Depending on the production source, our foundry alloy ingots are supplied in weights of 7-23 kg. Bundle weights can range from 700-1200 kg.

Main alloy types

EN 1676 Chemical symbols	EN 1676 Numeric	USA (AA)	Japan (JIS)
AlSi5Mg	–	–	–
AlSi7Mg0.3	EN AB-42100	A356.2	AC4CH.2
AlSi7Mg0.6	EN AB-42200	A357.2	–
AlSi10Mg(a)	EN AB-43000	A360.2	AC4A.2
AlSi9Mg	EN AB-43300	359.2	–
AlSi10MnMg	EN AB-43500	365	AC4A.2
AlSi11(Mg)	EN AB-44000	–	–
AlSi12(a)	EN AB-44200	B413.1	AC3A
AlSi9	EN AB-44400	–	–
AlSi5Cu3Mg	EN AB-45100	–	–
AlSi5Cu1Mg	EN AB-45300	C355.1	AC4D
AlSi7Cu0,5Mg	EN AB-45500	–	–
AlMg3(a)	EN AB-51100	514.1	AC7A
Al99.5E/99.7E (Rotor alloys), EN 576	–	160.1/170.1	–

Quality and environmental awareness

Quality Assurance in all parts of our production ensures accuracy and consistency in all our products. Good working environments, low emission and discharge rates, and optimal energy efficiency ensure that our production of foundry alloys has the least possible effect on the environment and humans.

Our focus on quality and our environmental awareness are documented in the certificates for the following standards:

ISO 9001:2015 – Quality
ISO 14001:2015 – Environment
IATF 16949 – Automotive industry
ISO 45001:2018 – Operating health and safety
ISO 50001:2018 – Energy

ASI

Hydro is an active member of the Aluminium Stewardship Initiative (ASI). ASI's mission is to recognize and collaboratively foster the responsible production, sourcing and stewardship of aluminium. We have been involved at all stages in the multi-stakeholder development of ASI standards to date as well as ASI's certification program. The third party certification platform was launched in December 2017.

Hydro is currently in the process of certifying in total 15 plants and the ambition to offer fully certified aluminium in 2019 is core to Hydro's strategy of offering the most sustainable products and solutions to the market.

Hydro's low carbon products

Hydro has an industry-leading climate strategy that has resulted in producing some of the aluminium with the lowest energy consumption and the lowest emissions in the world. Through the use of renewable power and modern technology we are able to produce cleaner aluminium than ever before. Hydro is pushing the boundaries for low carbon aluminium and the use of consumer scrap to create products helping our customers on the path to zero emissions.

Hydro REDUXA

Hydro REDUXA is our series of low-carbon aluminium. Using renewable energy sources like hydro power, we reduce the carbon footprint per kg aluminium to less than a fourth of the global average. The result is aluminium with one of the world's lowest carbon footprint to date. Minimizing the carbon footprint of our products and maximizing opportunities for our customers.

- Hydro REDUXA 4.0 has a maximum carbon footprint of 4.0 kg CO₂ equivalent per kg aluminium produced.
- Hydro REDUXA 4.0 is available in all grades and forms from our Norwegian aluminium plants and can be shipped worldwide.
- Hydro REDUXA 4.0 is verified according to ISO 14064 by DNV GL, covering all carbon emissions from bauxite mining and alumina refining to the production of aluminium in electrolysis and casting.



Where to find us

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We are aluminium

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Hydro is a fully integrated aluminium company with 35,000 employees in 40 countries on all continents, combining local expertise, worldwide reach and unmatched capabilities in R&D. In addition to production of primary aluminium, rolled and extruded products and recycling, Hydro also extracts bauxite, refines alumina and generates energy to be the only 360° company of the global aluminium industry. Hydro is present within all market segments for aluminium, with sales and trading activities throughout the value chain serving more than 30,000 customers. Based in Norway and rooted in more than a century of experience in renewable energy, technology and innovation, Hydro is committed to strengthening the viability of its customers and communities, shaping a sustainable future through innovative aluminium solutions.