



# BROCHURE

## WELCOME!

### ABOUT THIS BROCHURE

This brochure has been put together to give you a general idea about Rubitech and our business activities. To find out more about Rubitech, our products and our services we invite you to take a look at our website [www.rubitechalucast.co.uk](http://www.rubitechalucast.co.uk)

Please feel free to contact us if you have any question or when you require additional information. Our contact details can be found on the last page of this brochure.



## RUBITECH ALUCAST ALUMINIUM DIE CAST EXCELLENCE

Rubitech Alucast develops, produces and delivers high-level aluminium high pressure die castings. Whether our customers want to invest in complete new product designs or want their finished design to be produced, they call on Rubitech Alucast to deliver products to meet their specific requirements.

We utilise innovative production technologies, in-house engineering and design competencies and engage our Asian or eastern European foundries to ensure your product receives the very best synthesis of price, quality and delivery time!

### **Die casting excellence, CNC machining, surface treatments and assembly**

\_27 years' experience in product solutions

### **Production in Malaysia & Romania**

\_Localised expertise in production and quality

### **Customised deliveries**

\_International integrated supply chain solutions

### **Friction Stir Welding and Core Free casting**

\_Innovative production technology solutions

### **Cost-effective series production**

\_Through smart engineering & design solutions



## ABOUT RUBITECH GROUP

### MORE THAN 27 YEARS OF DIE CAST EXCELLENCE

Rubitech Alucast is part of the Rubitech Group, a company founded on a strongly authentic, innovative and result-driven corporate culture. For more than 27 years, Rubitech has been active in the international market for aluminium high-pressure die casting. With a unique understanding of factory processes, vendor management, design & engineering, technical requirements, innovation and product development, we offer our customers products and services that enable them to stand out in the market.

#### **Rubitech Worldwide**

The Rubitech Group has subsidiaries in the Netherlands, UK, Malaysia and Romania. Our headquarters in Steenwijk in the Netherlands, along with our sales office in the UK, is responsible for sales, customer service and R&D. Our employees in Malaysia and Romania are responsible for production, quality and the logistical process.

#### **Sales business units**

Rubitech Alucast, our sales unit, has been developing and supplying aluminium die casting products since 1983. Supply chain management guarantees our customers tailored product solutions throughout the entire supply chain. Rubitech Heating, established in 2005, develops and produces condensing heat exchangers for the domestic and commercial heating market. Rubitech UK and Rubitech Romania offer our customers sales, warehousing and customer support facilities in both the UK and central Europe.

#### **Production business units**

The production units Rubitech Malaysia and Rubitech Romania monitor and coordinate the ramp-up and production at the respective production facilities. Both units are responsible production and quality. In addition, our Romanian office also offers sales and customer services to our central European customers.

## ABOUT RUBITECH GROUP RUBITECH WORLDWIDE



## PRODUCT SOLUTIONS

### THE BEST SYNTHESIS OF PRICE, QUALITY AND DELIVERY

With your finished design at hand, your only remaining concern is gaining the confidence that your product will be produced to the required standards for the best value and on time.

#### **Production expertise**

At the core of our offerings lie our Product Solutions. These offer a balanced turn-key combination of price, quality and delivery. To achieve this, we integrate our product and technology expertise with the economic benefit derived from our foundries in Malaysia and Romania. Significant attention is paid to how your finished design will perform in a series production environment and we bring this knowledge to bear within your supply chain.

#### **New production technologies offering opportunities in cost & design**

With our expertise in new production technologies such as Friction Stir Welding, Core Free Casting and Adhesive Bonding, we are able to overcome technological issues while mitigating the risk often associated with innovation. We speak your language and understand the benefit of collaborative development. That is why we continually strive to engage our customers earlier in the product design process where our experience can reduce your learning curve and bring about significant advantages in both cost and design.

#### **Best synthesis of price, quality and delivery time**

This is where we distinguish ourselves the most: providing you with the assurance that your finished design will receive the desired combination of price and quality while the potential risks are substantially alleviated and supply chain reliability is improved. Whether it concerns solely the production and delivery of your finished design, collaboration on design for cost-effective series production or a full supply chain solution involving the delivery of complete assembled products, Rubitech Alucast delivers the very best synthesis of price, quality and delivery time!





## TECHNOLOGY SOLUTIONS

### DIE CAST EXCELLENCE BY RUBITECH ALUCAST

Rubitech stands for technology. Our Technology Solutions have been devised to help transfer the experience and knowledge we have gathered during the past 27 years to your specific product.

A thorough understanding of technical advancements enables us to create and apply technical innovations for cost-effective series production and to alleviate risk during production. Moreover, it yields opportunities to cast several components as a single unit, simplifying your supply chain and allowing you to stand out in the market.

**CASTING • TRIMMING • MACHINING • IMPREGNATION • FINISHING • SURFACE TREATMENT • QUALITY • ASSEMBLY**

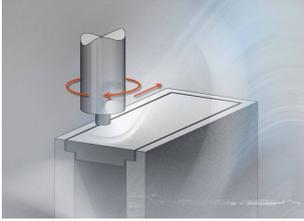
Rubitech Alucast not only delivers plain raw casting but offers additional machining, surface operations and assembly possibilities needed to deliver a fully qualified product that meets your specific requirements.

#### **FROM CONVENTIONAL CASTING TO NEW PRODUCTION TECHNOLOGIES**

Our experience in advanced aluminium die castings methods and our knowledge of advanced mould manufacturing techniques offer maximum design opportunities such as thin-wall casting, inner blind holes, inner radius and other shapes with undercuts.

In addition, we offer new possibilities to manufacture products which are not possible with conventional die casting, which is limited when it comes to castings with free-form channels, undercuts, or integrated plastic components.

With our unmatched expertise in new production technologies such as Friction Stir Welding (FSW), Core Free Casting and Adhesive Bonding, we are able to overcome technological issues and deliver a more economic or higher-quality product. Our engineers can advise you on which technology solution can overcome your design issues, focusing on your specific product design and requirements.



## FRICITION STIR WELDING AWARD WINNING TECHNOLOGY

### FRICITION STIR WELDING

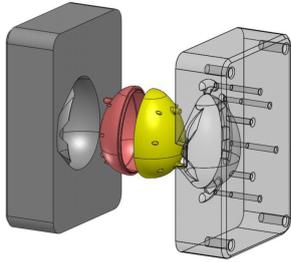
Rubitech has developed FSW for aluminium die cast products requiring large-scale production. This technology has been applied to make high-integrity and reliable welds in aluminium die castings for heat exchangers. A key difference compared to conventional fusion welding is that material is not melted, but plasticised by friction heat at around 450 °C. The first applications were joints on heat exchangers which are absolutely leak free and durable.

### Award winning technology

Our in-house FSW expertise allows us to design new applications and focus on flexible and cost-effective FSW solutions. In 2010 Rubitech won 2nd place in the International Die Casting Competition held in Nurnberg, Germany for being among the first company to successfully apply FSW in the die casting production.

### Key advantages of applied Friction Stir Welding:

- Creates a strong single aluminium casting without seals.
- No corrosion issues as there is no change in the chemical composition.
- Allows integration of plastic components inside the aluminium
- Economical compared to using seals and screws.



## CORE FREE CASTING

### FREE FORM FLEXIBILITY COMBINED WITH THE BENEFITS OF DIE CASTING

#### CORE FREE CASTING

The aluminium die casting process is always limited when it comes to casting free-form channels with curves or undercuts, because the mould core cannot be retracted from the part. The Core Free casting process for aluminium was developed and patented by Rubitech to overcome this limitation, even adding the possibility to cast a closed hollow.

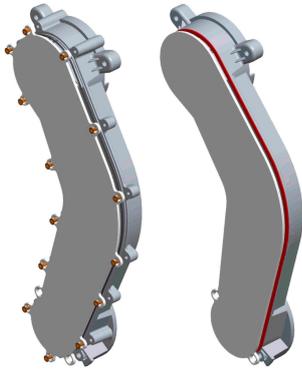
#### Our concept

The Core Free casting has two cast-in aluminium shells which together act as a hollow core inserted in the mould. In turn, the two shells are die cast, which allows a free-form and accurate geometry of the core. Because the hollow core is cast in the same basic material, there is no need to remove it from the final casting. The hollow core remains locked inside as an integral part of the final casting and is only noticeable as a parting line inside the channel. The resulting wall thickness in the cored area is around twice that of standard die casting, in the same range as sand casting or gravity casting. In non-cored areas the wall thickness can be lower. The specially shaped shells are based upon your 3D casting model. To ensure the hollow core remains correctly positioned and is not destroyed during casting we take special care in designing the shells and moulds.

#### Free form flexibility combined with the benefits of die casting

Core Free Casting offers interesting opportunities compared to sand casting or gravity casting:

- High production capacity
- Improved surface roughness, inside and out
- Improved product tolerances and flatness
- Accurate geometry of channels
- No risk of residual sand
- CNC machining often can be eliminated
- No additional process is necessary to remove any cores
- Wall thickness can be reduced in non-cored areas of the part resulting in reduction in weight.



## ADHESIVE BONDING EXTENDING PRODUCTION POSSIBILITIES

### ADHESIVE BONDING

Rubitech Alucast applies Adhesive Bondings to extend our possibilities to produce those aluminium parts in die casting which are conventionally not castable. Furthermore, it allows even assembly with other components and materials. Our technical process engineers have selected and tested a wide range of suitable Adhesive Bonding systems and have the essential knowledge and experience to support your designs using Adhesive Bonding, while focusing on flexible and cost-effective solutions.

### Description

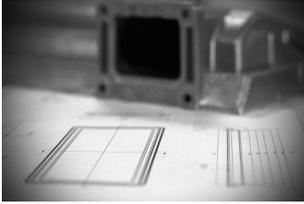
The acrylic adhesive used by Rubitech replaces welding, brazing, riveting and other mechanical fastening methods especially in low-temperature environments subject to high-impact or high-peel loads. The acrylic adhesives are available in a range of working times to accommodate a wide variety of process requirements. The acrylic adhesive will bond a wide variety of prepared or unprepared metals and engineered plastics. The adhesive systems are specifically formulated to provide the highest impact and peel strengths available in a room temperature curing adhesive. Due to the use of glass beads in the adhesive, a precise control of the bond line thickness is achieved.

### Key features and benefits of applied adhesive bonding:

- Versatile - bonds a wide range of unprepared metals with minimal substrate preparation.
- Temperature Resistant - performs at temperatures from -40 to +149°C.
- Environmentally Resistant - resists dilute acids, alkalis, solvents, greases, oils, moisture, salt spray and weathering; provides excellent resistance to UV exposure.
- Non-Sag - remains in position when applied on vertical or overhead surfaces, allowing for greater process flexibility.

### Key properties of applied adhesive bonding:

- Joint line can be 2D or 3D
- Yield strength: 16 Mpa at 20°C
- Temperature resistant up to 150°C (peak up to 200°C for 8 hours)
- Good chemical resistance



## DESIGN & DEVELOPMENT FOR COST-EFFECTIVE SERIES PRODUCTION

The product design and development phase presents several hurdles before the final product rolls off the production line, especially if your experience in working with aluminium is limited. Rubitech Alucast's Design & Development solutions are there to help designers and engineers ensure their product designs overcome any production obstacles that stand in their way.

### **It is not about changing your design**

We speak your language and understand the benefit of collaborative development. It's not about changing your design, it's about overcoming design challenges and optimising your design with regard to cost-effective series production.

### **Reducing the learning curve**

We help design teams understand the advantages involved with working with aluminium die castings and assist in overcoming common design challenges that sometimes seem insurmountable. Our product engineers work with you to apply our knowledge of the latest innovative production technologies and quality standards to your specific product objective.

### **How we help your design teams outperform**

Rubitech can assist you not only during the critical design phase, but also with prototyping and mould-flow simulation. Depending on your specific product design and requirements, we will guide you through the various production challenges and facilitate the preparation of your design for manufacturing.

With more than 1,000 different component projects in our portfolio, we understand your challenge. This is why we continually strive to engage our customers earlier in the product design process where our experience can bring about significant benefits in both cost and design.

### **Speed up time to market**

This approach guarantees your finished design receives the desired combination of price and quality while potential production risks are substantially alleviated, reducing your time to market.

## SUPPLY CHAIN SOLUTIONS

### LOCALISED EXPERTISE

Rubitech offers customer-centric supply chain solutions. The whole logistics process is adjusted to suit your demands and wishes, whether you want your products to be delivered directly to your warehouse or production facility or you prefer Rubitech to coordinate transport and stock control.

#### **Logistics & stock control**

Our logistics employees in the various Rubitech subsidiaries organise the transport of your products and coordinate all shipments to be delivered to the locations you specify.

From fixed order deliveries to running forecast methodology, from full container load deliveries to daily call-offs, we will accommodate your specific requirements. Our storage locations are situated close to the customer, enabling us to deliver from various stock locations in a very short time. Furthermore, we also offer customised packaging solutions if needed.

#### **Production**

Our employees at our foundry locations in Malaysia and Romania are there to manage the production and assure your product will meet the required specifications. With Rubitech's presence near the production facilities, we are able to manage and control the production & quality and keep you connected and involved.

Our supply chain is well equipped with a state-of-the-art IT infrastructure, special modes of transport and contracts with various international logistics partners. This enables us to deliver your products within the required timeframe, according to the highest quality standards and at the most competitive transport costs.





## QUALITY CONTROL & ASSURANCE ALWAYS IN CONTROL

With our quality processes in place, we're always in control and, more important, our customers are assured their product requirements are being met. You are guaranteed that, should an issue arise, our organisation has the right processes, tools and people in place to find and offer the best solution.

This is why all Rubitech subsidiaries are ISO 9001 certified. Moreover, the production facilities are certified according to one or more of the ISO 9001/14001/TS16949 standards. In addition, all outgoing inspections are handled according to ISO 2859 AQL standards. We also have PPAP and APQP knowledge available in case we need to comply with specific PPAP and APQP requests.

From product development to series production, our standard quality process covers all necessary issues .

## RUBITECH ALUCAST REFERENCES

Adimec Advanced Image Systems b.v.  
Eindhoven The Netherlands  
Industrial cameras

Asco Controls BV  
Scherpenzeel The Netherlands  
Valve systems

Asco Numatics Ltd.  
Skelmersdale England  
Valve systems

Asco Joucomatic GmbH  
Ölbronn-Dürrn Germany  
Valve systems

Baxi Heating Ltd.  
Padiham England  
Central heating boilers

BMA Ergonomics bv  
Zwolle The Netherlands  
Office Furniture

Burgerhout BV  
Assen The Netherlands  
Flue duct systems

Cox Geelen bv  
Eijsden The Netherlands  
Flue duct systems

Elnor Motors N.V.  
Haacht Belgium  
Explosion proof motors

Herrmann GmbH u. Co.  
Waiblingen Germany  
Oil and gas burners

InterActive B.V.  
Didam The Netherlands  
Flue duct systems

Lincoln GmbH  
Walldorf Germany  
Central lubrication systems

Muelink & Grol B.V.  
Groningen The Netherlands  
Flue duct systems

Nefit BV  
Deventer The Netherlands  
Central heating boilers

Norgren AG  
Balterswil Switzerland  
Valve systems

Remeha B.V.  
Apeldoorn The Netherlands  
Central heating boilers

Rotork Actuation Shanghai Co.  
Shanghai China  
Actuators and control systems

Rotork Controls Ltd.  
Bath England  
Actuators and control systems

ThyssenKrupp Accessibility BV  
Kr.a.d IJssel The Neth.  
Elevators

Weber Motor GmbH  
Markdorf Germany  
Four-stroke engines



## CONTACT US! CONTACT INFORMATION

### **RUBITECH ALUCAST BV**

Ruxveenseweg 4  
8331 TR Steenwijk  
The Netherlands

Tel. +31 (0)521 51 77 33

Fax. +31 (0)521 51 77 83

[info@rubitechalucast.com](mailto:info@rubitechalucast.com)

[www.rubitechalucast.co.uk](http://www.rubitechalucast.co.uk)