



Materials Brochure

Your strategic partner for high end casting solutions

 **Allard** EUROPE

In brief

Foundry, located in Turnhout (BE)

Jobbing foundry (unique pieces or small series)

Sand casting

Steel and white cast iron

Part of **Royal IHC**

www.royalihc.com



- Production capacity
 - Annually 2,750 tons finished product (about 375 castings)
 - From a couple of 100 kg to 30 tons of finished weight
 - 4 medium-frequency induction furnaces (16 – 8 – 5 – 2 tons)
 - 5 Heat treatment furnaces
- Turnover about 19 M€
- 100 employees
- Materials
 - Cast steel
 - Non alloyed steel
 - Low alloyed steel (wear resistant, surface hardening)
 - High alloyed steel (stainless and heat resistant)
 - White cast iron
 - Alladur™, Maxidur (absence of graphite, very high hardness and wear resistance)
- Capabilities
 - Casting simulations
 - State-of-the-art CNC-Machines
 - 3-D scanning and measuring

Allard-Europe makes castings from steel or white cast iron to your specifications. Tell us what mechanical properties, standards or environmental factors you require, and we will work with you to find the right type of material.

Materials

A vertical, rounded-top photograph on the left side of the page showing a bright, glowing orange molten metal being poured from a ladle into a mold. Sparks are flying around the metal, and the scene is dimly lit, emphasizing the intense heat of the process.

Materials tailored to your project

Material specifications describe all the requirements for the ingredients used for the casting: composition, microstructure, mechanical properties, heat treatment, and acceptance criteria. They form the basis for design, casting process, and quality control.

We are familiar with many material standards: both the current international standards (EN, ISO, ASTM, etc.) and the older standards (DIN, SEW, etc.) that are still often referred to in castings.

However, at Allard-Europe we never start from standard material mix. We start with your needs and work with you to make the right choice based on our expertise and many years of experience in engineering and knowledge of materials.

Cast steel or White cast iron

Cast steel

Cast steel can be cast in almost any shape. It is therefore ideally suited for the production of complex structures and shapes that must bear heavy loads. Each type of cast steel has its own specific properties in terms of resistance to impact, corrosion, wear, pressure, low/high temperatures and/or weldability.

We start from:

- **Unalloyed cast steel:** GE240, GE300, G20Mn5, G28Mn6/ Wearnmet S1®
- **Low-alloy cast steel:** G26CrMo4, G42CrMo4, G17NiCrMo13-6
- **High-alloy stainless cast steel:**
 - Martensitic grades: GX3CrNi13-4/GX4CrNi13-4 (TGS8)
 - Austenitic grades: GX5CrNiMo19-11-2
 - Duplex grades: GX2CrNiMoN26-7-4, GX3CrNiMoCuN26-6-3-3
- **Wear-resistant cast steels:** TGS5(H)/ Wearnmet S2®, TGS7(H – HH)/ Wearnmet S3®
- **Heat-resistant cast materials:** GX40CrNiSi25-20, G-NiCr28W

White cast iron

Over the years, Allard-Europe has developed proprietary materials to meet the needs of the dredging industry. These **Alladur™** ranges of high chromium white cast iron are highly wear resistant due to their high hardness, making them ideal for wear applications where abrasion is the primary concern and impact is low. Some of these Alladur™ versions fall within the collective name Maxidur 5®.

Alladur™ 500

Alladur™ 500 is comparable to XCr14 (EN 12513) or Class II Type B (ASTM A532). It is suitable for applications where wear resistance is critical. A minimum hardness of 59 HRC can be guaranteed.

Alladur™ 600

Alladur™ 600 is comparable to XCr18 (EN 12513) or Class II Type D (ASTM A532). It is suitable for applications where wear resistance must be combined with some impact resistance. Corrosion resistance is better due to a higher chromium content. A minimum hardness of 55 HRC can be guaranteed.

Alladur™ 429

Alladur™ 429 is comparable to XCr23 (EN 12513) or Class II Type A (ASTM A532). It is suitable for applications where wear resistance must be combined with higher impact resistance. Corrosion resistance is optimal thanks to the highest chromium content. A minimum hardness of 50 HRC can be guaranteed.

At Allard-Europe, we combine years of experience with a future-oriented approach. What once started with high-quality castings for the dredging industry has today grown into a wide range of solutions for sectors such as offshore, shipbuilding, and defense.

Markets

Dredging

What do we offer?

- Production of castings in steel or white cast iron from several hundred kilograms to 30 tons finished weight
- **Co-engineering** for geometric casting challenges and proper material selection
- Short lead times and reliable delivery dates
- Flexibility for urgent emergencies
- **Workshop approvals** and quality control meeting the highest standards

Allard-Europe is strategically linked to the dredging industry through its shareholders.

Over the years, we have been able to build and develop our knowledge of casting **pumps, impellers, piping** and **other accessories**.

It also led to the development of materials for highly abrasion-resistant applications, particularly our **Alladur™** range. In addition, we can call on and cooperate with the R&D department of Royal IHC, which is a world leader in dredging systems.



Offshore

What do we offer?

- **Co-engineering** geometric casting challenges and proper material selection
- **Workshop approvals** and quality control meeting the highest standards
- Short delivery times

Allard-Europe can cast from unalloyed to high-alloy steel for a wide variety of applications: cable sheaves, chain sheaves, cap flanges, pivots, crane hooks, and more.

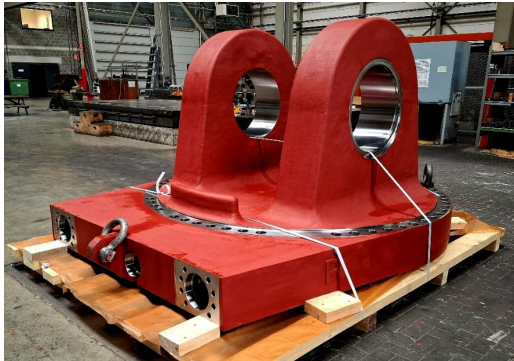
We work closely with the customer to find the best form and materials. Stainless steel and duplex cast steel are no strangers to us, and we have gained the experience necessary to complete these jobs successfully.

Allard-Europe has built a solid reputation for casting **hooks**. We cast for a lifting capacity within a range of 800 to 2,500 tons.



Public

Cap flanges come on top of the hydraulic percussion hammer to position it centrally, guide it and ensure optimal energy transfer for driving piles into the seabed. We have produced several of them, made of stainless steel to resist corrosion.



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Defense

What do we offer?

- Production of castings in steel or white cast iron from several hundred kilograms to 30 tons finished weight
- Co-engineering geometric casting challenges and proper material selection
- Everything under one roof: casting, assembling and finishing on-site
- **Secure IT and work environment**
- **Workshop approvals** and quality control meeting the highest standards

Allard-Europe has been active in shipbuilding for decades and has accumulated great material knowledge for casting critical structural components or pumps. They must withstand extreme stress, saltwater corrosion, shock, vibration and long-term wear.

Navy ships use castings because they:

- Are **strong and hard-wearing**
- Can form **complex shapes** in one piece (less welding so less potential weak spots)
- Ensure **security and reliability** in “mission-critical” systems

We make our expertise available to the defense market. Our strategic location in the middle of Europe ensures short logistical lines and independence from any geopolitical tensions.

Allard-Europe specializes in the production of **A-brackets** (also called shaft brackets or propeller brackets). These are support structures on the outside of a ship that support the propeller shaft between the engine room and the propeller. They usually form an A-shaped, double support (two legs meeting in a bearing block), hence the name A-bracket.





www.allard-europe.com