

**Full Service
Die Casting**

Design
Die Casting
Machining
Assembly
Surface Treatment

PEDEO
Die casting
zinc - aluminium



PLASTIC INJECTION MOULDING OR HIGH-PRESSURE DIE CASTING?

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STRENGTHS OF ALUMINIUM & ZAMAK

High-pressure castings in aluminium and zinc alloys have some advantages over plastics:

- Ⓞ Higher mechanical strength (impact resistance, firmness).
- Ⓞ Not subject to creep.
- Ⓞ Higher resistance to ageing (UV/IR resistant).
- Ⓞ Thread can be tapped directly into the base material, inserts are usually unnecessary.
- Ⓞ More resistant to high temperatures.
- Ⓞ Fireproofing.
- Ⓞ Electromagnetic shielding.
- Ⓞ Better electrical and thermal conductivity.
- Ⓞ More resistant to the action of oils, greases and most chemicals.
- Ⓞ More sustainable: endlessly recyclable without loss of properties.
- Ⓞ The higher specific gravity and cold hand feel give a greater sense of value.
- Ⓞ Mechanical post-processing (machining) is possible after casting.
- Ⓞ Dimensionally stable.

FULL SERVICE APPROACH

Pedeo produces and develops components together with you, tailored to your project. The engineering team provides both functional and aesthetic suggestions, to arrive together at the optimal design.

Our strengths:



reliability



proximity



co-design

Quality and operational excellence are in our employees' DNA, and are the common thread in everything we do. Pedeo offers a full service and guides you through the entire process, in order to achieve a high-quality end product and a reliable production process. From idea to series production.

ALUMINIUM, ZAMAK OR PLASTIC INJECTION MOULDING?

High-pressure die casting challenges plastic in extreme conditions.

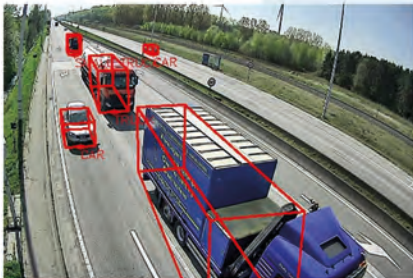
Sometimes the choice of a particular material is very simple, sometimes subtle elements are the deciding factor.

Discover Teledyne FLIR's story. They decided to exchange their TraftiCam traffic camera's plastic housing for an aluminium version.

They had and still have several good reasons for that decision.



TELEDYNE FLIR OPTS FOR ALUMINIUM OVER PLASTIC FOR TRAFICAM TRAFFIC CAMERA



TraftiCam traffic cameras monitor traffic flows to be able to control traffic lights.

Teledyne FLIR's cameras can be found around the world in many different climates and weather conditions. They must withstand harsh sunlight, or at other times, rainfall and wind, occasionally mixed with sand or salt from their surroundings.

When the TraftiCam's original plastic housing proved prone to cracks, Pedeo helped redesign a new aluminium version. Aluminium is better in extreme weather conditions. Its **mechanical strength is greater**, it can withstand exposure to sunlight and is not vulnerable to creep. Ageing will not result in cracking or deformation.

Strength and safety; in some applications opting for aluminium or Zamak is a no-brainer. Machines for financial transactions in public locations are one example. Housings used in this sector must be proof against multi-day security testing, vandalism and physical challenges. Teledyne FLIR's solutions also turned out to attract vandalism at times. Thanks to their new housing, they are now assured of optimal protection.

SOPHISTICATED DESIGN



A desire for strength and durability was the initial reason to contact Pedeo. During the design phase, however, other benefits soon revealed themselves.

As well as physical protection, aluminium can also provide **electromagnetic shielding** of electronic components. That makes separate shielding unnecessary, as this property is already naturally present.

All mounts and threads can be incorporated directly into the high-pressure casting. That means there's no more need for inserts or transitions between different materials. This immediately eliminated several of the previous housing's weaknesses.

Furthermore, the entire housing acts as a **heatsink**, collecting heat generated by the electronics and dissipating it by means of air channels between slender aluminium vanes. It's a great example of how **the right material and a well-thought-out design** can reinforce each other.

The elegant black finish further improves the resistance to corrosion and sunlight, the black coating optimises heat dissipation and the cameras still look as good as new, even after years of use. With the new housing, the cameras last much longer.

BENEFITS FOR YOUR PROJECT?

Pedeo takes a fully customised approach, also to your project. With a specific choice of materials, the optimum design, and proprietary project and process steps. As a result, there are different reasons for choosing a particular material for each part, and the advantages of aluminium and zamak are different for each casting.

CONTACT OUR TEAM

Challenge us with your project. We will be happy to see if high-pressure casting can add value to your parts. Contact us without obligation: sales@pedeo.be

ZAMAK + PLASTIC A SUCCESSFUL MARRIAGE

Plastic and high-pressure casting each have unique characteristics that influence the choice between them.

In some cases, different materials can complement each other. Zamak and aluminium, for example, are ideal for combining with other materials, allowing the castings to benefit from the strengths of both techniques and materials. It's a perfect example of how 1 + 1 can add up to more than 2.

Mounting bracket for audio and video

For the mounting system below, the supplier sought both sturdiness and unlimited aesthetic possibilities. This is because the bracket has to match different devices: high-end televisions, speakers, audio and video equipment, with different visual finishes.

Zamak and plastic

This mounting bracket combines the advantages of Zamak and plastic, the best of both worlds.

The carrier is made from a zinc alloy high-pressure casting, offering the necessary strength to mount the devices securely.

The black lacquer finish allows it to seamlessly complement the luxurious aesthetic of the devices for which it is designed.

The plastic finish provides endless possibilities in terms of colours and visual effects, making it perfectly adaptable to a wide range of appliances. On top of that, plastic has a cushioning effect.



Black lacquered zinc alloy bracket with a chrome-plated plastic cap. Combine the advantages of both materials and gain access to endless visual possibilities.