

Zinc advantages for Coffee Machines

Cimbali Carter



Cimbali and Bruschi

A long-lasting partnership

The collaboration between Bruschi and Cimbali dates back to 2005. During a cycle of conferences held by Brescia University, a speech given by our Strategic Technology Manager Ermo Fusè captured the attention of Cimbali designers.

In his talk he covered the many advantages of zinc for complex designs and in particular the wide range of finishes achievable on zinc die casted products.

This particular aspect stroke Cimbali's representatives attention, since aesthetics are one of the crucial factors in coffee machines production, and thus a collaboration was born.

Since that fist contact, the partnership between Cimbali and Bruschi has never stopped and continues up to this day.



Cimbali and Bruschi

Over 20 products

From this collaboration more than 20 components were born and hundred thousands were produced. Most of them belong to the following categories:



Carters



Housing



Display coverings



Chromed covers

These are all external parts of professional coffee machines, which need to be aesthetically perfect in order to convey the expected cleanness and elegance.

The importance of aesthetics in Coffee Machine industry

Every manufacturer is aware of the fact that the look of their products is their official introduction to the customer and their best chance to leave an impression on them. This is especially true for professional appliances that need to impress both professionals and the final consumer.

This is why a professional coffee machine should look appealing, by conveying an idea of cleanness and reliability to the consumer, even after many uses: a chromed finishing proves to be the best solution to achieve these goals. Thanks to the improved resistance gained after the galvanization process, chromed components can last longer and have a better endurance to corrosion and frequent cleaning.

Die casted zinc is the most suitable material for these chromed details, not only because it can sustain galvanization process better than other metals, but also because it offers a stability and a resistance unobtainable with plastic.



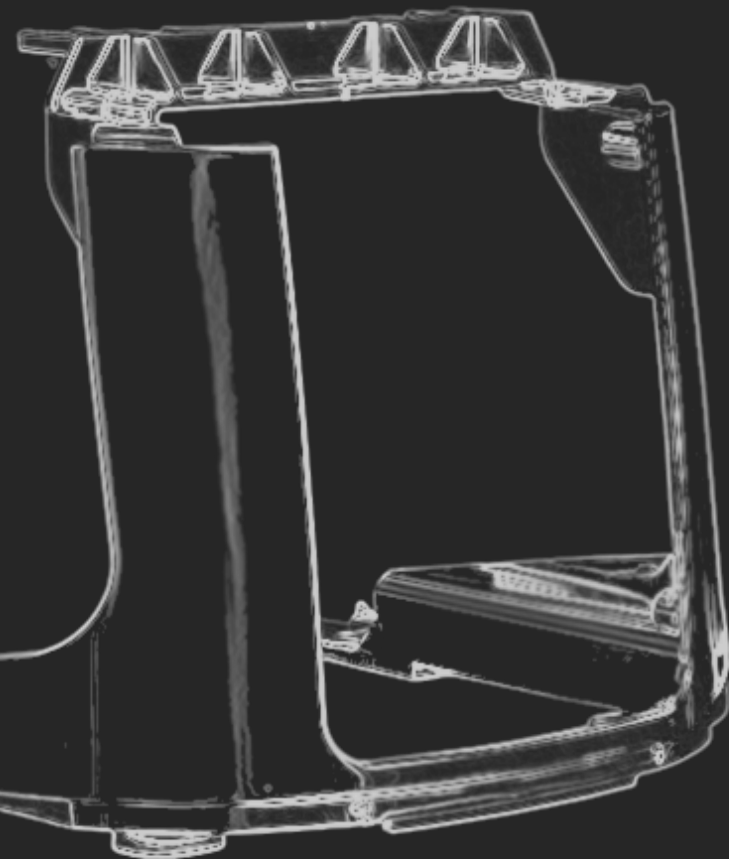
Zinc Advantages for Coffee Machines Industry

There are many reasons why zinc is the best material for aesthetical components of small appliances. Some are linked to zinc intrinsic properties, such as the possibility to produce small draft angles, more precise details and its general high castability that reduces the need for mechanical machining and processing. All these qualities grant more freedom to designers, since geometrical restrictions are reduced. Through the use of zinc alloys thin walls, rounded shapes and complex surfaces can be produced without effecting the surface quality of the finished piece.

Moreover, zinc is suitable for a wide variety of finishing, ranging from matt textures to chromed ones. The most commonly used are chroming, gilding, white plating and painting. Zinc delivers the best results in terms of chroming and galvanization finishing when compared to other metals.

In fact, zinc is cheaper than brass or copper and it requires less machining than aluminum, while offering better results in terms of finishing and granting a substantial reduction of costs.

This exceptional adaptability is what we are going to present in more detail in the case study below.



Case Study: Boiler Top Cover



Final product

PROJECT CHARACTERISTICS

Cimbali required a chromed boiler top cover with its logo impressed on the surface. The challenge was to produce a relief that could sustain chrome plating procedure.

In order to get the best result from plating it is usually necessary to degrease and brush the area. However, in this case the abrasion caused by the polishing process would have damaged the legibility of the logo and its sharpness.

To prevent that from happening, Bruschi had to study a way to obtain a perfect surface in the central area that could be chromed without any previous smoothing treatment.

Case Study: Boiler Top Cover



Raw product

BRUSCHI'S SOLUTION

To achieve the desired level of superficial uniformity and perfection, Bruschi's Engineering Department run many simulations to spot the critical areas.

Afterwards, they designed a die casting mold with strategically placed injection channels, overflows and vacuum that helped balancing the thermal exchange, granting a surface with no porosity, no blisters, no flow marks and no roughness in the area close to the relief.

The result is a component that can be chromed with no need of further machining or brushing close to the logo, displaying a sharp, shiny carving on its top.

Case Study: Boiler Top Cover



THE ROLE OF ZINC

The result obtained with this technique wouldn't have been possible with any other material: only zinc has the close casting tolerances needed to produce such a thin relief and the qualities to withstand a galvanic treatment without prior superficial preparation.

Achieving a similar result with steel would have higher costs, not only in terms of raw material, but also in post-production machining. The only way to obtain a clear engraving on stainless steel is through stamping, but it would not be possible to obtain the same final quality when chromed.

Even plastic could not be an alternative: even if it may be possible to obtain a similar look, the feel at touch would not convey the same robustness, lowering the perceived value of the whole machine.

About Bruschi

For over 70 years Bruschi has been working in industrial production in the field of zinc die casting. Over time the company distinguished itself for efficiency, accuracy, ability to listen to its customers' needs and innovative drive in technology, co-design and mass production.

Bruschi technicians apply know-how acquired by working in many sectors of industry during co-design activities with the client. In fact it is an interdisciplinary knowledge placed at the service of the client's engineers.

A huge expertise in the zinc alloy die casting industry allows to anticipate customers' needs and expectations, by providing engineering solutions to accelerate time of delivery, improve performances, and simplify integrations.

Let's keep in touch:

Simone Maggiori - Vice President & Head of Sales

simone.maggiori@bruschispa.it

Marcello Cazzaniga - Marketing Manager

marcello.cazzaniga@bruschispa.it

Annalisa Nelson - Project Sales Coordinator

annalisa.nelson@bruschispa.it