ACuZinc5 Zinc Alloy

Zinc Alloy for Die Casting

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Technical Data: ACuZinc5 Alloy

Product Description

ACuZinc5 is a die-casting alloy that combines copper, aluminum, and zinc to create a robust and versatile material. In the context of Neway's capabilities in precision casting, including die casting, ACuZinc5 presents itself as a valuable option for various applications.
Die casting, as a manufacturing method, is known for its efficiency and precision. ACuZinc5, with its composition, offers notable advantages such as enhanced strength, corrosion resistance, and good machinability. The alloy's mechanical properties, including a tensile strength of approximately 320 MPa and a yield strength of around 230 MPa, make it suitable for various components.

When considering Neway's expertise in die casting, the utilization of ACuZinc5 becomes particularly significant. The company's commitment to quality and precision aligns seamlessly with the characteristics of ACuZinc5. Neway can achieve tight tolerances through die-casting processes, with dimensions reaching up to ±0.05 mm, ensuring the production of highly accurate and reliable parts.

Chemical Comparison

Alloy Grade	Aluminum	Copper	Magnesium	Iron (max)	Lead (max)	Cadmium (max)	Tin (max)	Zinc
ACuZinc5	4	4	0.02	0.1	0.003	0.002	0.002	91

Physical and Mechanical Properties

Property	Elongation (%)	Tensile Strength (MPa)	Yield Strength (MPa)	Impact Strength (J)	Hardness (Brinell)	Density (g/cm³)	Melting Point (°C)	Thermal Conductivity (W/m·K)	Electrical Conductivity (% IACS)
ACuZinc5	2	170-200	140-170	15-20	65-75	6.9-7.3	380-386	121	13-16

Typical Applications

ACuZinc5 Die Casting Cylinder Heads

ACuZinc5, also known as Zinc-Copper Alloy 5, stands out as an innovative alloy, particularly in die casting and gravity casting. Developed by General Motors, this alloy has garnered praise for its exceptional properties, making it an excellent choice for various applications. One area where ACuZinc5 shines is in the production of die-casting cylinder heads.

The outstanding creep performance of ACuZinc5 makes it particularly well-suited for applications requiring long-term stability under elevated temperatures. In the demanding environment of an engine, where temperatures can rise significantly, this property becomes crucial for ensuring the reliability and longevity of cylinder heads.

Moreover, ACuZinc5 boasts impressive surface hardness, contributing to the die-cast cylinder heads' overall durability and wear resistance. It is essential in automotive applications, where components are constantly stressed and worn.

Note

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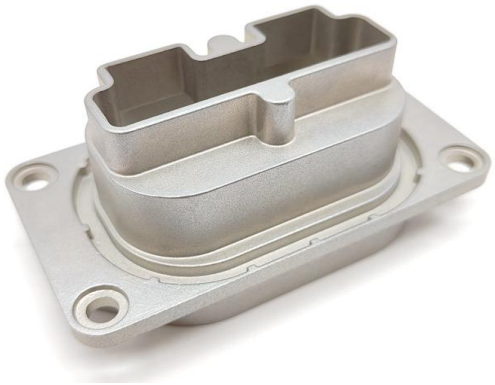
ACuZinc5 Die Casting Connectors and Housings

ACuZinc5, also known as Zinc-Copper Alloy 5, stands out as an innovative material in die casting and gravity casting, particularly in applications requiring long-term stability under elevated temperatures. Developed by General Motors, this alloy boasts exceptional creep performance, making it a prime choice for components demanding sustained durability.

One notable strength of ACuZinc5 lies in its surface hardness, ensuring robustness and resistance against wear. This attribute is especially crucial for connectors and housings subjected to challenging conditions. The alloy's ability to maintain stability and hardness under varying temperatures enhances its suitability for precision die-casting applications.

The lubricity of ACuZinc5 is another critical advantage, contributing to reduced friction and wear between moving components. This property is particularly beneficial for connectors and housings, where smooth operation and longevity are paramount. The low friction characteristics of ACuZinc5 not only enhance the overall performance but also contribute to the efficiency and reliability of the final product.



ACuZinc5 Die Cast Precision Instruments Parts

Dimensional accuracy is a top priority for precision instrument parts manufactured using ACuZinc5 through Neway's die-casting process. Neway achieves tolerances as tight as ±0.05 mm, ensuring that each component meets the specifications required for optimal functionality.

The die-casting process plays a crucial role in maintaining the integrity of ACuZinc5 parts. The molten alloy is injected into precision-designed molds at high pressure, resulting in components with a fine surface finish. It enhances the aesthetics of the parts and contributes to their overall durability and longevity.

In terms of efficiency, Neway's state-of-the-art die-casting equipment ensures rapid cycle times. The production line is optimized for efficiency, with cycle times as low as 15 seconds per part. It accelerates the manufacturing process and contributes to cost-effectiveness without compromising on quality.

Industrial Machinery ACuZinc5 Die Cast Custom Fasteners

In terms of precision, the die-casting process employed by Neway ensures tight tolerances for these custom fasteners. The production line strictly adheres to dimensional accuracy, achieving tolerances within ±0.02 mm to ±0.05 mm, guaranteeing consistent quality across batches.

For efficiency, the die-casting method employed by Neway ensures a streamlined production process. Neway maximizes productivity while maintaining the highest quality standards, with cycle times ranging between 10 to 30 seconds per part and a high casting rate of approximately 500 to 2,000 shots per day per machine.

Moreover, Neway's expertise in die casting enables intricate designs and complex geometries, facilitating the creation of bespoke fasteners tailored to specific industrial needs. This capability, coupled with the advantages of ACuZinc5 alloy, positions Neway as a reliable partner for producing high-quality, durable custom fasteners for industrial machinery applications.

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