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High strength and toughness
High temperature resistance

Innovative new material

Aluminum Alloy 211Z



Auto Lightweight Design
Cast iron product replacement
Customized Alu casting product supplier



Heat-resistant and high-toughness cast aluminum 211Z

It is an innovative aluminum alloy material with the characteristics of high strength, high toughness and high temperature resistance. The mechanical and physical properties of cast aluminum 211Z are close to those of 7 series high-strength forged aluminum alloys. It is an innovative alternative to high-strength forged aluminum and cast iron parts.

Cast aluminum 211Z can improve the production efficiency and greatly reduce production costs through casting, and has a wide range of applications. Especially in the field of automotive lightweight design.

- Electricity Conductivity $\geq 43\%$ IACS
- High Temperature Resistance: very good
Tensile Strength $R_m \geq 300\text{MPa}$ at $250\text{ }^\circ\text{C}$
- Weldability: good
- Corrosion Resistance: good

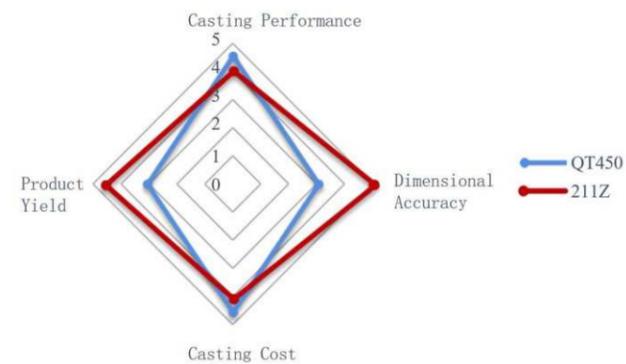


Aluminium Alloy 211Z

Typical Mechanical Properties

Tensile Strength R_m	450 - 540 MPa (N/mm ²)
Yield Strength $R_p 0.2$	370 - 450 MPa (N/mm ²)
Elongation A5	6 ~ 12 %
Brinell Hardness	140 ~ 160 HB

Comparison of casting parameters



Our partner Hualco company is the inventor of cast aluminum 211Z and the national standard drafter and setter for this product, with 196 national invention patents and 5 international patents.

We can provide technical service solutions from casting mold design, trial production to delivery of complete products.

We sincerely hope to cooperate with you.





**High-strength and toughness
High-temperature-resistant
Aluminum alloys 211Z**

It has been used in truck wheel hubs and truck chassis parts. Because it has the strength of 7 series forged aluminum alloy, it can replace the load-bearing casting parts of truck chassis, ensuring the reliability of the product.

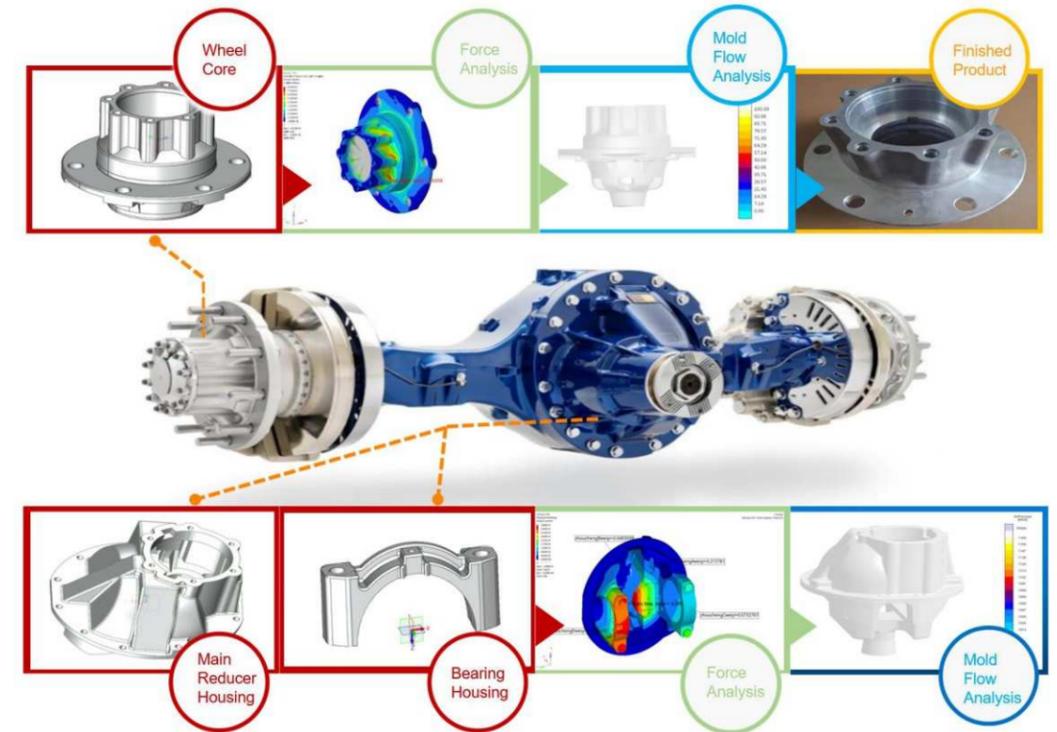
It also simultaneously has heat resistance, and its mechanical properties remain above 300MPa at a high temperature of 250 degrees Celsius, which is a feature that 7 series aluminum alloys do not have.

**innovative
Aluminium Alloy
211Z**

Project Development Process



Developed Components



Chassis System



Assembly Site

Mass Production





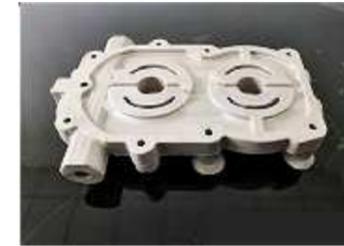
Development of other castings



- Replacing the 7 series high-strength forging aluminum alloy
- Reducing the process and the cost of later machining
- The overall price and cost drop



Development of other castings



Aluminum alloy 211Z replaces the shell and valve body produced by ductile iron material



Hydraulic parts
Thin wall
Oil pressure 44MPa
Working temperature 150°C

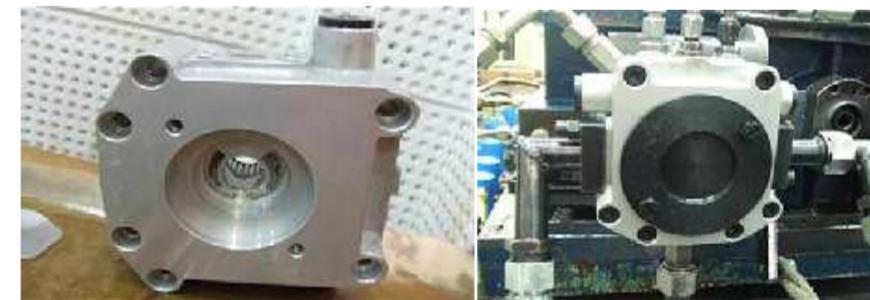


Integral casting motor end cover with Steel sleeve



A certain type of instrument frame

- Solving process forming
- Solving deformation



Hydraulic valve seat 4kg
Thinnest wall part 2mm
Oil pressure 27MPa