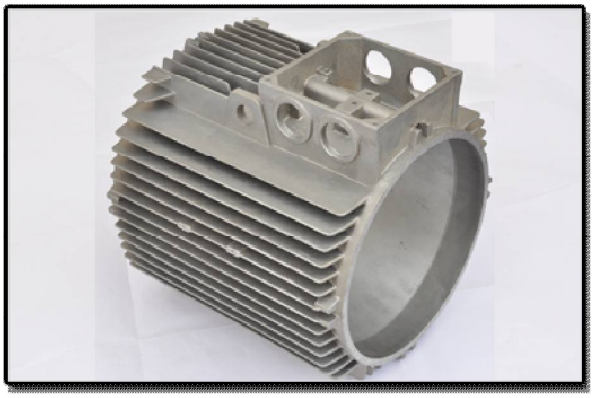
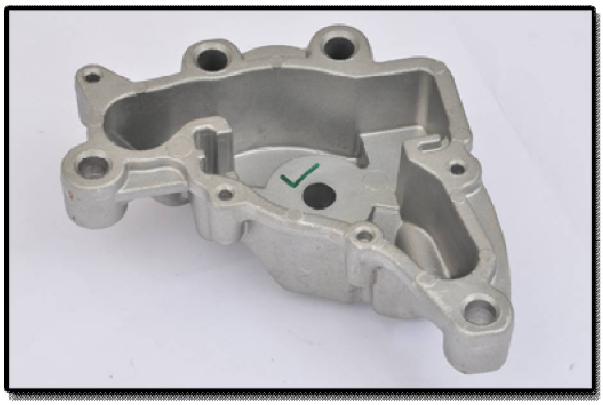
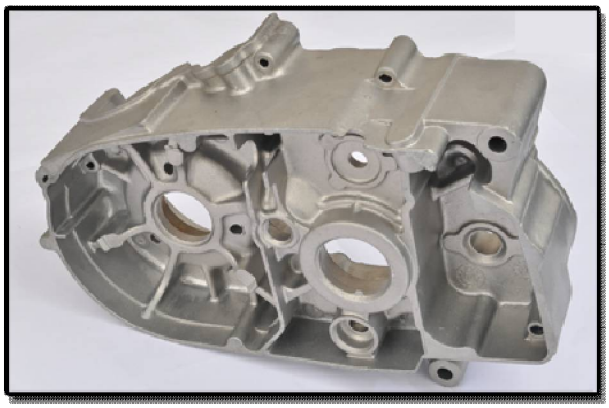
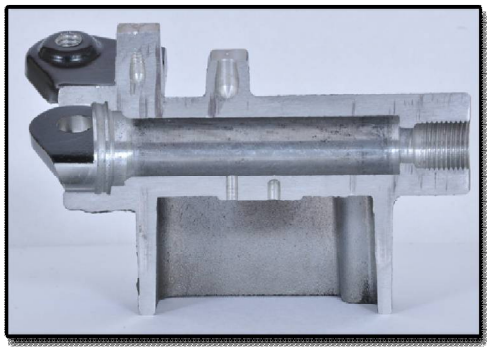
Casting Components





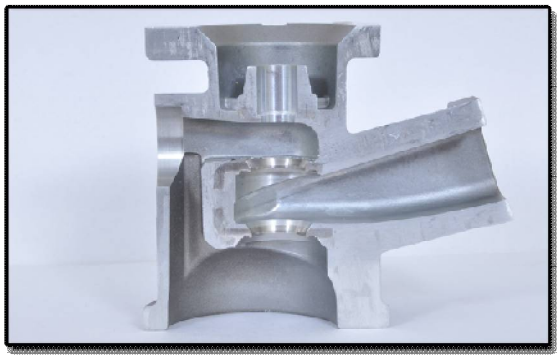


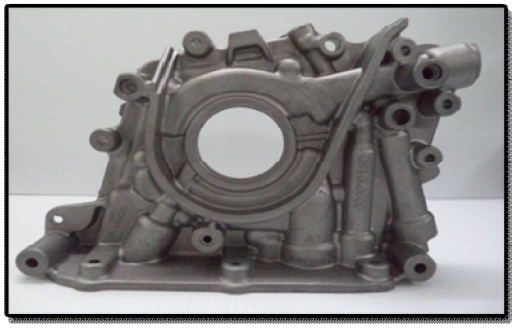
Technical Competence



Vacuum die casting For porosity level of PK1
Disc breaking components which are safety critical required to withstand 140bar oil pressure. The porosity Standards for such applications are very stringent varying for 0.2 to 0.4mm this can be achieved only through vacuum die casting. This is a specialized process where the dies under locked condition are connected to the vacuum mechanism which continuously evacuates the air before and during the filling phase of casting hence achieving minimized porosity levels.

Casting With Steel Insert As Cast
Special applications like steel valve seating or cast iron bushes are made through an insert in as cast condition where in the steel or cast iron insert is placed inside the die before closing. A special design is provided to retain the insert in position while the metal is injected under high pressure and velocity and the molten aluminium forms and solidifies around the insert. This gives the advantage of permanently fixing the steel part in the casting at the desired location. The part is then machined as required and the insert is embedded strongly and gives the required valve seating function.

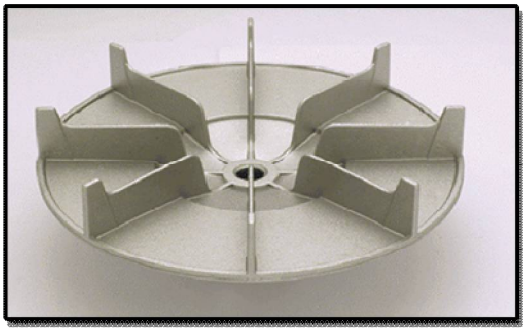




Close Tolerance casting ±0.1mm as cast
General tolerances for pressure die castings are ±0.25mm where as castall has technical competence to produce within lower tolerance band of ± 0.1mm as cast resulting in dimensional stability and minimizing machining stock/cost .

Thin wall Casting 1.2mm as cast

General Wall thickness maintained in die casting is 2 to 2.5mm. Castall has the technical competence to go down up to 1.2 mm wall thickness for lower weight and cost reduction of the end product. Ribbed structures are provided to increase the power to weight ratio.

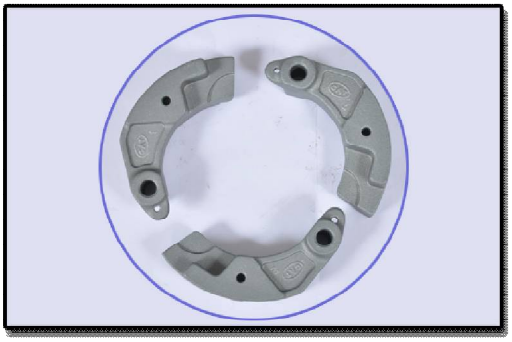


Pressure Tight casting Tested at 12 bar

Leakage sensitive safety critical parts of braking systems for heavy duty Trucks like Foot Brake Valve (chromatised) are manufactured to withstand up to 12 bar air pressure. These components due to their complex application are machined in several areas including solid drilled long holes. These kind of casting required precise control interms of third phase intensification, timing, aswell as pressures to compensate shrinkages during solidification phase

Close weight variation ±1 gm

Weight sensitive Zinc components required for clutch shoe used in Gear-less vehicles are produced with weight variation of ±1 gm as cast on a 200 gm component . This ensures uniform engagment of all three clutch shoes at the same time resulting in a smooth ride for the vehicle.



High wear Resistant alloy

Grain Refinement to 25µm

Special aluminium alloys with high silicon content up to 18% silicon are pressure die cast with special modification process to achieve extremely high wear resistant surfaces after attaining a uniform grain requirement of 25 microns.

Casting with As cast thread

Zinc components are die cast with as cast threads and can be assembled directly after trimming. Thread machining for components like plugs can be avoided.