MEC-E7005 - Advanced Casting Technology D Course assignment

## 1: Automotive diesel piston

## **Operating environment**

- Operating temperature up to 300 °C in piston crown area
- Active forces are mostly in the main cylinder axis direction
  - High pressures, several hundred (< 200) atm/bar
  - High acceleration from combustion process
- Batch size 6000 per year

## Material demands:

- Preferably low weight
- Can either withstand or mitigate thermal stresses

Automotive diesel piston



