



*Sim-Cast are helping customers reduce 80% of their scrap, by solving their mechanical and thermal defects.*

### Reducing waste

Sim-Cast are helping customers manufacture robust products with minimum waste.

Using Sim-Cast know how, over 80% of the casting process defects can be measured, predicted, and improved through modelling.

### Thermal defects

Defects of a thermal origin typically represent 40% of product induced defects. These include secondary grains, freckles and porosity type defects.

### Mechanical defects

Defects of a mechanical origin include cracking, recrystallisation and deformation, which are influenced by various process parameters such as the casting temperature and material properties.

Creep induced deformation has additional related costs, which are associated to corrective rework that may be carried out on the product.

Sim-Cast help customers define methods of manufacture that minimise creep, strain induced cracking and recrystallisation, as well as defining tooling that also takes creep into consideration.

### This issue – May 07

- Reduced waste
- Mechanical defects
- Scrap allocation

### Contact Sim-Cast

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### Previous Issues

- [March 2007](#)
- [April 2007](#)

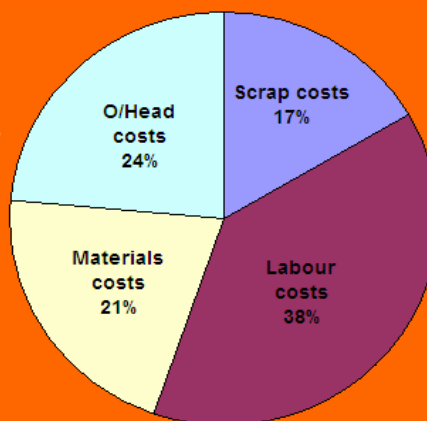
### Typical scrap allocation

For a typical 70% yield product, 20% of the total cost is scrap. As discussed in the April Newsletter, Sim-Cast can reduce material, labour and scrap costs by minimising waste.

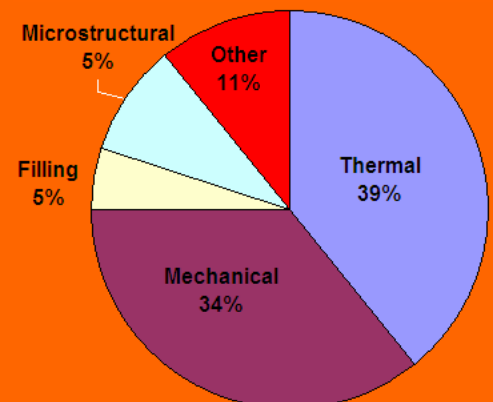
However, 80% of scrap can be minimised by addressing four different types of defect modes, defined as:

- Mechanical
- Filling
- Microstructural
- Thermal

### Product cost allocation

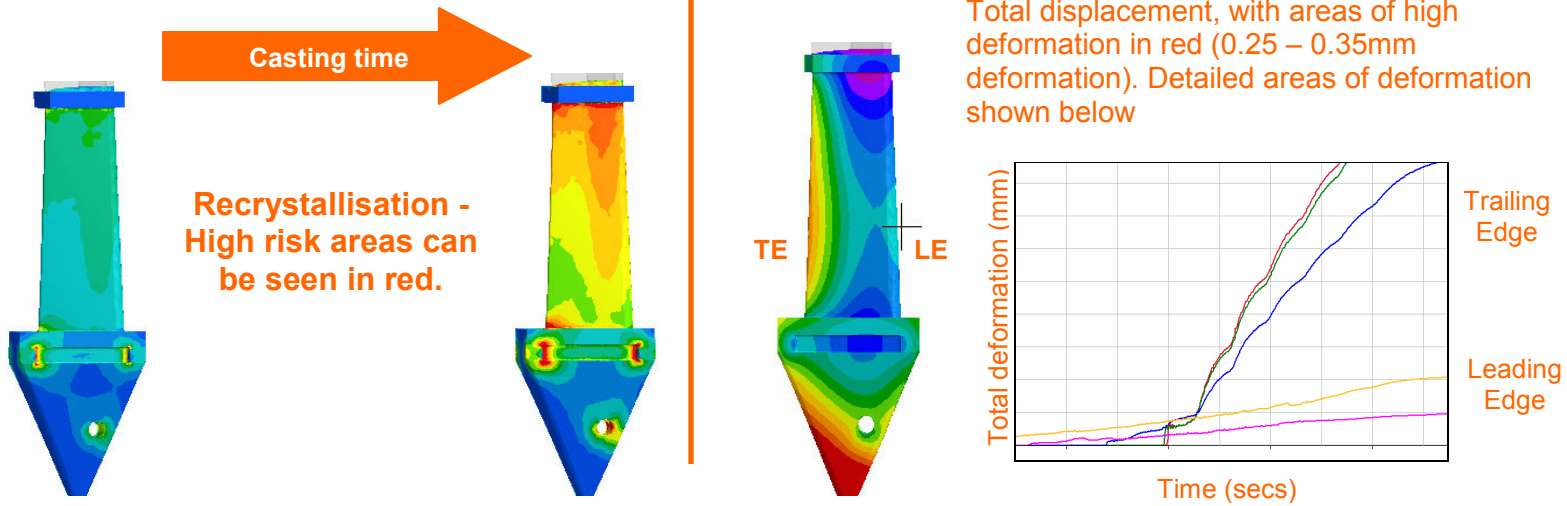


### Scrap cost allocation



## Why Sim-Cast

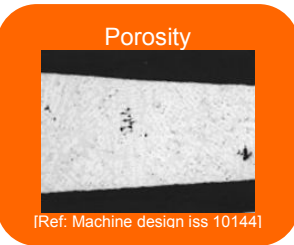
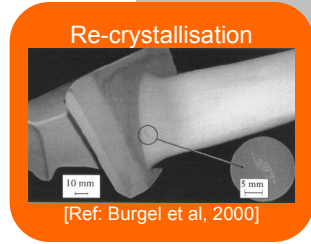
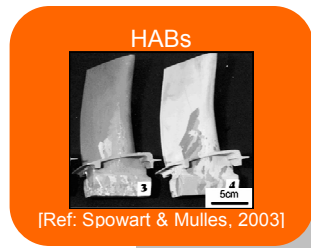
Sim-Cast's solutions include the capability to understand and provide solutions for mechanical type defects. Sim-Cast can help transform your foundry through the delivery of robust mechanical type defect improvements, resulting in significant return on investment. These benefits include direct cost avoidance through reduced scrap and reduced engineering time for remedial work, not only delivering reduced costs, but increasing engineering capacity.



## Business benefits

Sim-Cast's experience and capabilities offer unique opportunities to achieve exceptional performance, and are helping their customers meet increasingly demanding improvement goals and targets. Sim-Cast focus on solutions for today's problems and deliver;

- Increased business capability and capacity
- Increased knowledge and understanding of the process
- Improved new product development process and time to market
- Centralised and standardised processes
- Improved ability to handle capacity fluctuations
- Reduced labour costs



## Identifying today's problems

## Providing today's solutions