

Problem definition

Additional stock is needed for the casting process, but it is desirable to minimise material usage. Nearer net shape casting involves casting parts as close to the finished form as possible. But this can be difficult to achieve, as reducing stock also reduces ability to machine out defects.

Impact of change

By predicting where defects are likely to occur, they can be eliminated with fewer casting trials. This can be done with process modelling tools, which not only saves cost and foundry capacity, but also achieves a more optimal casting technique than trials alone.

Problem solution

Smaller volume parts are metallurgically cleaner, as heat can be extracted more efficiently from a smaller charge. Thus the benefits include less spurious defects, less casting and machining stock, etc.

Defect prediction

