The case study

This approach was taken with a leading European manufacturer:

The thyssenkrupp Aerospace engineering team designed new ‘mother’ plate sizes and nests which were approved by the customer.

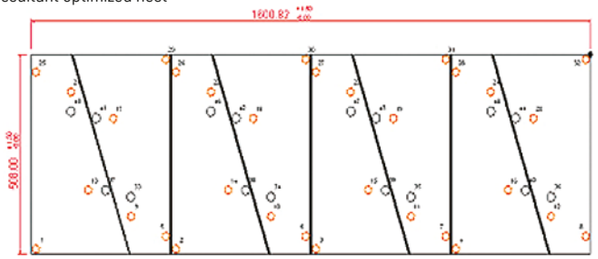
It was agreed that thyssenkrupp Aerospace would undertake the first machining operation and therefore supply billets directly to the customer’s manufacturing cell ready for final machining.

Optimized pre-machined billets were delivered on a just-in-time basis.

Key benefits

- 32 % metal saving worth € 1.7 m p.a.
- 305 metric tons (672,000 lbs) of mill capacity freed up
- Customer has zero inventory and only a few days of WIP
- Transactional costs were reduced

The resultant optimized nest



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The challenge

Optimize material consumption

Professional procurement teams use competitive tendering exercises and negotiation to reduce material purchase prices, but are still under pressure to find more cost savings.

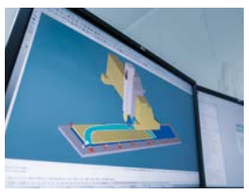
Since the material cost of a finished component is not only a function of the price paid for the material but also the amount (weight) of the material used, it is clear that costs can be reduced by reducing material consumption – but how?

By reviewing the components that a customer manufactures, it is possible to group items into common materials and thicknesses and to calculate volume of usage by material. From this it is possible to calculate the optimum sized 'mother' plate from which to cut the component billets – i.e. a size which eliminates waste.

This process alone will result in savings but through joint review with the customer, it is possible to decide how to nest components efficiently and thereby to minimize waste. This process also leads to an increased understanding of customer needs which can result in improvements in the overall service we provide.

The process...

- Customer requirements are engineered using CAD and optimum sized 'mother' plates are purchased.
- 'Mother' plates are taken from stock.
- Plates are cut accurately to size on CNC plate saws.
- Nested billets are machined and tooling holes drilled.
- Profiles are cut from the nested billets.



...to a customized solution

- All items are checked using inspection machines.
- Parts are marked and married with the customer's job card.
- Finished parts are stored ready for use.
- Parts are picked and packed ready for dispatch.
- Dedicated transport ensures delivery to point of use on a just-in-time basis.

Aluminum
Steel
Titanium