Nesting System Optimization

ProNest® optional module

Benefits:

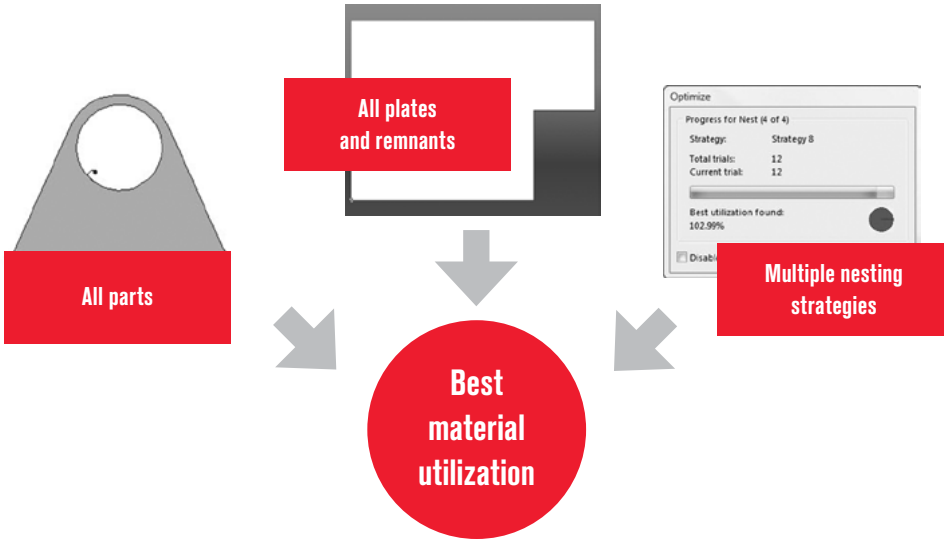
- Increased material utilization
- Faster inventory turnover
- Faster programming

Description:

Programmers may be faced with many different parts to nest and many different plate sizes to choose from, along with different nesting strategies to select. But how do you know which combinations will provide the best outcome or the highest material utilization?

With Nesting System Optimization, you can let the software do the math for you. This module will calculate every possible combination of parts, plates, remnants, and different nesting strategies, until it finds the best possible outcome.

Here the module evaluates all variables to find the combination with the best material utilization:



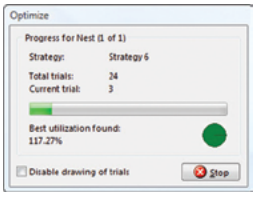
In addition, Nesting System Optimization can prioritize parts to ensure they are the first to be nested, and/or prioritize remnants over new plates to maximize inventory turnover. You can also use this module for cut-to-length coil nesting.

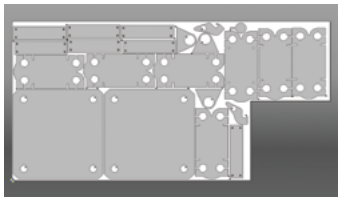
Example job:

- 150 parts to be nested
- 0.25" (6.35 mm) material thickness
- 6 plate sizes available (4 new and 2 remnant)
- 4 different nesting strategies set to be trialed

Step 1:

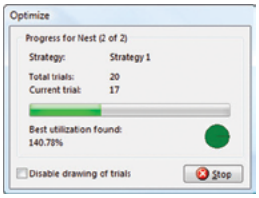
Nesting System Optimization begins creating the first nest by running a trial for every possible plate and nesting strategy combination. In this case there are 6 plate sizes available and 4 nesting strategies being used, so a total of 24 trials will be conducted. Material utilization and other criteria including part and remnant prioritization are used to define the nest.

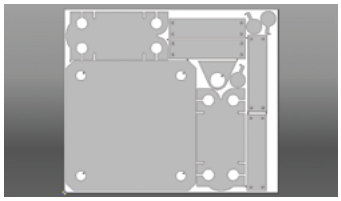




Step 2:

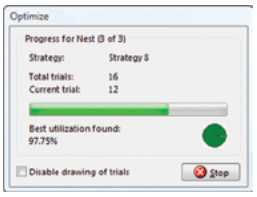
The process is repeated using the remaining parts and plates. At this point there are 5 plate sizes remaining and there are still 4 nesting strategies being used, so a total of 20 trials will be conducted.

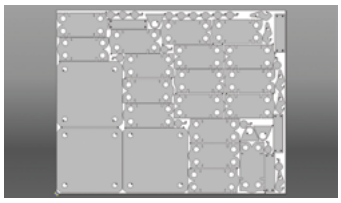




Step 3:

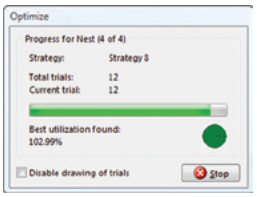
Nesting System Optimization will continue to run trials and create nests until all parts have been nested.

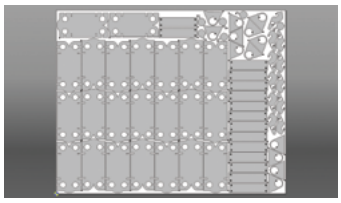




Step 4:

All parts are nested and the job is complete.





Conclusion:

The finished job consists of all 150 parts nested on two remnants and two full plates. The “true area” material utilization averages 80% and the rectangular utilization averages 94%. And that’s with a priority on remnants (using full plates can often result in higher utilization).

Compared with standard nesting, this module makes it easy to consume remnants and achieve consistently higher utilization. The difference is typically a few percent per nest. Add up the savings from job to job, shift to shift, and week to week and the results can be immense.

Visit our website www.hypertherm.com/CAM to request a free production trial.

One of Hypertherm’s long-standing core values is a focus on minimizing our impact on the environment. Doing so is critical to our, and our customers’ success. We are always striving to become better environmental stewards; it is a process we care deeply about.