

Switching to ProNest® nesting software increases Chungyong's productivity

Technical brief

Company profile

CHUNGYONG, KOREA – **CHUNGYONG IND. CO., LTD.** is a manufacturer of parts used in shipbuilding. The company has two factories that produce ducts, gas pipes and hatch doors for shipyards like Samsung and Daewoo, who are their major customers.

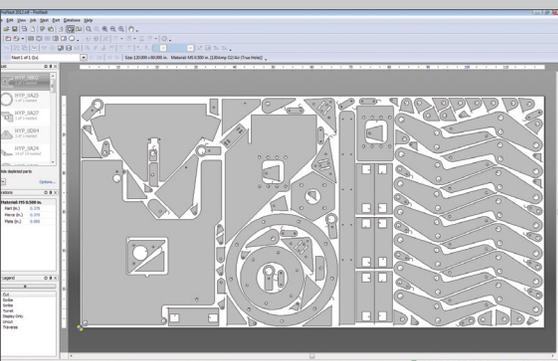
To efficiently manufacture parts from flat raw material, companies often use nesting software to analyze parts for production. A user-friendly software that requires minimal operator intervention is ideal, but for companies, it sometimes takes switching from one brand to another to find a perfect fit. This was the case for Chungyong which replaced its previous nesting program with Hypertherm's ProNest and instantly started enjoying higher productivity and reduced material waste.



Searching for a new program

Since 2007, Chungyong had been using nesting software produced in Germany. However, Chungyong's operators were not satisfied with the software program, as it was not easy to use and did not have automatic nesting functionality. Although the software came with a Korean language user manual, this proved to be of little help because the instructions were difficult to understand.

In late 2010, one of Hypertherm's Korean software resellers contacted Chungyong to introduce ProNest and highlighted the features of the software which struck a chord with Chungyong. After a satisfactory extended trial, Chungyong proceeded to purchase ProNest in January 2011.



Lee Seung-Ho, Chief Executive Officer (CEO) of Chungyong commented, "Of our two production facilities, one focuses on cutting, and the other on welding. The nesting software is utilized in the first facility, together with our plasma cutting systems". Lee went on to explain, "There was little difficulty in adopting ProNest as the program is straightforward and had many functions that required minimal operator intervention. Troubleshooting was also not a problem. ProNest includes a Korean language manual with simplified instructions, and post-purchase support was readily available."

Because the software was simple to use and very effective, operators saved a lot of time and increased their productivity. It took the engineers just one day to get acquainted with the various features of ProNest, and they only needed to be familiar with one nesting software for all of Chungyong's cutting systems.

"The previous program was more difficult to adapt to," Lee shared. "Our operators took three days to understand how to use it. With ProNest, the engineers only needed one day, and they were able to pass the information easily to their colleagues. Also, the software is compatible with different types of cutting equipment, so we don't need to purchase other programs."

Realizing the benefits

Once using ProNest, Chungyong immediately began to benefit from its many features, resulting in an increase production efficiency. One such feature is the automatic nesting module, where

Did you know . . .

ProNest can provide one nesting program that will work with most cutting machines and CNC controls; new and old alike.

Interesting facts . . .

- ▶ *Our associates understand the cutting processes you work with.*
- ▶ *Our ProNest software works seamlessly with all leading brands of laser, including Hypertherm fiber laser, Trumpf, Bystronic, Cincinnati, Tanaka, LVD, Mitsubishi, and others.*
- ▶ *Our products are so easy to learn we can install the software and train a new customer online, the same day.*
- ▶ *Our nesting software products are part of Hypertherm's Built for Business™ Integrated Cutting Solutions.*

the desired parts to be cut are nested automatically with a simple mouse click, thereby minimizing waste on the plate. The feature also fills voids by nesting parts within parts and allows parts from different jobs to be nested and cut using the same piece of material, thus improving utilization and reducing material wastage. Another feature is Bridge Cutting that links cut profiles together, preventing part movement during separation and the need to pierce each part separately. This led to cycle time savings and improved consumable life. With reduced production time, Chungyong increased throughput and turnover.

Another benefit derived from switching nesting software is that the nesting process now requires fewer operators. Chungyong uses a computer-aided design (CAD) program to create shapes that are to be cut. When the files are imported to ProNest, the software is able to correct drawing errors automatically, if there are any. ProNest can also extract CAD layer Bill of Materials (BOM) information related to the material type, thickness, customer, etc. for each part in the job so operators do not have to key in the information. The software can also unfold and flatten 3D SolidWorks files and import them for nesting, eliminating the need for manual manipulation. As a result, nesting became less labor-intensive and Chungyong was able to transfer three employees to another department, reducing costs.

“Nesting is easier and faster now, and we have become more productive,” Lee shared. “We now spend less on materials and production, and are able to optimize our staff strength. On top of that, we have received business from construction companies, expanding our scope to beyond shipbuilding.”

Growing the company

Certain ProNest functions have been useful for projects within the construction industry. The PIPE Parametric Fittings feature automatically generates flat-plate developments for pipe joints and transitions, and allows users to nest pipes of various shapes, along with tee branches of different shapes.

Lee commented, “It is every company’s hope that its business will expand with every key equipment procurement decision made, and I am delighted that we have achieved this with the help of ProNest, amongst other factors. We look forward to utilizing the many functions of the software when we venture into other industries.”

Overall, Chungyong is very pleased with the benefits achieved by using ProNest and will apply the software for their third factory.

“Our engineers are very satisfied with ProNest, so we want to continue using the program,” Lee concluded. “It is user-friendly and easy to learn. We will definitely recommend the software to our OEM suppliers as well.”

For more information

Learn how Hypertherm ProNest software can help your company improve productivity and part quality, without operator intervention. Please contact one of our team or your trusted Hypertherm software partner, or visit www.hyperthermCAM.com.

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Cut with confidence[®]

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ProNest[®] advantage

Here are just a few examples of the benefits you can achieve when using ProNest to program your laser machine:

- Use **Skeleton Cut Up** to automatically section the skeleton to consistent, manageable size sections. Reduce unload time, receive more cash for scrap and avoid operator back injury.
- Use ProNest to automatically **radius sharp corners on CAD files** allowing higher cut speeds and avoiding corner burn-out.
- Use **Safety Cuts** to help prevent tip-up / torch collision scenarios during separation of nests using Advanced Common Line Cutting.
- Use **Advanced Common-Line Cutting** to automatically or interactively nest and common-line cut an unlimited amount of parts together on the same nest; resulting in a reduction in pierce cycles and cutting time
- Use pierce control options such as **Double-Pump Pierce** (pierce, cool, pierce) to improve part quality.
- Use **Collision Avoidance** to eliminate the chance of head collisions and significantly reduce production time through a combination of moving lead in/out positions, developing avoidance paths around possible tip-up situations, and by using partial or full head raises