

**THERMIWOOD**

# **THERMWOOD**

We are based in Southern  
Indiana

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**We now build Large Scale  
Additive Manufacturing  
Machines**



Thermwood's Additive Manufacturing machines are called LSAM (L-Sam)



How can a relatively small  
Company in rural Indiana expect  
to compete in the high tech  
additive manufacturing business?

Its in our DNA

We started almost fifty years ago  
making wood grained  
thermoformed parts for the  
furniture industry – hence the  
name...

Our process was new at the time  
so we had to build most of our  
own production equipment..

We ran that equipment and large sheet extrusion lines 24/7 and processed millions of pounds of thermoplastic..

Then in the 1970s we discovered microprocessors and ended up developing, building and selling the very first microprocessor based CNC control in the world..

We then built the first CNC router  
in the world...which was easy since we had the  
only CNC control

We then programmed highly advanced design software for our CNC routers..

Today it is some of the most sophisticated design software in existence..

With it, professional woodworkers can make tens of millions of different products, right at the machine, with no design software, no training, no programming and not even a machine manual .. its that intuitive

As you can see we had all the elements needed for additive manufacturing..

We knew thermoplastics

We build sophisticated CNC  
controls

We build industrial CNC machine  
tools

We are comfortable programming  
our own CAD/CAM software

However, considering our history, its not surprising that when we went after additive manufacturing we took a different approach than everyone else..

Since we already built trim machines we made our LSAM machines so they could both print and trim on the same machine..

For printing we tried traditional extruders but they didn't work very well...so we decided to build our own using all new patented screw designs ideally suited to additive manufacturing

We also found that an extruder alone wouldn't work at really high print speeds so we added a servo controlled polymer melt pump to provide precise control over the print process.. a whole new approach..

We also developed a servo controlled bead compression wheel to precisely control print bead geometry and assure perfect fusion between layers..

We developed our own print software which is already pretty amazing and will just get better...

We are, admittedly, new to this business, but are already making some pretty amazing parts...

And we have some really great ideas for the future...

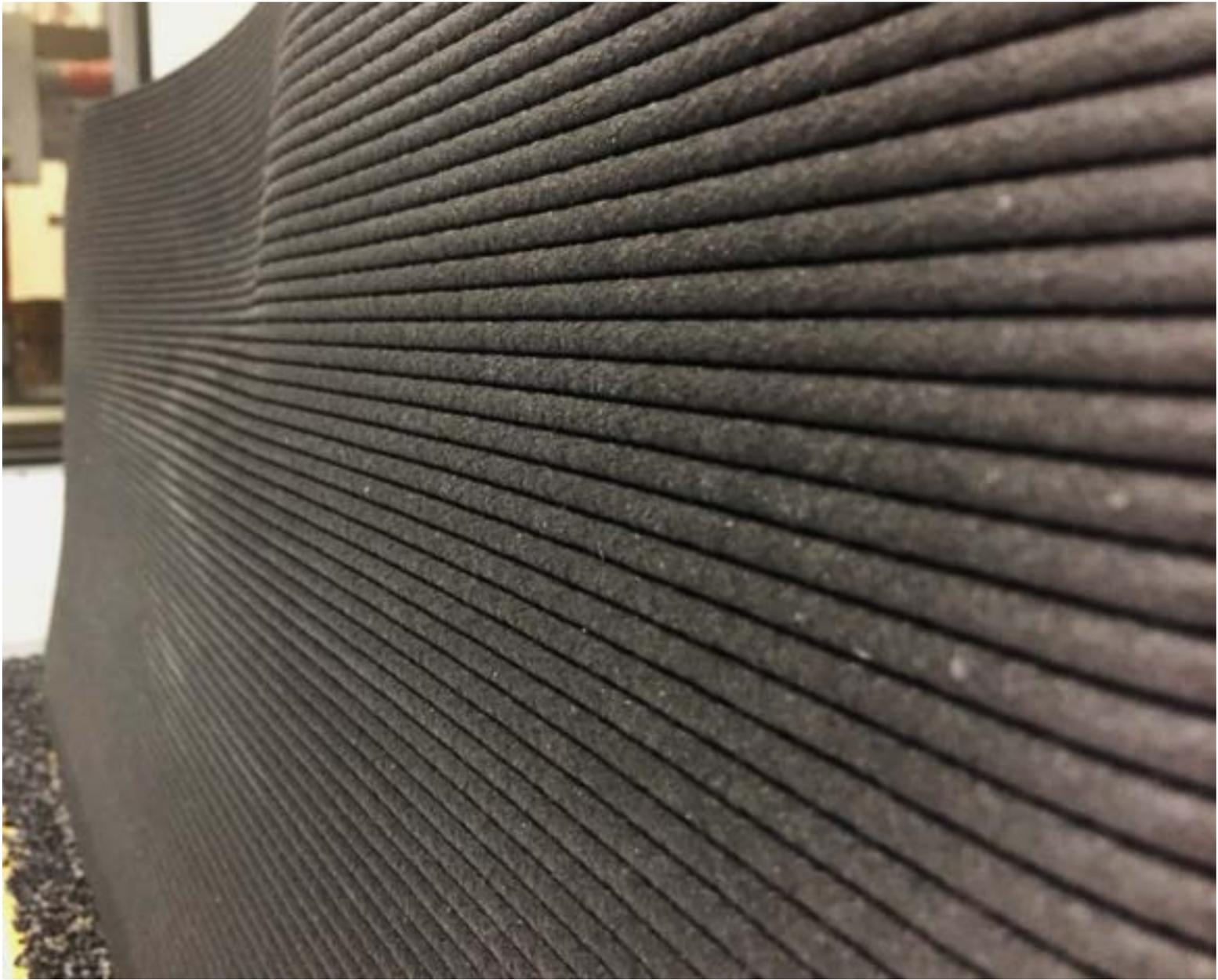
Don't underestimate a small  
Company in Indiana

**LSAM**  
Large Scale Additive Manufacturing

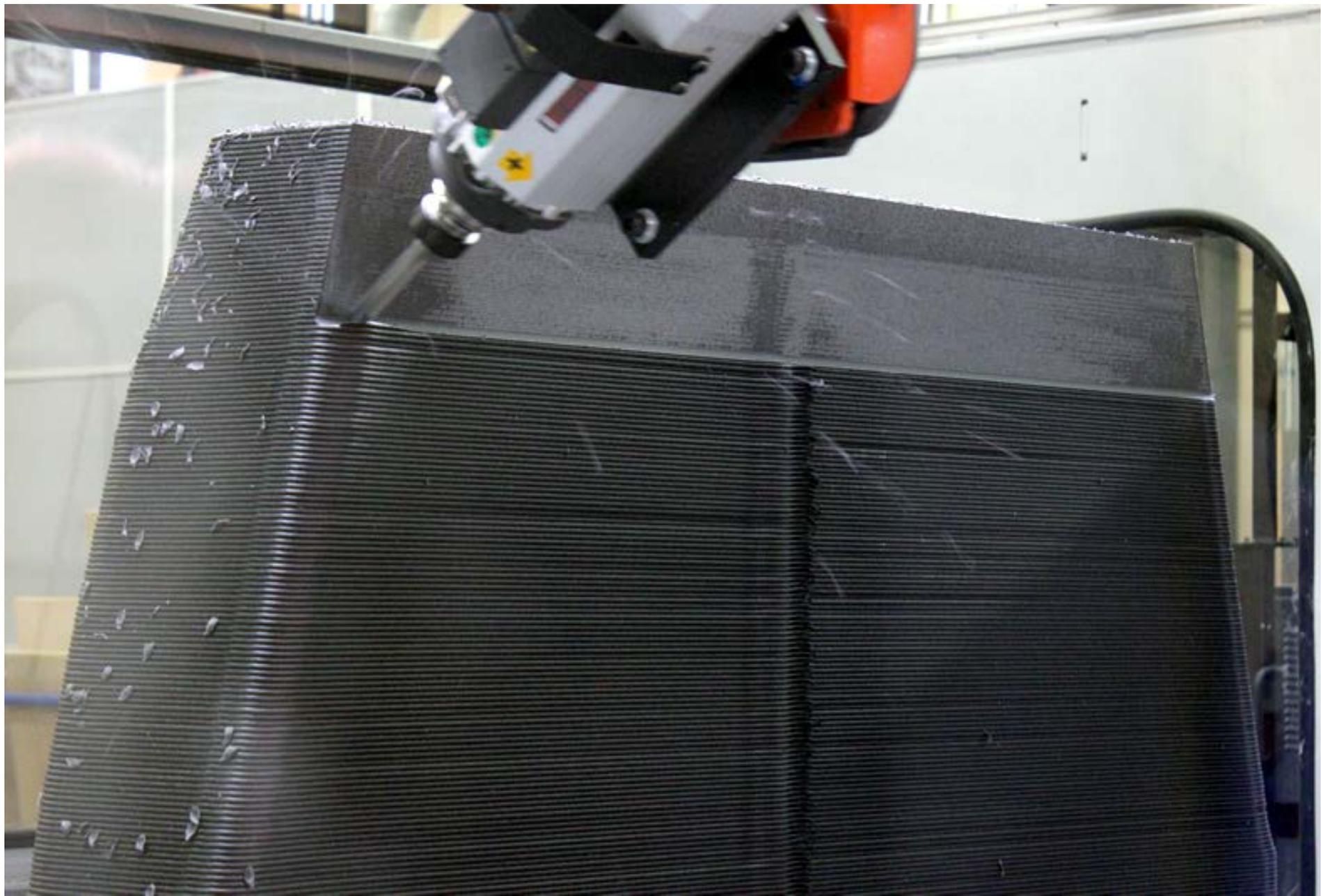












# PH Series Print Head

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