



Better Together

For Humtown Additive & Catalysis Additive Tooling,
business is RELATIONAL not transactional.

May 29, 2024



BETTER TOGETHER: Mark Lamoncha (Humtown President & CEO), Brandon Lamoncha (Humtown Additive Director of Additive Manufacturing), and Darrell Stafford (Catalysis, President & CEO).

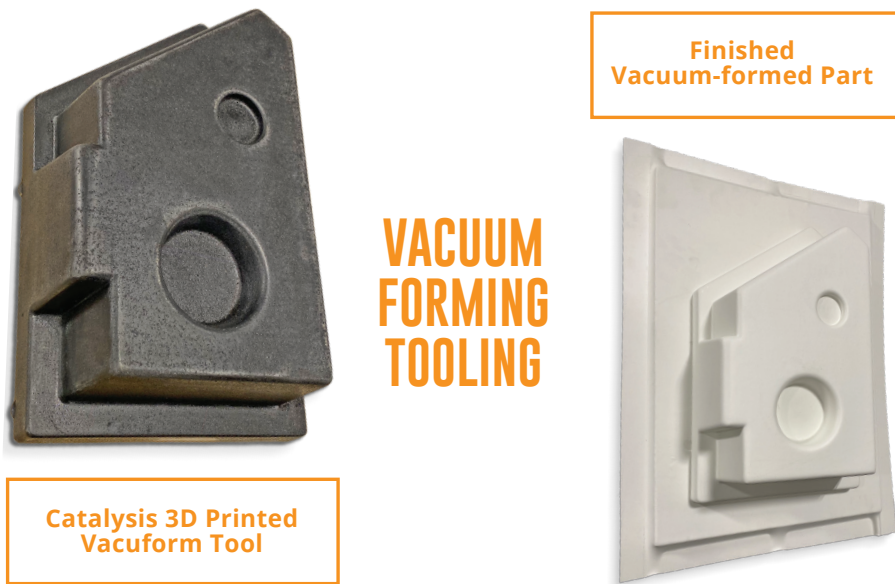
Being a leader doesn't mean you don't have to form strategic partnerships. This is especially true when you are utilizing a transformational, disruptive technology. When Humtown, the Global Leader in Commercialized 3D Sand Printing of Cores and Molds, was looking for a fellow disrupter, they found one in their home state - Ohio. Catalysis Additive Tooling, the Leader in Thermoforming Tooling Innovation was a perfect fit.

Both employ the same process at the start of their projects — jet binder 3D sand printing. The printer takes a digital, print ready file, and begins to replicate it one layer at a time. It prints a layer of sand on the first pass, before laying a binding agent on the next pass. It does this over, and over again until it has completely printed the object in sand. For Humtown, the completed print is sent to a foundry and replaces traditional sand cores and molds for pouring metal, but at Catalysis they take the sand print in another direction.

Catalysis takes that 3D sand print and uses it to make tooling for the Thermoforming process. In the past, tooling for vacuum forming was primarily created in a machine shop. A block of aluminum is milled by a CNC machine into a shape necessary for tooling. This process could be costly and take up to 6 to 8 weeks to complete, but Catalysis can

accomplish the same goal in half the time and half the cost — through additive manufacturing.

Instead of machining the pattern, Catalysis first has the design 3D sand printed. Once complete, they take the sand print and infiltrate it in a proprietary, resin coating. Originally the sand print is very fragile, but after being infiltrated with Catalysis' "secret sauce" the new tooling is as hard as a rock. With a 85D scale hardness, it can now hold up to 15+ tons of force. Finally, the infiltrated print can be mounted to a base, flanges can be added for vacuum connections and the other tasks necessary to finish off and complete the tooling can be made.



3 DIMENSIONAL THINKING: Catalysis' 3D sand printed vacuform tooling after infiltration has been completed. This tooling is used to create the vacuformed part on the right.

Also, with 3D comes the added benefit of the ability to create very intricate designs, ones far too complex to be created in a traditional machine shop. And, even more importantly, it is a huge time saver. Catalysis targets are usually 50% of the costs and less than 50% of traditional manufacturing times. That is Catalysis value statement. As great as Additive Manufacturing has been for the Thermoforming field, Darrell Stafford, President & CEO of Catalysis, does not see Additive Manufacturing replacing the machine shop completely. "Catalysis is a one stop shop, and 3D printing is just a tool in our box," says Stafford.

“Thermoformers and OEMs can have incredible design freedom with our 3D process, but a simple design might still be better off machined,” states Stafford. Bottom line, know-how and design experience will always drive production — and how you leverage your tools is key.

Humtown and Catalysis’ long-standing relationship began when Stafford was leading the North American R&D Division for Additive Manufacturing at Honda, where Stafford was concentrating on 3D tooling. Humtown was a natural partner — because Brandon Lamoncha, Director of Additive Manufacturing at Humtown Additive, had been working to commercialize 3D printing for the foundry industry — advancing the spirit of innovation that his father, Mark Lamoncha, Humtown President & CEO, continues to champion.

It is a partnership that continues to this day. Not only does Catalysis outsource 3D sand prints to Humtown Additive, but they also support each other through shared business connections and counsel.

“It has to be a Win-Win for both companies,” states Stafford. “To give you an example, a former machinist at Catalysis was making a tooling around 6 years ago. He was in the middle of processing it when it broke. As you would guess, he was very upset — he even went out back and got sick. He was just so passionate. I just told him ‘That’s not a problem,’” Stafford recalls.

“I just called Brandon up,” continues Stafford. “He printed one overnight, and we picked it up the next morning. That’s what a strategic partnership brings you.”

Visit humtown.com and use our new online RFQ to request a 3D quote today. And go to catalysis3d.com to see how Catalysis can deliver tooling to you at half the time and half the cost.



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