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OKLAHOMA

SEPTEMBER 2017



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MINOR LEAGUES**
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Start new activities
at any age

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Fashion**
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BUSINESS

3D-elightful

Three-dimensional architectural printing provides astonishing clarity and detail ... and elicits childlike reactions.

Forget blueprints. Showing off structures in a 3D print is the newest tool in an architect's visual and artistic communication palette.

Brian Freese, principal with Freese Architecture, has utilized three-dimensional printing since 2013 and recently replaced the pricey first equipment with an upgrade. He says clients react positively to the tactile and visual sensations of holding miniatures of their buildings and admiring the works from all angles.

The 3D capacity "also gives us an unparalleled ability to study an in-process design concept or a finished solution both globally and in minute detail," he says.

Founded in 1994, Freese's company is a full-services architectural and design firm, with areas of specialty including unique custom residences and commercial buildings that reflect the local culture, climate and history, and utilize current construction technologies, all with a modern aesthetic.

"Our solutions are decidedly modern and look of this era, but are warm and inviting," he says. "I call our work Midwest Modern."

Freese describes people's reactions to 3D prints as "an almost childlike fascination to what they see. Almost invariably, they want to touch the models and bend down and look inside these tiny buildings. I see 'play-time' written all over their faces. Then they want to see the machine itself. When we show them our 3D printer – it looks something like a small front-loading washing machine or big oven – it seems to demystify it a bit because the concept is rather simple once explained.

"But they are fascinated with the 3D printed models themselves. Clients are amazed at the sight of their building or home in a built, miniature form. It is very gratifying, and a lot of fun, to see their reaction. They get a whole new level of understanding of the design and layout of their project. When we remove the roofs for them to see inside, they usually release an audible gasp."

Creating a balsa wood model by hand is time-consuming and laborious. This method has long been utilized by architects, who often share X-Acto blade war stories since the razor sharp cutting tool can be hazardous to hands and fingers "or any extremity for those of lower dexterity," Freese says.

Architects need models to study all elements of their designs, according to the All3DP.com. A specific project is often changed in order to get a perfect concept of an idea. Stored files in the 3D printer make it possible to change digital structures easily and print the model again. The architect can alter the digital model, try out variations on the fly and visualize problems easily. They architect can save time and effort, and build more accurate, cost-effective models with homogeneous surface structures.

The 3D factor "has changed our business in ways I did not anticipate," Freese says. "It definitely reinforces our reputation as a forward-thinking, progressive architectural firm. In addition to a great client presentation tool, it is a tactile, real-time medium to study alternative design options, the play of light, shade and shadow effects, and the overall form and proportion of a building, rather than being restricted only to a computer screen. It is a more visceral and elemental experience to study our designs than on computers, although we do a lot of that as well with computer modeling."

The future may mean more creativity or collaboration with clients due to 3D printing, but, for now and for Freese's firm, 3D printing serves as a way to "cement our relationship with our clients. When we give a 3D print of a home project to clients, we'd better have tissues handy because they may just break down in tears."

■ TRACY LEGRAND



BRIAN FREESE SAYS CLIENTS ARE OFTEN FASCINATED BY 3D MODELS THAT ACCURATELY REPRESENT THE PLANS OF THEIR HOME OR BUSINESS.