collage to relief
analog reliefs
Juan Gris: violin & guitar
Charles Biederman
Morphosis: Crawford House
3D Printing at Morphosis

Santa Monica, California
www.morphosis.net

Increasingly every day, design firms appreciate the effectiveness of the new digital media as design tools. Their ability to quickly transform and change designs that may have just been completed makes them valuable for the exploration of variations and alternatives. At the same time, designers have a need to experience forms in a more touchable state. This can only be achieved through physical models for which there is still a high demand. The problem is that building models by hand is such a tedious, slow, and expensive process that it actually defeats the essence of model building. During the design process, by the time a physical model has been completed, it is already outdated, since, in the meantime, the design has already evolved to a next stage. Thus, in the past, especially in the practice of architectural design, models were used mostly at the very end to help visualize the final design solution. All this has recently changed, thanks to the rapid evolution and availability of affordable machines that automatically transform virtual computer models into physical models.

One firm that is known to be taking full advantage of these new technologies, the Z-Corporation 3D Printer in particular, is the multi-award winning architectural firm Morphosis of Santa Monica, California. As they place emphasis on inventing forms that are frequently too complex to be visualized with manual means, they resort to 3D Printers. Virtual models they create with form\(\text{\textregistered}\)Z, throughout their design process are exported as STL files to a Z-Corp Printer to produce their physical models. As they may be doing this continuously for a project, they frequently end up with a full set of physical models depicting more or less the complete evolutionary process of their design thinking. Some examples are shown on this page.

Rensselaer Electronic Media Center, Troy, New York

San Francisco Federal Building, San Francisco, California
Wayne L. Morse United States Courthouse, Eugene, Oregon
Rensselaer Electronic Media Center, Troy, New York
San Francisco Federal Building
tension / Schema & interpretive diagrams
selected digital trace combinations
selected digital relief models
analog relief model
ink drawing - repetition and displacement of a module
xerox collage of architectural photographs from Eileen Gray House
information technology facility spring 1993
analog digital 1999
jazz institute 3d diagrams in context (plan/sectional relief)
jazz institute in new york, lower east river: site relief
jazz performance fall 1998