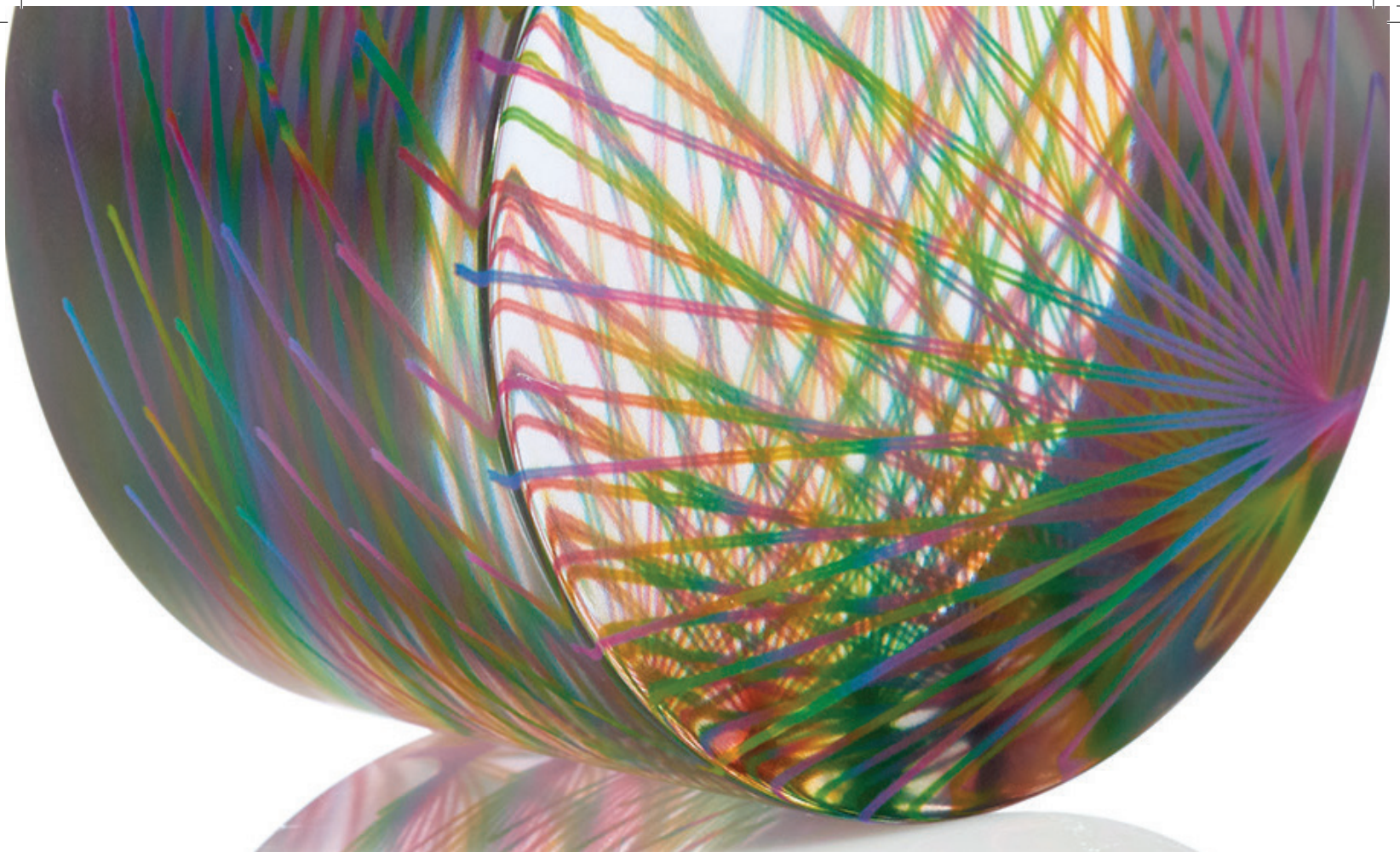# Unlocking
Innovation

Achieve the impossible with GrabCAD Voxel Print on the Stratasys J735, J750, J8Series, and J55.

stratasys

GrabCAD Voxel Print lets users control the physical characteristics of their model down to the individual voxel level, including all interior elements. These lines were turned into rainbow colored strips and then encased in a clear cylinder, demonstrating unparalleled user control over the attributes of 3D printed models.

Unlocking Innovation

Partner in Discovery

Change the way you design and fabricate multi-material 3D printed parts by controlling how your ideas come to life down to the individual voxel. Create higher resolution, complex, sophisticated prints by manipulating structures and controlling model behavior. Fine tune color, shore-value gradients and even texture mapping at a microscopic scale. The voxel-level functionality enables you to move away from simple boundary representation modeling to volumetric modeling down to the smallest physical element of a 3D printed structure.

Most additive technology is limited by the design tool and available materials, only working in polygons layer by layer. But GrabCAD Voxel Print™ lets you exercise control of your design at the voxel level (short for volumetric pixel) outside of CAD with access to more materials than any other printer with the Stratasys J735™, J750™, J826™, J835™, J850™, and J55™. With GrabCAD Voxel Print,

your system becomes far more than a high-end 3D printer, it's a powerful platform for advanced research and development.

Multi-Material Control

GrabCAD Voxel Print provides a new design-to-manufacturing architecture enabling researchers, developers and innovators access to multi-material deposition, orientation and precise control of structural aesthetics.

Exact-Match Color Mapping: Design and fabrication of models identical in form and color to the original source.

Interior-Properties Control: Ability to generate distinct interior contrast all the way through a model, i.e., recreation of the diffusion of water molecules.

Fabrication-Aided Design/Digital Material Management: Integration of multiple geometry-based data sources and control of material property distribution.

Unlocking Innovation

Working With GrabCAD Voxel Print

Produce 3D models that fit precise material requirements unachievable any other way by manipulating materials and sending PNGs or bitmaps directly to the Stratasys J735, J750, J826, J835, J850, and J55 via your unique external slicer tool developed or licensed by you. Designers can not only create geometry, but also design material at a microscopic scale to achieve better integration of function and aesthetics. Printed models are no longer defined only by the exterior geometry and properties, but also by the interior material properties.

PolyJet Technology Unlocked

A powerful additive manufacturing method, PolyJet™ technology produces 3D objects with astonishing precision. Driving its unmatched versatility are Digital Materials, which in commercial solutions result from prescribed blending of photopolymers inside the 3D printer to produce a range of composites that meet popular industrial requirements.

By unlocking manipulation of material concentrations and structures at the voxel level, GrabCAD Voxel Print empowers you to create entirely new Digital Materials for your specialized needs.

The cancellous bone model demonstrates the ability to replicate complex anatomical structures using GrabCAD Voxel Print. This utility lets medical professionals create models that offer greater realism when practicing procedures like cutting, reaming and drilling, with a performance unobtainable by other modeling methods.
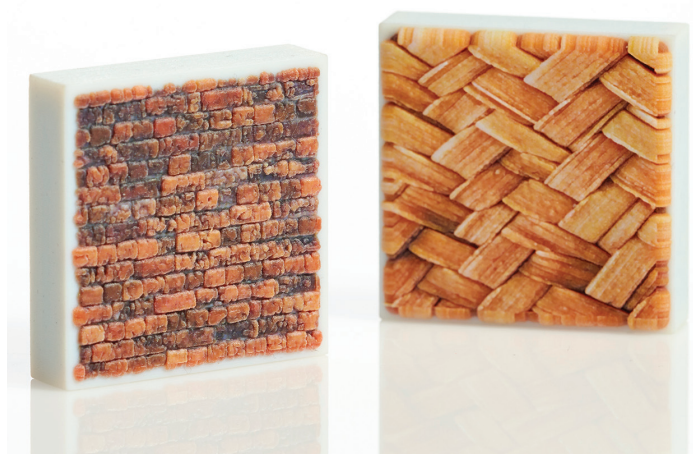
GrabCAD Voxel Print expands the limits of conventional CAD applications. These texture tiles show the exact-match color mapping ability of the brick and wicker patterns to their original sources.

1 Create

CREATE IMAGE SLICE SEQUENCE BY LAYERS WITH CUSTOM SLICING TOOL
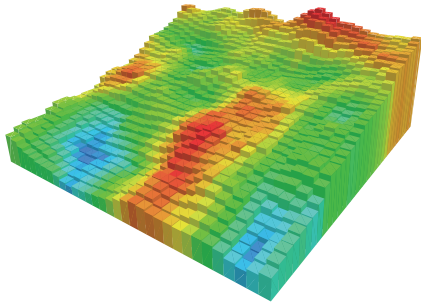
Saved as .BMP* or .PNG

2 Generate

GENERATE .GCVF (GRABCAD VOXEL FILE) USING GRABCAD VOXEL PRINT UTILITY

Material Mapping

Material	Red	Green	Blue	Alpha	
VeroBlue	0	90	158	255	
TangoBlack+	26	26	29	255	
VeroMgnt	166	33	98	255	
VeroYellow	200	189	3	255	
VeroClear	240	240	240	255	

Assign material for each voxel color within the sliced file

3 Add

ADD THE .GCVF MODEL INTO GRABCAD PRINT PRINTING TRAY, PRINT PREVIEW

.GCVF

4 Print

SEND TO YOUR STRATASYS 3D PRINTER FROM GRABCAD PRINT AND OUTPUT .GCVF FILE

*With BMP you will need to create image sequence for six materials for each slice. The process above is PNG layer process with six material colors and one ignored background color.

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