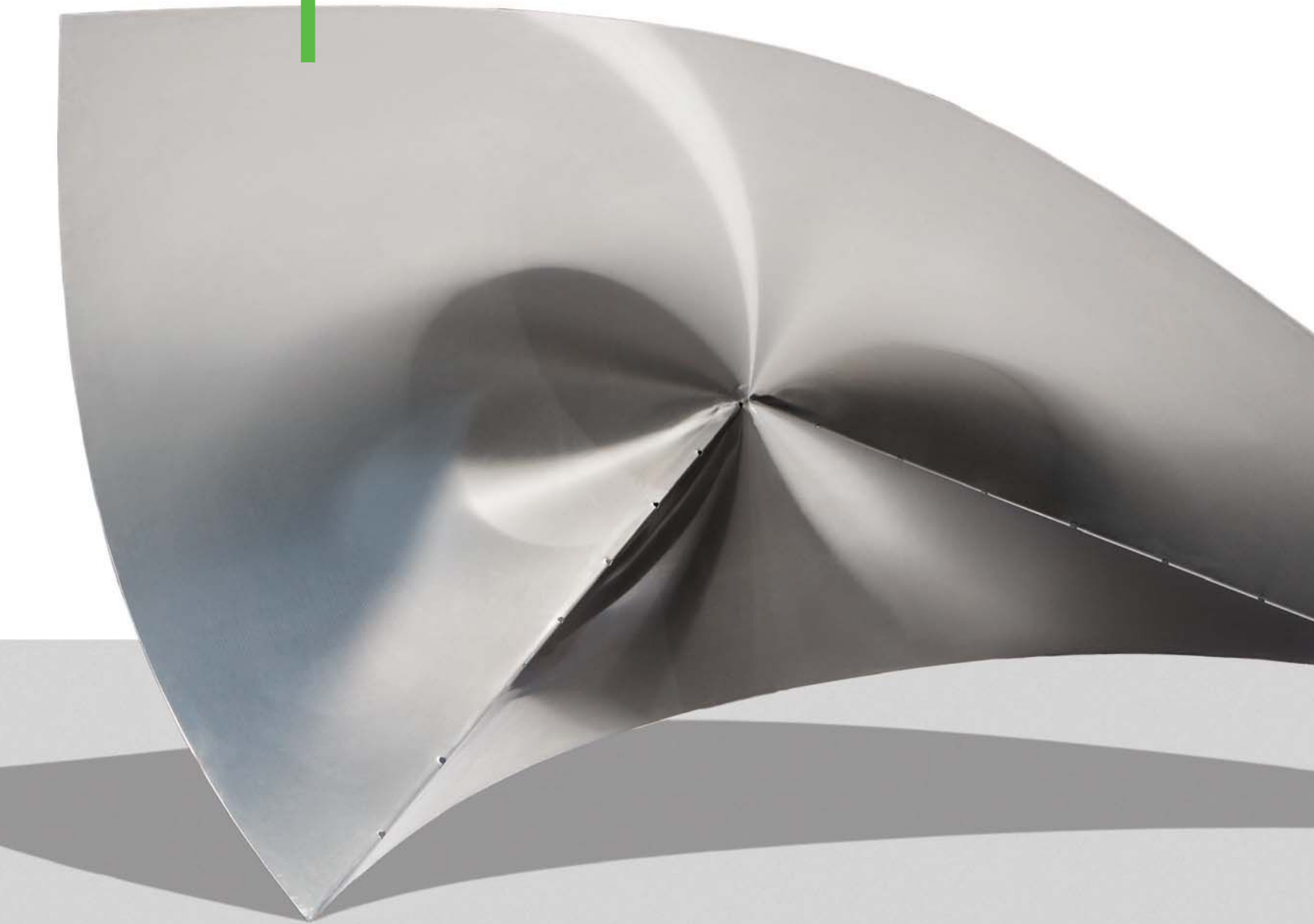


The largest application that Patkau Architects envisions for One Fold thus far is a hillside pavilion made of three freestanding units. Beyond One Fold's seamless surface is the inherent spatial potential it offers, says John Patkau.

AWARD



One Fold

PATKAU ARCHITECTS CREATES SHELTER FROM SHEET METAL IN ONE ELEGANT MOVE.

Exploring the notion of architecture without joints, Patkau Architects wanted to create a freestanding structure from a single sheet of stainless steel. By folding and bending pieces of increasingly large sizes, says John Patkau, AIA, co-founder of the Vancouver, British Columbia-based firm, "we were able to get remarkably robust structures that were also quite beautiful in their forms."

The firm began its One Fold experiment by studying the radically minimal origami work of paper artist Paul Jackson. One move in particular caught the firm's attention: A sheet of paper folded once can then be forced to buckle along that crease to create a freestanding object.

Patkau wanted to attempt the same procedure on steel. It worked well enough on 2-foot-square sheets of galvanized steel, pre-drilled with a hole to create a point of weakness, and then bent and folded with a hand-powered device resembling a brake made from wood.

But the team wanted to scale up to a sheet of stainless steel large enough to form an architectural enclosure. Unfortunately, larger and thicker sheets of steel do not

behave like paper. The fold, once made, was "virtually impossible" to break, Patkau says. Local steel fabricators said they couldn't help, so the architects went into craftsmen mode. "We had to invent the machine to do it," Patkau says. The firm developed a series of fold-and-bend machines that could manipulate progressively larger sheets. Juror Mimi Love was impressed that the prototype was "purely the result of some ingenuity and a low-tech press made out of wood."

By version six, Patkau could crinkle a 123-pound, 5-foot-by-12-foot sheet of stainless steel—the largest size available in Vancouver—into a self-supporting "broken vault" defined by complex curves. The secret to manipulating large sheets? Combining the steps of folding and bending into one mechanical motion. "Although it's not any kind of technological breakthrough, it's a reminder of the role of craftsmanship in contemporary design and construction," juror Bill Kreysler said. "By understanding how these forces can be applied, you can create shapes that nobody's seen before." Juror Gerardo Salinas thought the piece was "very well executed and very elegant."

Elevation of Machine 6

