

Designer's seamless metal furniture is frozen, not welded



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Design / Eco-Friendly Furniture
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Designers are increasingly branching out beyond traditional materials and techniques when putting together buildings and making furniture. So far, we've seen designers partnering with bees to create [accessories out of bee byproducts](#), or use digital fabrication to replace fancy joinery with [3D printed furniture fasteners](#). Working with different metals, London based designer [Paul Cocksedge](#) has eliminated the need for welding, by freezing metal as an alternative method of joining them.

To create this series of pieces titled "Freeze," Cocksedge used liquid nitrogen to "ice" metal components together. According to [Dezeen](#), Cocksedge has been developing this technique for the last five years, beginning with burying copper table legs in snow overnight, and then inserting them into pre-drilled holes in an aluminum table top. Because the metal contracts one-thousandth of a millimeter when frozen, after it is inserted, it warms up and expands to fit snugly into the hole, without the need for an unsightly welding joint.

Mok, Kimberley. "Designer's Seamless Metal Furniture Is Frozen, Not Welded," *Treehugger*, November 10, 2015.

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There is a major advantage to this technique, says Cocksedge:

This enables us to combine metals that usually can't be joined together. Coppers, brasses, stainless steels, bronzes – you can't take these to a metal workshop and say, "can you weld these things together?" because they aren't possible. But this technique allows that.



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The designer says that the idea is to "achieve simplicity in the use of materials, with minimal interference, while harnessing the forces of nature and letting innate properties play out in ways not seen before."

Using the technique, Cocksedge created a surface with twelve concentric circles, and another piece made with carbon steel, with over 1,000 pre-drilled holes. The holes were filled with the same number of frozen stainless steel circles. Water was then used to make the carbon steel patinate, creating a distinctive reflective surface, with what seems to be a mathematics-inspired patterning of uniform tiling of circles over a hyperbolic plane.



Though one may argue that metal materials have a significant ecological footprint, it is a durable material that will no doubt last a very long time. In any case, this is a clever way to bypass the need for energy-intensive welding, resulting in exquisite works that have no visible seams. If you are in the area, Cocksedge's pieces are currently being exhibited at Friedman Benda gallery in New York City. Read more over at [Dezeen](#) and [Paul Cocksedge](#).

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