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## process

The Aplomb concrete pendant has an imperfect surface that gives it an expressive, handmade quality. The light was designed by Paolo Lucidi and Luca Pevere for Foscarini and is manufactured at family-run Crea Cemento in Lombardy.

## **Cone of Uncertainty** A daunting lighting design pushes a seasoned Italian craftsman to rethink the limits of concrete.



Ndiaye Mamadou, an artisan who arrived in Italy as a political refugee from Senegal, inspects a pendant after it is taken out of the mold. If it has any chips, cracks, or overly large holes in the surface, it is removed from production and recycled.

**Two short, quickly scribbled words** nearly put an end to the Aplomb before the hanging lamp even reached the prototype stage: “*Non fare.*” Italian shorthand for, “It cannot be done.”

That fateful sentence is scrawled across

the bottom of a faded sheet of fax paper dated June 6, 2008, below an original drawing for the funnel-shaped pendant by Paolo Lucidi and Luca Pevere. The designers had approached master craftsman Giovanni Piccinelli about producing the >

## THE APLOMB PENDANT

*The elegantly industrial suspension lamp is completely handmade in Italy.*



### MAKE THE MOLD

Giovanni Piccinelli, founder of Crea Cemento, makes all of the molds for Aplomb from fiberglass. About 40 molds are in production at any one time, and each can be used about 350 times before wearing out.



### PREPARE THE MOLD

Ndiaye Mamadou wipes the inside of the mold with oil—a release agent—and then seals it with several metal pins that clamp the mold in place.

design in concrete for Foscari, a high-end Italian lighting firm. But upon seeing the specifications, Piccinelli demurred.

Piccinelli, now 77, started working with concrete when he was seven, growing up in Valcamonica, a valley in the Italian Alps that he still calls home. In 1997, he started his own workshop, Crea Cemento, mostly working on large-scale building projects. But Lucidi and Pevero wanted him to execute a cast concrete pendant with thin two-centimeter walls, hung by a slender cylindrical neck, also of concrete. The concept seemed ludicrous to him.

Carlo Urbinati, Foscari's founder and president, then took up the cause, asking Piccinelli and his two sons, Carlo, an architect and creative director of Crea, and Ottavio, its logistics manager, to reconsider.

"When you're being challenged, you're probably in a good position to find something new," Urbinati says. "Often, the real meaning of 'it cannot be done' is actually 'I've just never done that before.'"

Piccinelli went back to the drawing

board and began crafting fiberglass molds for prototypes. He had made thousands of molds during his decades-long career, but they had been for pillars and staircases, not fancy pendants. The scale of Aplomb was entirely different. *"Non fare."*

Yet Urbinati had chosen Crea because it had a reputation for being the best. Foscari, based just northwest of Venice, was founded in 1981 with no factory. It still outsources all of its production. "This allows us to be as free as we can," Urbinati says. "If you have your own factory, you're tied to a specific means of production. It exerts an unconscious commitment."

Meanwhile, the economic downturn of 2008 hit the construction industry hard. As Crea's other business dried up, Piccinelli and his sons kept working on prototypes for Aplomb, spending more than two years perfecting the recipe of sand, cement, leveling compounds, and other additives to produce a mixture that was fluid enough to pour, yet would retain its shape without breaking. Making matters more

complicated, Foscari had certain requirements, such as a perfectly turned edge and a smooth finish unmarred by large pock marks. All of these elements could be thrown off by a simple change in temperature or humidity in the workshop.

Finally, the team hit upon a recipe that produces a pendant that is sturdy yet delicate. (The name "Aplomb" refers to the construction tool that uses gravity to determine a vertical line—a plumb bob—and also to having an attitude of poise or self-confidence.) In 2010, the pendant officially went into production. *"È possibile farlo."* It can be done.

Aplomb was a tipping point for Crea. In the past 10 years, the family-run business has shifted to creating vases, pen holders, and tables for more than 70 Italian brands, from Alessi to Fendi. The workshop is still small—fewer than 10 people—but thriving.

And that concrete recipe? "It's a secret," says Urbinati. "Someone in Asia tried to copy it and the pendant broke. That's why we never reveal the full ingredients." ■



**MIX THE CONCRETE**

The mixture of cement, sand, water, self-leveling compound, and other additives used to make Aplomb is proprietary, and varies according to the temperature, humidity, and presence or absence of color pigments.



**CAST THE MOLD**

Before filling the mold, Mamadou uses two vessels to decant the concrete to help eliminate large air bubbles, then lets it sit until the remaining bubbles rise to the surface. Then he slowly pours the mixture into the mold.



**LET THE CONCRETE HARDEN**

The mold is stored in a shelved locker for one day before the pendant is released.



**RELEASE THE PENDANT**

Mamadou removes the pendant, using a special clamp and tapping the edges of the form with a hammer to help release the cast. It is then left to set for 7 to 12 days, depending on temperature and humidity.

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#### **SMOOTH THE EDGES**

The mold leaves a ragged edge of hardened cement paste at the top and bottom of the form. Artisan Buga Radu threads the pendant onto a lathe and hand-trims the rough edges with a die-grinder to create the bell edge.

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#### **TRIM THE TOP**

Radu uses a jig and angle grinder to trim the stem to the correct height.

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#### **SANDBLAST THE SURFACE**

Sandblasting gives the Aplomb its soft exterior, yet won't obscure the signature imperfections that are formed by small air bubbles during mixing. Each pendant is sandblasted both inside and out for consistency.

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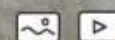


#### **ADD THE PROTECTIVE COATING**

Giovanni's son Carlo Piccinelli dips the nearly finished pendant in a protective coating that repels stains and fingerprints. The Aplomb is then sent to an assembly factory in Pordenone, Italy, where it is wired.

Although Foscarini had originally estimated a production run of 2,000 Aplomb pendants per year, Crea now produces some 2,000 per month, making it one of Foscarini's top-selling products. The fixture, which is available in six colors, including natural gray, retails starting at about \$700.

**“We weigh the ingredients and mix them according to a special recipe, but the success ultimately relies on the sensitivity of the person doing the mixing.” — Carlo Piccinelli**



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*Go deeper inside the process behind Aplomb with more photos and a video at [dwell.com/cone-of-uncertainty](http://dwell.com/cone-of-uncertainty)*